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Authors:

Merete Anderssen¹

Marit Westergaard^{1,2}

Affiliation:

1. UiT The Arctic University of Norway

2. NTNU Norwegian University of Science and Technology

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Address of corresponding author:

Merete Anderssen

Department of Language and Culture

Faculty of Humanities, Social Sciences and Education

UiT – The Arctic University of Norway

9037 Tromsø

Norway

merete.anderssen@uit.no

Abstract

This study investigates two word order phenomena in Norwegian heritage language spoken in the US, subject shift (SS) and object shift (OS). SS and OS occur in syntactic environments where (pronominal) subjects and objects may either precede or follow negation. This paper explores to what extent these two phenomena in Heritage Norwegian are affected by the factors frequency and structural similarity/difference. As subjects are frequently shifted, while objects are not, SS is expected to be robust and OS vulnerable. There is generally no structural overlap between English and Norwegian in these cases; thus, crosslinguistic similarity or difference should not play a role, except in one context: questions with auxiliaries or *be*, in which the two languages allow both orders (*is he not/isn't he*), but have opposite preferences. The results show that OS is somewhat vulnerable, but SS is also affected, in that both proficient and less proficient speakers seem to overuse the word order preferred in English. We thus speculate that all heritage speakers may be affected by crosslinguistic influence in situations with complete structural overlap.

Keywords: incomplete/differential acquisition, attrition, frequency, complexity, partial structural overlap, complete structural overlap, crosslinguistic influence, crosslinguistic overcorrection, syntactic movement, verb second

1. Introduction

This study investigates two word order phenomena in Norwegian, subject shift (SS) and object shift (OS) in the speech of Norwegian heritage speakers in the United States. The two structures are illustrated in (1) and (2) respectively and refer to the position of pronominal subjects and objects in front of negation and other adverbs. Since non-pronominal elements typically appear following negation, it is assumed that pronominal elements are moved (or shifted) across negation (more details in Section 2).

(1) *Det liker hun ikke.* (SS)

that likes she not

“She doesn’t like that.”

(2) *Hun liker det ikke.* (OS)

she likes it not

“She doesn’t like it.”

The last 20 years has seen the growth of a considerable body of work on heritage languages. Generally, these languages are described as having “‘simplified’, non-standard characteristics” (Scontras, Fuchs & Polinsky 2015: 3), with all parts of language potentially affected (see e.g. Montrul 2014 and references therein). However, the level of proficiency of these speakers varies greatly, and many reach a high competence in the heritage language (see e.g. Kupisch 2013). A recurring question within research on heritage languages relates to what causes these differences. One explanation links the lack of

proficiency to a disruption in the acquisition process, due to diminishing input in the heritage language as the child gets older and more dominant in the majority language. The result is what is often referred to as ‘incomplete acquisition’ (see e.g. Polinsky 2006; Montrul 2002, 2008), although a more appropriate term may be ‘differential acquisition’ (see Kupisch & Rothman 2016). Another view is that divergent grammars in heritage speakers are the result of language attrition; the language has been completely acquired but has subsequently undergone erosion due to a lack of exposure and use (see e.g. Köpke & Schmid 2004). Whether incomplete/differential acquisition or attrition is the more likely explanation for divergent features in the heritage grammar depends to a large extent on the age at which the relevant feature is acquired and at what age the dominance shift occurs. Incomplete/differential acquisition is more likely with phenomena that are acquired relatively late, at least if the shift from the minority to the majority language occurs after school age. Of the two phenomena that we investigate here, one of them, SS, is typically acquired by the age of three (Anderssen, Bentzen, Rodina & Westergaard 2010), while the other, OS, is not fully in place until early school age (Anderssen, Bentzen & Rodina 2012).

Putnam & Sánchez (2013) propose an approach to heritage languages in which these grammars gradually undergo reanalysis and restructuring because of influence from the majority language.¹ The extent to which the majority language exerts this influence on the heritage language depends on the degree to which the heritage language is activated: the less activation, the more susceptible the heritage language will be to influence. Putnam and Sánchez explicitly state that it is activation and not frequency that determines to what

¹ One important question is whether the discrepancy between heritage and non-heritage speakers is due to processing difficulties or representational differences. The approach proposed by Putnam & Sánchez (2013) assumes that heritage speakers ultimately end up with divergent representations, but processing (for production and comprehension) also plays a prominent role in the model.

extent this takes place. However, it is reasonable to assume that frequency of exposure and use will affect the level of activation in these speakers. According to this view, then, heritage speakers will be at various stages on a sliding spectrum, where decreasing activation of the heritage language causes increasing crosslinguistic influence from the majority language, resulting in restructuring of the heritage grammar. In this paper, we assume that the changes in the heritage language come about along these lines, and we follow Müller and Hulk's (2001) assumption that in order for crosslinguistic influence to take place in the grammar, there has to be superficial structural similarity between the two languages. However, we also show that the notion of structural similarity needs to be specified more carefully, as there are several ways in which languages may overlap. There might be just one overlapping structure in the two languages, or it might be that one language allows two word order alternatives (for example VO/OV), while the other only allows one (VO). In such a situation, speakers may be affected by both the similar, overlapping structure and the one that is different in the two languages. A third possibility is that both languages allow the same two word order alternatives, but have different conditions on when they are used. As structural similarity may occur in many different constellations, it is to be expected that it can have different linguistic outcomes as well.

Against this backdrop and based on previous research on SS and OS in first language acquisition (e.g. Anderssen et al. 2010, 2012) we ask the following main research question: How will the factors frequency and structural similarity vs. structural difference between the heritage and majority languages play out in Heritage Norwegian (HN) with regard to SS and OS? Our previous research on the population of HN speakers on morphosyntactic phenomena where there is (partial) structural overlap has suggested that

frequency and structural difference are important factors, at least for more proficient speakers, while for less proficient speakers, structural similarity plays a more important role (e.g. Westergaard & Anderssen 2015; Anderssen, Lundquist & Westergaard 2018). As there is generally no structural overlap between Norwegian SS and OS and the equivalent structures in English, crosslinguistic similarities/differences are not expected to have an effect, but the two phenomena are used with very different frequencies, and consequently, we expect OS to be more vulnerable than SS. Yet, our results show that the heritage speakers perform in a similar way with the two structures, suggesting that frequency does not play a major role in the maintenance of these structures. We also find that structural similarity seems to have an effect also on more proficient speakers. This is found in a situation where both Norwegian and English have two possible word orders and thus complete structural overlap (i.e. for SS in questions).

2. Background

2.1 The structures

Norwegian is a verb-second (V2) language with a general requirement that the finite verb moves to second position in all declaratives and most questions.² This is illustrated for a non-subject initial declarative in (3) and a *wh*-question in (4); in both cases the finite verb appears in a position preceding the subject.

² Non-V2 is a widespread phenomenon in *wh*-questions in many Norwegian dialects; see e.g. Westergaard (2009a); Westergaard, Vangsnes & Lohndal (2017).

- (3) *I går leste hun to aviser.*
yesterday read she two newspapers
“Yesterday she read two newspapers.”
- (4) *Hvorfor leste hun to aviser?*
why read she two newspapers
“Why did she read two newspapers?”

Both SS and OS are in certain ways related to V2 syntax, since the context for the shift is dependent on the verb having moved out of the VP (that is, only then will the subject or object be adjacent to adverbs/negation). This is important for our purposes, as this means that there is normally no superficial structural similarity between the two languages in these structures, as English does not generally display V2 word order (cf. Section 2.2).

In main clause SS constructions, informationally given subjects generally occur in front of negation and new or focused subjects after (typically realized as pronouns and DPs respectively), as illustrated in (5)-(6). In embedded clauses, on the other hand, both pronouns and DPs mainly appear in the shifted position; see (7). For more detailed information on subject positions, see e.g. Mohr (2005); Cardinaletti (2004) and van Kemenade & Los (2006) and specifically about Norwegian, see e.g. Nilsen (1997); Svenonius (2002); Bentzen (2009) and Westergaard (2011).

(5) *I går spiste {han} ikke {?han} middag.*

yesterday ate he not he dinner

“Yesterday he didn’t have dinner.”

(6) *I går spiste {Jon} ikke {Jon} middag.*

yesterday ate John not John dinner

“Yesterday John didn’t have dinner.”

(7) *Jeg visste at {Jon/han} ikke {Jon/?han} hadde spist middag.*

I knew that John/he not John/he had eaten dinner

“I knew that Jon/he had not eaten dinner.”

In corpora of everyday conversational speech, the percentage of shifted pronominal subjects has been found to be around 85-90%, in both main and embedded clauses. More specifically, Westergaard (2011) finds that the distribution of shifted vs. non-shifted pronominal subjects in a corpus of child-directed speech (Anderssen 2006) was 87.9% (1185/1348) in main and 90.1% (246/273) in embedded clauses (data from 8 adults). Furthermore, the distribution in the NoTa corpus (166 Oslo speakers) is very similar: Table 1 (adapted from Westergaard 2011) shows that pronominal subjects are shifted 84.7% (1839/2170) in main clauses and 88.2% (531/602) in embedded clauses.

Table 1: Full DP and pronominal subjects with Neg-S and S-Neg word order in main and embedded clauses in the NoTa corpus (166 Oslo speakers).

Clause type	Pronominal subject		DP subject	
	S-Neg	Neg-S	S-Neg	Neg-S
Main clauses	84.7% (1839/2170)	15.3% (331/2170)	3.4% (1/29)	96.6% (28/29)
Embedded clauses	88.2% (531/602)	11.8% (71/602)	73.7% (28/38)	26.3% (10/38)

Table 1 also shows that DP subjects are quite infrequent, making up only 1.3% (29/2199) and 5.9% (38/640) in main and embedded clauses respectively. Furthermore, DPs also behave differently from pronominal subjects in main clauses, in that they typically do not shift (only 3.4%). In embedded clauses, on the other hand, both pronominal and DP subjects are typically shifted (88.2% and 73.7%).

OS is found in contexts in which the finite verb moves out of the VP, which means that it is restricted to main clauses with only one verb.³ DP objects must always appear after negation, and are thus ungrammatical in the shifted position, as illustrated in (8). OS has been extensively studied from various perspectives, and a number of different accounts have been proposed. For more information about OS, see e.g. Holmberg (1986, 1999); Jayaseelan (2001); Erteschik-Shir (2005); Vikner (2006); Vogel (2006); Andréasson (2008, 2010); Josefsson (2010) and Mikkelsen (2011), among many others. Pronominal

³ If there is more than one verb in the VP, the auxiliary will move to second position and the main verb will stay in a position between negation and the object, thus blocking OS, e.g. *Hun har ikke sett ham* “She has not seen him.”

objects with nominal antecedents typically shift and thus precede negation, unless they carry contrastive stress, in which case they cannot shift, as shown in (9). This means that OS is also to some extent dependent on information structural factors (Anderssen & Bentzen 2012). There are further restrictions on OS in that there are a number of pronouns that do not shift, e.g. indefinites or possessives. Most importantly (since they are so frequent in the input), pronominal objects with non-nominal antecedents usually do not shift, as shown in (10) (Andréasson 2008, 2010; Anderssen & Bentzen 2012).

(8) *Peter så {*bilen} ikke {bilen}.*

Peter saw car.DEF not car.DEF

“Peter didn’t see the car.”

(9) *Peter så {den} ikke {DEN}.*

Peter saw it not THAT

“Peter didn’t see it/THAT.”

(10) *Marit synes den er fin, men Peter synes ikke det. (det = ‘that it is nice’)*

Marit thinks it is nice but Peter thinks not it

“Marit thinks it is nice, but Peter doesn’t think so.”

In corpora of spontaneous everyday speech, pronominal objects with nominal antecedents shift at approximately 85%. Bentzen, Anderssen & Waldmann (2013) studied two corpora of child-directed speech (Simonsen 1990; Anderssen 2006) and show that pronominal

objects with nominal and non-nominal antecedents shift at very different rates, 87% (41/47) vs. 5% (12/237). As object pronouns with non-nominal antecedents are much more frequent than pronouns with nominal antecedents, and as objects are often realized as DPs and DPs do not move, the vast majority of objects do not shift. The results from Bentzen et al. (2013) are summarized in Table 2.

Table 2: Pronominal objects with nominal and non-nominal antecedents with O-Neg and Neg-O word order in two child language corpora (80,000 adult utterances)

Type of antecedent	O-Neg	Neg-O
Nominal antecedent	87% (41/47)	13% (6/47)
Non-nominal antecedent	5% (12/327)	95% (315/327)

This corresponds closely to the results from the Nordic Dialect Corpus, where 87.6% (149/170) of object pronouns with nominal antecedents shift (Bentzen 2014). Furthermore, in a 13-hour sample of child-directed speech investigated in Anderssen et al. (2010), there were 157 examples of SS and only 3 examples of OS.

Summing up, contexts for SS occur much more frequently than contexts for OS in natural speech. Furthermore, while the majority of subjects are pronominal and occur in the shifted position, the majority of objects are DPs or pronouns with non-nominal antecedents and remain in situ.

2.2 Structural similarity/difference – Norwegian vs. English

As mentioned in the introduction, superficial structural similarity is taken to be a prerequisite for crosslinguistic influence (Müller & Hulk 2001). And as discussed in the previous section, both SS and OS structures are related to verb movement and V2 word order. Since English does not generally display V2, this means that there should be no structural overlap between SS and OS in Norwegian and the corresponding English structures, since in both cases, there will be an auxiliary or a verb intervening between the subject/object and negation in main clauses in English. This is illustrated schematically in (11) for SS and (13) for OS, and with relevant examples in (12) and (14):

(11) SS: found in non-subject-initial declarative main clauses

a. Norwegian: *XP V S_{pro} neg + XP V neg S_{DP}*

b. English: *XP S_{pro/DP} aux neg ...*

(12) a. Norwegian: *I går leste han ikke avisa*

yesterday read he not paper.DEF

b. English: *Yesterday he DID not read the newspaper*

(13) OS: found in sentences with verb movement and only one verb

a. Norwegian: *S V O_{pro} neg + S V neg O_{DP}*

b. English: *S aux neg V O_{pro/DP}*

(14) a. Norwegian: *Han leste den ikke*

he read it not

b. English: *he DID not READ it*

However, there is one case where there is structural overlap between English and Norwegian, viz. in questions with auxiliaries or *be*, which require verb movement also in English, i.e. subject-auxiliary inversion. This is illustrated in (15a-b). Note that English displays the same word order variation that is found in Norwegian SS constructions, in that it allows both S-Neg and Neg-S.

(15) Questions: Norwegian V2 / English S-Aux inversion

a. *Hva kunne ikke han gjøre? / Hva kunne han ikke gjøre?*

b. What couldn't he do? / What could he not do?

c. *Er ikke hun flink? / Er hun ikke flink?*

d. Isn't she clever? / Is she not clever?

This means that there is complete structural overlap between Norwegian and English with respect to SS in questions, as illustrated in (16). However, the preferences are different for the two languages: While S-Neg is clearly the preferred option with pronominal subjects in Norwegian (cf. the previous section), it is the opposite word order that is preferred in English, due to the propensity for negation to attach to the auxiliary as a clitic. This means that S-Neg is a marked and infrequent word order in English, while Neg-S is marked and infrequent in Norwegian (unmarked/frequent word order in bold here).

- (16) a. Norwegian: **(Q) V S_{pro} neg** / (Q) V neg S_{DP}
 b. English: (Q) aux S neg V / **(Q) aux neg S V**

2.3 SS and OS in L1 acquisition

Norwegian children have been found to exhibit a delay in the acquisition of SS and OS, both in corpora and in experimental studies (Westergaard 2008, 2011; Anderssen et al. 2010, 2012). For SS, children seem to have a preference for the unshifted position early on, illustrated in (17), although the distribution of shifted pronominal subjects reaches adult-like levels already by age 2;6-3, and somewhat later in embedded clauses (Westergaard 2011).

- (17) *no kan ikke han sove mer.* (Ann 2;3.9)
 now can not he sleep more
 “Now he can’t sleep any more.” Target: *No kan han ikke sove mer.*

Compared to SS, OS is more severely delayed in child language, often until the age of 6-7 (Anderssen, Bentzen & Rodina 2012). This is illustrated in (18).

(18) *Han erta ikke ho.* (B04 5;5.17)

he teased not her

“He didn’t tease her.”

Target: *Han erta ho ikke.*

It has been argued that this delay in child language is due to economy, i.e. children’s tendency to avoid complexity such as syntactic movement, something that has been found for many other movement constructions in child language (see e.g. Westergaard 2009b, 2014; Anderssen, Rodina, Mykhaylyk & Fikkert 2014).⁴ Overgeneralization of movement is virtually never attested (see e.g. Radford 1992; Roeper 1999). This has been considered to be part of the conservative nature of L1 acquisition, based on findings that young children typically make errors of omission and hardly ever errors of commission (Snyder 2007). The more extended delay of OS compared to SS has been related to the very low frequency of OS in the input (cf. Section 2.1) as well as the complexity of OS, generally related to the many restrictions on the kinds of pronominal objects that undergo movement (Anderssen, Bentzen & Rodina 2012). Thus, the factors economy and complexity have

⁴ This view of economy is generally found within generative approaches to language (acquisition) where it is assumed that arguments with the same thematic role are base-generated in the same position, and any variation in surface order is taken to be due to syntactic movement. Thus, the alternation between *Han så ikke jenta* (‘he saw not the girl’) and *Han så henne ikke* (‘he saw her not’) is the result of the pronoun *henne* (‘her’) shifting past the negation in the second sentence. This movement is seen as being less economical or more complex than the alternative.

been argued to be important in child language, while frequency only plays a role in connection with other factors (see e.g. Roeper 2007; Westergaard & Bentzen 2007).

2.4 Previous research on Heritage Norwegian

The current paper investigates a corpus of spontaneous speech produced by 50 speakers of Norwegian heritage language in the US (more information in Section 4) that has also been studied in Westergaard & Anderssen (2015) and Anderssen et al. (2018) on other phenomena that display variation, i.e. possessives and modified definites. We briefly summarize the results of these studies here, as they are relevant for the heritage speakers' behavior with SS and OS and also form the basis of our suggested analysis.

Possessive structures in Norwegian may be pre- or postnominal (19), and it is argued that the postnominal structure is derived from the prenominal one, thus being more complex (Anderssen & Westergaard 2010; Lødrup 2011; Westergaard & Anderssen 2015). Despite the former being considerably more frequent than the latter in the input (75% vs. 25%), mono- and bilingual children have been shown to overuse prenominal possessives at an early stage (Anderssen & Westergaard 2010; Westergaard & Anderssen 2015). The Norwegian HSs, on the other hand, exhibit almost exclusive use of the postnominal possessive.

- (19) a. *min bil* b. *bilen min*
 my car car.DEF my

Westergaard & Anderssen (2015) observe that a small subset of the HSs exhibit a preference for prenominal possessives, and Anderssen et al. (2018) suggest that, while this minority is affected by crosslinguistic influence (CLI) and overuse the structures that are *similar* to English, the majority could be described as influenced by what Kupisch (2014) refers to as *crosslinguistic overcorrection* (CLO), i.e. a preference for the structure that is *different* from the dominant language. Based on these observations, Anderssen et al. (2018) divide the speakers into two groups, excluding 22 speakers who produce too few relevant structures. This leaves 28 speakers, one group that is affected by CLI (7 speakers) and another that is affected by CLO (21 speakers), referred to as the *English* group and the *Norwegian* group respectively.

Anderssen et al. (2018) also investigate double definiteness, illustrated in (20), which is required in modified definite DPs.

- | | | | | |
|------|----|-----------------------|----|------------------------|
| (20) | a. | <i>en bil – bilen</i> | b. | <i>den store bilen</i> |
| | | a car – car.DEF | | the big car.DEF |

With respect to complexity, frequency, and structural similarity vs. difference, modified definites are similar to possessives. The suffixal article is clearly *structurally different* from English and also very frequent, being used in both modified and unmodified definites. The prenominal determiner, on the other hand, is *structurally similar* to English and it is also infrequent. The results show that the heritage speakers produce two types of non-target-like structures, dropping the suffix or dropping the prenominal determiner. Furthermore, the speakers in the *English* group typically drop the suffixal article, while the *Norwegian*

group is significantly more likely to drop the prenominal determiner. With respect to proficiency, using the total number of errors in modified definites as well as gender-marking (investigated in Lohndal & Westergaard 2016) as measures, the *Norwegian* group is more target-like than the *English* group.

For the majority of HSs, the results from possessives and modified definites thus suggest that frequency and CLO have a large impact. These speakers exhibit a preference for postnominal possessives and modified definites with the suffixal article as the only exponent of definiteness, that is, the alternatives that are *different* from English (CLO). However, postnominal possessives and modified definites with the suffixal article are also the more frequent structures in Norwegian. Consequently, it is not possible to determine which factor is more important, frequency or structural difference, or indeed, whether both factors are at play. This is why considering SS and OS might prove fruitful, as these structures do not involve superficial structural similarity, and CLO should therefore be irrelevant.

In both possessives and modified definites, there is partial overlap between Norwegian and English, as English has one option and Norwegian has two. When the heritage speakers use Norwegian, their dominant language (English) is also activated. For the speakers with a high proficiency in Norwegian, the inhibition of the English structures may also inhibit the similar structure in Norwegian and thus reinforce the structure that is *different* from English, while for the less proficient speakers it activates the English alternative (see the discussion section for a more articulated proposal). This is illustrated schematically for possessives and modified definites in Tables 3-4, where the shaded areas

show which structures overlap and have to be inhibited in English and the resulting preference in HN is shown in italics (boldface indicates language dominance).

Table 3: CLI from English into HN in structures with partial overlap (English group)

Language\Structure	Possessives		Double definiteness	
Norwegian	<i>POSS N</i>	N POSS	<i>Determiner</i>	Suffix
English	POSS N		Determiner	

Table 4: CLO from English into HN in structures with partial overlap (Norwegian group)

Language\Structure	Possessives		Double definiteness	
Norwegian	POSS N	<i>N POSS</i>	Determiner	<i>Suffix</i>
English	POSS N		Determiner	

3. Research questions and predictions

Since complexity (in terms of syntactic movement) has not been found to be an issue for HN speakers, we do not in principle expect it to be difficult for these speakers to produce subjects and objects in shifted positions. However, we do expect frequency to play a role. The question is whether we should consider overall frequency or frequency within a local domain. If the former, then we would expect OS to be vulnerable and SS to be unproblematic, since the latter construction is massively more frequent than the former (cf. Section 2.1). Likewise, if SS is affected at all, we would expect embedded clauses to be

more problematic than main clauses, given that they are much less frequent in everyday language use (640 to 2839 in the NoTa corpus; cf. above). However, as it has been shown in a number of studies that learners are able to make fine distinctions between syntactic constructions (e.g. the micro-cue model: Westergaard 2009b, 2014), frequency should play a role in more local domains, i.e. in individual clause or construction types separately. Thus, SS should be relatively unproblematic, since most subjects appear in shifted position (2392 shifted vs. 440 unshifted subjects in the NoTa corpus), while the opposite situation holds for OS, since all DP objects and non-nominal pronouns do not shift.

With respect to crosslinguistic influence, this has been argued to play a role when there is partial structural overlap between the two languages involved (Müller & Hulk 2001), as with possessives and double definiteness in HN. With SS and OS, on the other hand, there is generally no structural overlap, since both constructions require verb movement in Norwegian, and we consequently would not expect crosslinguistic influence to have any effect. The only exception to this is questions, where English does have verb movement, and where both word orders are grammatical (cf. Section 2.2). Thus, there is complete structural overlap in this context, with opposite preferences in the two languages. Based on previous findings, we would therefore expect groups of HSs to be affected differently: Proficient speakers should be affected by CLO and less proficient speakers by CLI. This means that speakers in the *Norwegian* group should prefer the shifted position (S-Neg), while less proficient speakers (the *English* group) should prefer the non-shifted position (Neg-S).

Summarizing, we make the following predictions for SS and OS in HN:

- (21) If frequency plays a role (in local domains):
- a. OS should be vulnerable (non-shifted position more frequent than shifted position)
 - b. SS should be unaffected in main and embedded clauses (shifted position more frequent than unshifted)
- (22) If crosslinguistic similarities/differences play a role in contexts with total overlap:
- a. Proficient speakers should prefer SS (affected by CLO)
 - b. Less proficient (attrited) speakers should prefer non-shifted order (CLI)

4. Participants

The data for the present study are taken from the Corpus of American-Norwegian Speech (CANS) (Johannessen 2015), collected through the project NorAmDiaSyn. The database currently consists of transcribed interviews/conversations with 50 Norwegian HSs, with approximately 1-2 hours of speech recorded per speaker. They learned Norwegian from birth from their parents and grandparents and English either from around age 5-6 when starting school or somewhat before their school years. This means that they are typical HSs who have experienced a shift in language dominance. However, these heritage speakers are unusual from the point of view that they are 2nd-4th generation immigrants, and thus up to several generations removed from the non-heritage variety of the language. They are also

different from the HSs usually investigated because of their age; most of the speakers in CANS are approximately 70-90 years old. They are all clearly English dominant and use Norwegian only for special occasions and with very few other speakers. The majority of them are also not (or minimally) literate in Norwegian.

The first Norwegian immigrants arrived in the US in 1825 (Haugen 1953; Lovoll 1999). Even though the new arrivals came from many different dialect groups, the dialect spoken by the largest number of immigrants (from rural eastern Norway) has become dominant and is typically the only one that survives among Norwegian HSs today (Johannessen & Salmons 2015; Johannessen & Laake 2012, 2017). Johannessen & Laake (2012) propose that this variety formed the basis of a koiné, and thus, the variety spoken by Norwegian immigrants in the US should be regarded as one lexically defined dialect (Johannessen & Laake 2017). Nevertheless, when studying any linguistic phenomenon in HN, we do so without any definitive knowledge about what the input to these speakers was. Because of this, using homeland Norwegian as a reference point might not be appropriate. Furthermore, when it comes to SS and OS, there is some dialectal variation in Norway today, and it is relevant to consider whether these phenomena are present in the dialects spoken in the areas where most HSs came from (rural eastern Norway). According to Venås (1971), who investigated dialects in all parts of Norway except the north, SS is used throughout, except in the county of Trøndelag and in the northwest. This suggests that the relevant dialects do have SS, at least today. For OS, Bentzen (2014) shows that examples where pronouns with nominal antecedents are not shifted in The Nordic Dialect Corpus cluster around the western part of the country (the counties of Hordaland, Møre & Romsdal and Sogn & Fjordane) and Trøndelag, suggesting that rural eastern Norwegian dialects also

display OS today. However, this does not guarantee that this was the case 170 years ago, nor does this mean that SS and OS were as frequent in the input in HN as in the corpora reported on in Section 2.1. Nevertheless, this is the best source that we have for a baseline, and we therefore take this as our point of departure.

5. Results

5.1 Subject Shift in Heritage Norwegian

The results of our investigation of SS in the CANS corpus are provided in Table 5. First and foremost, we observe that, considering the size of the corpus, the data are relatively sparse, with only 181 contexts for SS altogether (non-subject-initial main clause declaratives and questions as well as embedded clauses). There are presumably several reasons for this: (i) The interview situation has not been conducive to eliciting many questions from the HSs, (ii) these HSs do not use Norwegian much and may therefore resort to simpler structures; thus they produce few embedded clauses, and (iii) while non-subject-initial declaratives are quite frequent in Norwegian and other V2 languages (30-40%), this is not the case in English, where subjects are favored in initial position, and the HSs may be affected by English in this respect. In fact, investigating the current speakers in the CANS corpus, Westergaard & Lohndal (forthcoming) have attested a significantly lower production of non-subject-initial declaratives in HN than in non-HN. This means that the contexts for SS are to some extent avoided in these HL data.

Table 5: Word order in SS contexts with pronominal subjects in CANS (n=50)

Clause type	S-Neg	Neg-S
Main clauses	60.0% (87/145)	40.0% (58/145)
Embedded clauses	86.1% (31/36)	13.9% (5/36)

As shown in Table 5, the HSs behave like Norwegian non-heritage speakers with regard to SS in embedded clauses, shifting pronominal subjects 86.1% (compared to 88.2% and 90.1% in the two Norwegian corpora mentioned above). An example is provided in (23).

- (23) *det er mye [vi ikke veit på engelsk au]*
 there is a lot we not know in English also
 “There is a lot we don’t know in English too.”

It should be noted that the majority of the relevant embedded clauses (i.e. embedded clauses including negation) are produced by the 21 speakers in the *Norwegian* group (55.6%, 20/36), and not a single one is produced by the *English* group, suggesting that the speakers with a lower proficiency are not producing very many embedded structures at all.

In main clauses, on the other hand, the proportion of shifted subjects is much lower, only 60.0% (87/145). This is significantly different from the two non-HN corpora (cf. Section 2.1), where pronominal subjects were shifted 84.7% and 87.9% ($p < 0.001$). An example of the unshifted word order is provided in (24).

- (24) *nei jeg veit da vi begynte på skolen så # kunne ikke vi # snakke engelsk at*
no I know when we started at school so could not we speak English at
all
all
“No, I know that when we started school, we couldn’t speak English at
all.”

With respect to the two groups of HSs, we find only a negligible difference between them, in that the 21 speakers in the *Norwegian* group shift subjects 65.3% (49/75), while the 7 speakers in the *English* group shift slightly less, 61.1% (11/18). Note that the raw numbers are quite low here, due to the fact that so many speakers were excluded when group membership was determined in Anderssen et al. (2018).

In Section 2.2, we discussed the issue of CLI and possible overlap between the two languages. As shown, there is generally no overlap between Norwegian and English with respect to SS, except in one context where there is complete overlap. This is in (*yes/no-* and *wh-*) questions, where both languages display verb movement: Norwegian has V2 word order and English has subject-auxiliary inversion. Although both Norwegian and English allow both word orders, the two languages display different preferences, Norwegian for shifted (S-Neg) and English for unshifted word order (Neg-S). Out of the 145 main clause contexts for SS in the CANS corpus, there are 54 questions, 29 with S-Neg and 25 with Neg-S word order. This means that questions make up a considerably larger proportion of the unshifted cases, 44.8% (26/58) vs. only 33.3% (29/87) of the shifted cases. This also means that almost half of all questions (46.3%, 25/54) appear with Neg-S, while only about

a third (36.3%, 33/91) of all declaratives appear with this unshifted word order; cf. the total numbers in Table 6. This indicates that CLI from English may be playing a role here, in that there is less SS in contexts where there is structural overlap with English (i.e. in questions). An example of the unshifted word order in a tag question is provided in (25). Despite the fact that unshifted word order is occasionally possible in non-HN, the word order in this example does seem odd and is presumably due to influence from English.

- (25) *ja ## er rart hvor fort disse åra har gått forbi er ikke det?*
 yes is strange how fast these years have gone by is not it
 “Yes, it is strange how fast these years have gone by, isn’t it?”

In Section 3, we predicted that there should be a difference between the two groups of HSSs with respect to influence from English: More specifically, we expected proficient speakers (i.e. the speakers in the *Norwegian* group) to be affected by CLO and thus overuse SS (the structure that is not preferred in English), while the speakers in the *English* group should be affected by CLI and overuse non-shifted order (the structure that *is* preferred in English). Table 6 provides an overview of declaratives and questions with shifted and unshifted word order produced by the two groups of speakers (*Norwegian* group, n=21, and *English* group, n=7), plus the 22 remaining speakers simply for completeness. Unfortunately, the raw numbers are now quite low, with the *Norwegian* group producing 75 relevant examples (26 questions and 49 declaratives) and the *English* group only 18 (9 questions and 9 declaratives). Nevertheless, it seems clear that our predictions are *not* borne out: While the *Norwegian* group produces SS in declaratives at a level not too far from non-heritage

Norwegians (71.4%), they produce considerably less SS in questions, where there is overlap with English, only 53.5%. This result is the opposite of what we expected for this group, indicating that the speakers are affected by CLI and not CLO. With respect to the *English* group, the raw numbers are so low that it is impossible to draw any firm conclusions: The total numbers show that there is in fact more SS in questions than in declaratives, a very surprising result. However, a closer look at the data shows that the 18 examples are produced by 6 different speakers, with only a couple of examples each, meaning that there is virtually no variety of contexts produced by individual speakers (one speaker produces only questions, another only declaratives, etc.).

Table 6: Overview of shifted (S-Neg) vs. unshifted (Neg-S) word order in questions and declaratives, divided into speaker groups (CANS, n=50)

Speaker groups	Questions		Declaratives	
	S-Neg	Neg-S	S-Neg	Neg-S
<i>Norwegian</i> (n=21)	53.8% (14/26)	46.2% (12/26)	71.4% (35/49)	28.6% (14/49)
<i>English</i> (n=7)	66.6% (6/9)	33.3% (3/9)	55.6% (5/9)	44.4% (4/9)
Remaining (n=22)	47.4% (9/19)	52.6% (10/19)	54.5% (18/33)	45.5% (15/33)
Total	53.7% (29/54)	46.3% (25/54)	63.7% (58/91)	36.3% (33/91)

We thus seem to have a situation where *all* speakers are somewhat affected by the similarity with an overlapping structure in English. In order to investigate that further, we have

checked the verb types used with shifted and unshifted word orders, since subject-auxiliary inversion in English only appears with *be* and auxiliaries, not with lexical verbs. The copula and auxiliaries are quite common in the corpus, making up as much as 66.9% (97/145) of all verbs in main clauses, more specifically 81.5% (44/54) of the questions and 58.2% (53/91) of the declaratives. Although raw numbers again become very low when we break down the data into verb types, Table 7 shows that lack of SS (Neg-S word order) is somewhat more frequent with auxiliaries and *be* than with lexical verbs, i.e. in situations where negation in English can be attached to the verb as a clitic.

Table 7: Overview of shifted (S-Neg) vs. unshifted (Neg-S) word order in questions and declaratives, divided into verb types (CANS, n=50)

Verb types	Questions		Declaratives	
	S-Neg	Neg-S	S-Neg	Neg-S
Lexical verbs	70% (7/10)	30% (3/10)	73.7% (28/38)	26.3% (10/38)
<i>Be/aux</i>	50% (22/44)	50% (22/44)	56.6% (30/53)	45.4% (23/53)
Total	53.7% (29/54)	46.3% (25/54)	63.7% (58/91)	36.3% (33/91)

In questions with lexical verbs (10/54), SS appears 70% (7/10), while in questions with *be* or auxiliaries, the rate of SS is only 50% (22/44). Interestingly, we find the same pattern in declaratives, with SS appearing 73.7% (28/38) with lexical verbs, but only 56.6% (30/53) with *be* and auxiliaries. These results thus further indicate that Neg-S word order may be affected by English, more specifically the frequent contraction of *be/aux* and negation in English (*isn't*, *hasn't*, etc.). With the caveat that numbers are quite low, we may also

conclude that there does not seem to be any difference between the speaker groups with respect to the influence from English in the case of SS.

5.2 Object Shift in Heritage Norwegian

An examination of OS in the CANS corpus first and foremost reveals that the heritage speakers shift pronominal objects with nominal and non-nominal antecedents at 61% and 11% (Table 8). These results suggest that the heritage speakers distinguish between objects with nominal and non-nominal antecedents and tend to shift the former and not the latter, as illustrated in (26)-(27). Nevertheless, the distribution of the shifted and non-shifted position is significantly different from that of non-heritage speakers: For heritage speakers, 61% of pronominal objects with nominal antecedents shift, while for Norwegian speakers in Norway the equivalent proportion is 87% ($p < 0.001$).

Table 8: Pronominal objects with nominal and non-nominal antecedents (CANS, $n=50$)

	O-Neg	Neg-O
Nominal antecedents	61% (25/41)	39% (16/41)
Non-nominal antecedents	11% (11/100)	89% (89/100)

(26) *Nå prøver jeg å finne et ord, men jeg finner **det ikke**.*

now try I to find a word but I find it not.

“I’m trying to find a word, but I can’t.”

- (27) a. *Snakker dere norsk med hverandre, eller?*
 speak you Norwegian with each other or
 “Do you speak Norwegian together?”
- b. *Nei, vi bruker ikke det noe mye, nei.*
 no we use not that any much no (that=speak Norwegian)
 “No, not very often.”

With regard to the two groups of speakers, the numbers are too small to get a clear picture of possible differences between them. Indeed, there are many speakers in both groups who do not produce any relevant contexts. The *Norwegian* group has the lowest proportion of speakers of this type (14.3%, 3/21), while the *English* group has a somewhat higher proportion (28.6%, 2/7). Interestingly, the group consisting of the 22 speakers who did not produce enough relevant structures to be included in the analysis in Anderssen et al. (2018) has the most speakers who produce no relevant contexts (45.5%, 10/22), which is in line with the results from the previous study.

Table 9 provides an overview of the production of OS with pronouns with nominal and non-nominal antecedents in the two groups; the remaining 22 speakers have also been included to make the picture complete. The two groups are very similar when it comes to the proportion of object pronouns with nominal antecedents that shift. However, note that there are very few examples in the *English* group, and the seven examples are produced by four of the seven speakers. With respect to pronominal objects with non-nominal antecedents, there is a clear difference between the two groups, with the *Norwegian* group shifting these pronominal objects to a similar extent to (6.5%) and the *English* group

shifting them somewhat more (27%) than in homeland Norwegian (5%). It is difficult to know how to interpret these results. However, the total results seem to suggest that there is a general erosion taking place, whereby OS is gradually being lost. Interestingly, when it comes to objects with non-nominal antecedents, the speakers in the more proficient group behave in a manner very similar to speakers in Norway. For the less proficient group the tendency is in the opposite direction; they shift pronominal objects with non-nominal antecedents at a higher rate than homeland Norwegian speakers. This development seems to be one towards increasing indeterminacy in the grammar with both types of object pronouns.

Table 9: Overview of shifted (O-Neg) vs. unshifted (Neg-O) word order with pronominal objects with nominal and non-nominal antecedents, divided into speaker groups (CANS, n=50)

Speaker groups	Nominal antecedents		Non-nominal antecedents	
	O-Neg	Neg-O	O-Neg	Neg-O
Norwegian (n=21)	57.7% (15/26)	42.3% (11/26)	6.5% (3/46)	93.5% (43/46)
English (n=7)	57.1% (4/7)	42.9% (3/7)	27% (4/15)	73% (11/15)
Remaining (n=22)	75% (6/8)	25% (2/8)	10.3% (4/39)	89.7% (35/39)
Total	61% (25/41)	39% (16/41)	11% (11/100)	89% (89/100)

5. Discussion

In Section 3, we formulated a number of predictions, repeated here for convenience:

- (21') If frequency plays a role (in local domains):
- a. OS should be vulnerable (non-shifted position more frequent than shifted position)
 - b. SS should be unaffected in main and embedded clauses (shifted position more frequent than unshifted)
- (22') If crosslinguistic similarities/differences play a role in contexts with total overlap:
- a. Proficient speakers should prefer SS (affected by CLO)
 - b. Less proficient (attrited) speakers should prefer non-shifted order (CLI)

From the results reported in the previous section, it is clear that there is no global frequency effect in the HN data. The fact that OS is massively less frequent than SS and that embedded clauses are considerably less frequent than main clauses does not seem to play any role. OS is not more affected than SS; in fact, both constructions seem to be equally vulnerable. Embedded clauses are not more affected than main clauses; the results actually show the opposite: While SS in main clauses is attested significantly less than in non-HN, embedded clauses are unproblematic. We believe that this may be due to a general preference for subject-initial clauses in both languages.

If we consider frequency in more local domains (i.e. each construction or clause type separately), the predictions in (21) also do not seem to be straightforwardly borne out, since both SS and OS seem to be affected to the same extent. The fact that pronominal objects in HN shift across negation significantly less than in non-HN (61% vs. 87%) could in principle be argued to be due to the high frequency of unshifted compared to shifted objects. That is, the HN speakers may have developed a preference for the more frequent word order for objects, the unshifted one (Neg-O). Nevertheless, the rate of shifted objects is relatively high. Furthermore, a preference based on local frequency should lead to the opposite result for SS: Since most subjects are pronouns and most pronouns shift, we would expect SS to be unaffected, which it is not (60.0% vs. 84.7% and 87.9% in non-HN). Thus, an explanation in terms of frequency alone does not hold.

Anderssen et al. (2018) are unable to determine whether the higher use of postnominal possessives and the suffixal article in modified definites is due to frequency or crosslinguistic overcorrection (CLO). This is also true of the noun-adjective order discussed in Kupisch's (2014) original study. Thus, for all the three phenomena that have been explained with reference to CLO, the structure that has been overcorrected has also been the more frequent option in the heritage language. Our study might shed some light on this issue, because there is no superficial structural similarity in the case of OS and SS in general, and CLO should not be available, as there simply is no structure to inhibit. The results reported here are consequently important for two reasons, (i) they reveal that frequency alone has a limited effect in heritage language, and (ii) they provide (indirect) support for CLO as a factor in heritage languages. Note, however, that this does not

preclude the possibility that the two factors have to work in tandem, and that CLO only affects structures that are also more frequent.

A complicating factor when it comes to the effect of frequency on SS in HN is related to the final set of predictions in (22). According to these predictions, the more proficient speakers should be affected by CLO and overuse SS in questions, while the less proficient speakers should be affected by CLI and prefer the more English-like word order. This prediction does not seem to have been borne out, as there is considerably less SS in questions in HN, and this difference is especially pronounced in the *Norwegian* group, where there is a higher rate of SS in declaratives than in questions (71.4% vs. 53.8%). It thus appears that in situations with complete structural overlap, that is, structures where both languages display the same type of word order variation, CLO does not apply. Instead, both more and less proficient speakers are affected by CLI and influenced by the word order that is preferred in the dominant language. Furthermore, there is less SS also in other contexts, especially with auxiliaries and *be*, where the negation would tend to be cliticized onto the verb in English (e.g. *isn't*, *hasn't*), resulting in (aux/be)-Neg-S word order. This indicates that the HSs are influenced by the more common order in their dominant language. However, returning to the question of (local) frequency, it appears that even though the rate of SS is to some extent affected by CLI in questions (causing subjects not to shift), especially in the *Norwegian* group, this cannot entirely explain the low rate of SS. Recall that we predicted that SS should be robust because subjects usually shift, while OS should be vulnerable because most objects do not undergo OS, but what we found was that subjects and objects shift at similar rates (60.0% vs. 61.0%). It thus seems that the effect of CLI is not strong enough to explain why frequency has such a limited effect on SS,

because even if we only consider declaratives, where there should be no CLI, subjects still only shift at 63.7%. Thus, the overall difference between SS and OS is surprisingly small, suggesting that frequency has a limited effect on the linguistic production of these HSs, even when the effect of CLI is taken into account.

Several recent studies have shown that both languages of a bilingual always stay active (e.g. Hartsuiker, Pickering & Veltkamp 2004; Martin, Dering, Thomas & Thierry 2009) and that speakers need to inhibit the other language in monolingual situations. This should be more difficult when the dominant language is the one that has to be inhibited (Sorace 2011), which is the case when these speakers use Norwegian, their heritage language. Against this backdrop, we may postulate that there is a difference between partial and total overlap and more and less proficient speakers: In cases of partial overlap, when a choice has to be made between two word orders in HN, the only possible word order in English is simultaneously activated and will need to be inhibited. In this case, a lower proficiency in Norwegian will cause a speaker to be less successful at inhibiting the dominant language and thus be influenced by the overlapping word order (CLI), cf. Table 3 in Section 2.4. In possessives, this means that POSS-N gets overused (by speakers with a lower proficiency) and in modified definites that the prenominal determiner is used. A speaker with a higher proficiency will successfully inhibit the English word order, in fact to the extent that the similar Norwegian word order is also inhibited, and because of this, the speaker will be more sensitive to the non-overlapping (*different*) alternative (N-POSS) and overuse this word order (CLO) (cf. Table 4). Similarly, in modified definites, it is the suffixal article that is preferred, i.e. the structure that is more typically Norwegian. As mentioned above, it is possible that this effect will be exacerbated if the relevant structure

is also more frequent than the alternative, which is the case with both N-POSS and the suffixal article. Thus, if inhibition of the dominant language is weaker, the result is CLI, while if it is stronger, the result is CLO.

In cases of total overlap, on the other hand, both word orders in English will be activated – together with the corresponding preferences. This means that the two options in HN are in direct competition with corresponding structures in English, and one of them will be preferred and more frequent in the dominant language and thus harder to inhibit (i.e. the one that is dispreferred and less frequent in Norwegian). In such a situation, both word orders require inhibiting. This has two consequences: (i) no CLO can take place, because there is no typical Norwegian structure that is different from English that could be overcorrected to, and (ii) what has to be inhibited is not only the two word orders, but also the preference for one of them. This seems to be harder and require more resources than just inhibiting one overlapping structure. This could explain why we find CLI in both groups of speakers of HN in SS structures. In fact, the effect of CLI is particularly clear in the *Norwegian* group, probably because they are the only ones proficient enough to produce a critical number of contexts for SS (non-subject-initial clauses).⁵ Table 10 illustrates the situation with complete overlap schematically; the two overlapping structures are shaded in English and the option that is affected by CLI is given in italics (again, language dominance is indicated by boldface):

⁵ Note that we are talking about speakers where even the most proficient ones have very few opportunities to use the heritage language. Speakers who use both languages on a regular basis are generally expected to successfully inhibit the dominant language without any of these effects.

Table 10: CLI from English into HN in structures with complete overlap (both groups)

Language\Structure	Questions	Questions
Norwegian	Q V S NEG (preferred)	Q V NEG S
English	Q AUX/BE S NEG	Q AUX/BE NEG S (preferred)

To summarize, we have seen that, contrary to expectations, there are limited frequency effects in HN, as OS and SS seem to be equally vulnerable to attrition. However, as CLI is an additional factor at play in some contexts requiring SS (questions), the comparison between SS and OS is not straightforward. In cases of complete structural overlap where the two languages have opposite word order preferences, we have shown that all speakers seem to be affected by CLI. However, the difference between the contexts with superficial structural overlap (questions) and those without such overlap (declaratives) is more pronounced in the more proficient *Norwegian* group.

6. Summary/Conclusion

This paper set out to investigate how the factors frequency and structural similarity/difference play out in Heritage Norwegian for two word order phenomena, Subject Shift (SS) and Object Shift (OS), i.e. contexts where certain subjects and objects may move across negation. In both cases, there are major differences in the frequencies of the two word orders; subjects typically precede and objects typically follow negation. Previous research on structures with partial overlap between Norwegian and English has

indicated that highly proficient heritage speakers are affected by frequency and crosslinguistic overcorrection (CLO, Kupisch 2014), while less proficient speakers are sensitive to crosslinguistic similarities between the two languages (CLI). Given that there is no structural overlap between English and Norwegian in these constructions, we do not expect CLI or CLO, except in questions with auxiliaries or *be*, where there is complete overlap between English and Norwegian — with opposite preferences. Our findings show that OS is somewhat vulnerable, and in isolation, this could possibly be due to low frequency. However, SS is also vulnerable in main clauses, even though this word order is clearly more frequent. This is partly explained by complete overlap between English and Norwegian. Contrary to expectations, the more proficient speakers are not affected by CLO and do not overuse SS in these structures; rather, both proficient and less proficient speakers overuse the unshifted word order, i.e. the one preferred in English. We thus argue that, in situations with complete structural overlap, where both word orders have to be inhibited in the dominant language, all heritage speakers may be affected by CLI.

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