

Frequency and Crosslinguistic Influence in Heritage Language: Subject Shift and Object Shift in Norwegian

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Abstract

This study investigates two word order phenomena in Norwegian, subject shift (SS) and object shift (OS), in Norwegian heritage speakers in the US. SS and OS occur in specific syntactic environments where subjects and objects may either precede or follow negation. This paper explores to what extent these two phenomena in heritage Norwegian (HN) are affected by the factors frequency and/or structural similarity or difference. Previous research has argued that proficient heritage speakers are affected by frequency and crosslinguistic difference (Kupisch 2014), while less proficient speakers are sensitive to crosslinguistic similarities. As subjects typically precede and objects typically follow negation, SS is expected to be robust, while OS is expected to be vulnerable. There is no structural overlap between English and Norwegian with these structures; thus, crosslinguistic similarity or difference should not play a role, except in questions with auxiliaries or *be*, in which the two languages allow both orders (*is he not/isn't he*), but have opposite preferences. In these structures, we expect more proficient speakers to overuse SS due to structural difference. The results show that while OS is somewhat vulnerable, SS in embedded clauses is robust, presumably due to frequency. However, SS in main clauses is surprisingly vulnerable; both proficient and less proficient speakers overuse the unshifted word order, that is, the one preferred in English (*isn't he*). We thus argue that, in situations with complete structural overlap, even more proficient heritage speakers are affected by crosslinguistic influence, causing SS in main clauses to be vulnerable.

1. Introduction

This study investigates two word order phenomena in Norwegian, subject shift and object shift 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
'That she doesn't like.'
- (2) *Hun liker **det ikke**.* (OS)
she likes it not
'She doesn't like it.'

Against the backdrop of previous research on SS and OS in first language acquisition (e.g. Anderssen, Bentzen, Rodina & Westergaard 2010) we ask the following research question: How will the factors complexity, economy, frequency, and structural similarity vs. structural difference between the heritage and majority language play out in Heritage Norwegian (HN) with regard to these word order phenomena? Based on our previous research on the population of HN speakers in the USA (e.g. Westergaard & Anderssen 2015, under revision) on morphosyntactic phenomena where there is partial structural overlap between the two languages, we predict that frequency and structural difference should be the most important factors, at least for more proficient speakers. While our findings indicate that frequency indeed plays a role in HN, we also find that structural similarity seems to have an effect on the production of SS, in a situation where there is complete structural overlap between Norwegian and English (i.e. in questions).

2. Background

2.1 The structures

Norwegian is a verb-second (V2) language with a general requirement that the finite verb move to second position in all declaratives and most questions.¹ This is illustrated for a non-subject initial declarative in (2) and a *wh*-question in (3); in both cases the finite verb appears in a position preceding the subject.

- (2) *I går **leste hun** to aviser.*
 yesterday read she two newspapers
 ‘Yesterday she read two newspapers.’
- (3) *Hvorfor **leste hun** ikke flere aviser?*
 why read she not more newspapers
 ‘Why didn’t she read more newspapers?’

Both subject and object shift are in certain ways related to V2 syntax, since the context for SS and OS is dependent on the verb having moved out of the VP (that is, only then will the subject or object be adjacent to adverbs or negation). In main clause SS constructions, informationally given subjects (typically pronouns) generally occur in front of negation and DPs after, as illustrated in (4)-(5). It should be noted that in everyday speech, DP subjects are quite rare, in that pronouns typically make up around 95% of all subjects (see e.g. Westergaard 2011). For further information on subject positions, see e.g. Mohr (2005), Cardinaletti 2004, van Kemenade & Los (2006) and specifically about Norwegian, see e.g. Nilsen (1997), Svenonius (2002), Bentzen (2009), Westergaard (2011).

¹ Non-V2 is a widespread phenomenon in many Norwegian dialects; see e.g. Vangsnes 2005, Westergaard 2009a.

(4) *I går spiste {han} ikke {?han} middag.*
 yesterday ate he not he dinner
 ‘Yesterday he didn’t have dinner.’

(5) *I går spiste {?Jon} ikke {Jon} middag.*
 yesterday ate John not John dinner
 ‘Yesterday John didn’t have dinner.’

In embedded clauses, on the other hand, both pronouns and DPs mainly appear in the shifted position; see (6).

(6) *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 85-90%, in both main and embedded clauses. More specifically, an investigation carried out by Westergaard (2011) shows that in the NoTa corpus (166 Oslo speakers), pronominal subjects shifted 84.7% (1839/2170) in main clauses and 88.2% (531/602) in embedded clauses. The distribution in a corpus of child-directed speech (Anderssen 2006) was found to be similar: 87.9% (1185/1348) in main and 90.1% (246/273) in embedded clauses.

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.² DP objects must always appear after negation, and are thus ungrammatical in the shifted position, as illustrated in (7). OS has been extensively studied, from various perspectives, and several different types of accounts have been proposed. For more information about OS, see for example, Holmberg (1986, 1999), Vikner (1994), Jayaseelan (2001), Erteschik-Shir (2005), Vikner (2006), Vogel (2006), Andréasson (2008, 2010), Josefsson (2010), Mikkelsen (2011), among many others. Pronominal objects with nominal antecedents typically shift and thus precede negation, unless they carry stress, in which case they may not shift, as shown in (8). This means that OS is also to some extent dependent on information structural factors (Anderssen & Bentzen 2012).

(7) *Peter så {*bilen} ikke {bilen}.*
 Peter saw car.DEF not car.DEF
 ‘Peter didn’t see the car.’

² If there is more than one verb in the VP, e.g. an auxiliary and a main verb, the auxiliary will move to second position and the main verb will stay behind in a position between negation and the object, thus blocking OS, e.g. *Hun har ikke sett ham* ‘She has not seen him.’

- (8) *Peter så {den} ikke {DEN}.*
 Peter saw it not THAT
 ‘Peter didn’t see it/THAT.’

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 (9). Bentzen, Anderssen & Waldmann (2013) have 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 object often are realised as DPs and DPs do not move, the vast majority of object pronouns do not shift.

- (9) *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.’

2.2 Structural similarity/difference Norwegian vs. English

As discussed in the previous section, both SS and OS structures are related to verb movement and V2 word order. Since English is generally not a V2 language, 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 in English intervening between the subject/object and negation in main clauses. This is illustrated in (10) and (11) for SS and OS respectively:

- (10) 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} aux neg ... + XP S_{DP} aux neg ...*

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

- a. Norwegian: *S V O_{pro} neg / S V neg O_D*
 b. English: *S aux neg V O_{pro} / S aux neg V O_{pro}*

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 in English also (subject-auxiliary inversion). This is illustrated in (12a-b). Note that English displays the same word order variation as is found in Norwegian SS constructions, in that it also allows both S-Neg and Neg-S, with some interpretive differences.

- (12) 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 total structural overlap between Norwegian and English with respect to SS in questions, as illustrated in (13). 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.

- (13) 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 both SS and OS (Westergaard 2008, 2011; Anderssen, Bentzen, Rodina & Westergaard 2010; Anderssen, Bentzen & Rodina 2012). For SS, children have been shown to have a preference for the unshifted position early on, illustrated in (10), but the distribution of shifted pronominal subjects reaches adult-like levels already by age 2;6-3, and somewhat later in embedded clauses (Westergaard 2011).

- (10) *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 (11).

- (11) *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, including syntactic movement, something that has been found in many other movement constructions (see e.g. Westergaard 2009b, 2014). At the same time, overgeneralization of movement is virtually never attested (see e.g. Radford 1992; Roeper 1999). This has been argued to be part of the conservative nature of L1 acquisition, based on findings that young children typically make errors of omission, hardly ever errors of commission (Snyder 2007). The more extended delay of OS

compared to SS has been argued to be due to the very low frequency of OS in the input: For example, in a 13-hour sample of child-directed speech investigated in Anderssen, Bentzen, Rodina & Westergaard 2010, there were 157 examples of SS, but only 3 examples of OS. Furthermore, Anderssen, Bentzen & Rodina (2012) have emphasized the complexity of OS, generally related to the many restrictions on the kinds of pronominal objects that move and the ones that do not. This means that the factors economy and complexity have 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 last 20 years has seen the growth of a considerable body of work on heritage languages. Generally, heritage 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). The current paper investigates a special group of heritage speakers (more information in section 4). Westergaard & Anderssen (2015) and Anderssen & Westergaard (under revision) investigate phenomena that also display variation, possessive structures and modified definites, and conclude that complexity (in terms of structural economy) is not a crucial factor in the development of the language of this group of heritage speakers. Instead, frequency seems to be more important, protecting against attrition. Furthermore, while structural similarity has often been found to be a factor in bilingual acquisition, structural *difference* has been argued to play a role in heritage languages (Kupisch 2014). Let us consider their arguments in more detail.

Possessive structures in Norwegian may be pre- or postnominal (12), and it is argued that the postnominal ones are derived from the prenominal ones, thus being more complex (Anderssen & Westergaard 2010, Lødrup 2011, Westergaard & Anderssen 2015). Despite the former being considerably less frequent than the latter (25% vs. 75%) in the input, monolingual children have been shown to overuse prenominal possessives (Anderssen & Westergaard 2010). As shown in Westergaard & Anderssen (2015), Norwegian/English bilingual children do the same, and in this population the preference seems to be both stronger and longer lasting. The Norwegian heritage speakers, however, exhibit almost exclusive use of the postnominal possessive.

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

Based on these results, Westergaard & Anderssen (2015) suggest that monolingual and bilingual children are sensitive to complexity, in that they initially prefer the least complex forms. In addition, bilingual children may be affected by crosslinguistic influence, due to the structural overlap between prenominal possessives in Norwegian

Westergaard & Anderssen (2015) observe that a small subset of the heritage speakers exhibit a different preference to the majority, in that they produce a very high proportion of prenominal possessives, considerably higher than Norwegian speakers in Norway. Anderssen & Westergaard (under revision) suggests that while this minority is affected by crosslinguistic influence and overuse the structures that are *similar* to English, the majority could be described as influenced by what Kupisch (2014) refers to as *crosslinguistics hypercorrection*, (CLH) that is, a preference for the structure that is *different* from the dominant language. The heritage speakers (N=50) are divided into groups depending on their production of postnominal possessives into high users, low users and ‘normal’ users. The high users are referred to as the *Norwegian* group and the low users as the *English* group, as they seem to be affected by Norwegian and English respectively. The ‘normal’ users were initially classified as normal, based on their target-like behaviour with possessives, but were subsequently found to be more appropriately referred to as the ‘middle’ group, because they seem to fall in between the Norwegian and the English group in terms of proficiency. The cut-off points are based on the distribution observed in adult speakers in a child language corpus (Anderssen 2006, Anderssen & Westergaard 2010).

- Anderssen & Westergaard (under revision) also investigate another linguistic phenomenon in the same heritage speakers in order to see whether it is possible to predict their behaviour. The relevant phenomenon is double definiteness, illustrated in (13). Definiteness is marked by a suffixal article in Norwegian in simple noun phrases (13a), but when a modifier is present, an additional prenominal determiner is required (13b), giving rise to the term double definiteness.

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involving the suffixal article are also less complex than structures with the prenominal articles, as the latter require building more structure.³

Anderssen & Westergaard (under revision) expect the suffixal article to be preferred by children due to its lower complexity. This is confirmed by data from monolingual children (Anderssen 2007, 2012), who have a strong tendency to omit the prenominal determiner in modified structures (14). However, a study of a Norwegian-English bilingual child (Anderssen & Bentzen 2013) shows that this child typically omits the suffixal article, which suggests that she is affected by CLI from English (15).

(14) ... *store trollet*
 big troll.DEF target: *det store trollet* (Ina 2;1.0)

(15) *den stor ball*
 the big ball target: *den store ballen* (Emma 2;7.10)

Based on the three groups of heritage speakers identified, Anderssen & Westergaard (under revision) predict the *Norwegian* group be affected by CLH, the *English* group by CLI, and the *Middle* group to be relatively target-like. They also expect the *Middle* group to have the highest and the *English* group the lowest proficiency. The results show that the speakers produce both types of non-target-like structures; see (16)-(17). Furthermore, as expected, the *English* group is significantly more likely to drop the suffixal article, while the *Middle* and *Norwegian* groups are significantly more target-like than the *English* group in their production of modified definites, suggesting that the latter has a lower proficiency in Norwegian. However, when gender-marking is used as a measure of proficiency (comparing the performance of the different groups to the performance of the same speakers on gender-marking, Lohndal & Westergaard 2016), the *Norwegian* group is significantly better than both of the other groups. According to Anderssen & Westergaard (under revision), this shows that the *Middle* group is in between the other two in terms of proficiency, and that having a strong dominance of postnominal possessives (and thus exhibiting CLH) is in fact indicative of robust heritage Norwegian. If this is the case, the fact that the *Middle* group appears to be more target-like in their use of possessive structures than the *Norwegian* group is the result of this group being somewhat more affected by CLI rather than higher proficiency.

(16) ...*det neste år så da kom han # den andre bror* (Harm_MN_01gk)
 ...the next year so then came he the other brother

³ Because of the presence of double definiteness, Norwegian definite DPs are assumed to have two determiner-like projections, one above and one below the adjectival projection, making the basic structure something like (i), where the suffixal article is associated with the lower of the two. The noun is assumed to move to this position to merge with the suffix. Thus, the prenominal determiner involves building more structure.

(i) DP1 – Adjective – DP2 – (possessive) – Noun

'... the next year the other brother came.'

- (17) *Jeg ser i norske ordbok-a det.* (Westby_WI_03gk)
 I see in Norwegian dictionary-DEF that
 'I saw this in the Norwegian dictionary.'

Let us now consider what these studies reveal about factors in acquisition and attrition. The results for monolingual children are fairly straightforward; they are sensitive to complexity rather than frequency. Consequently, they prefer prenominal possessives and struggle with double definiteness. In modified definites, they prefer to use the suffixal article, which is both the less complex and the more frequent option. The English-Norwegian bilingual children are like monolinguals, except that they may additionally be affected by CLI, which may override both complexity and frequency (e.g. in modified definites).

For the majority of heritage speakers, the results from possessives suggest that frequency and CLH have a big impact, while complexity, or rather economy, does not. However, the behaviour of the heritage speakers is not homogeneous. Faced with the complexity of double definiteness, some speakers, the more proficient ones, produce non-target-like structures influenced by the structure that is *different* from the majority language (CLH), while the less proficient ones are affected by *similarity* to the majority language (CLI).

Both these behaviours are observed in situations where there is structural overlap between the two languages, that is, in situations where CLI may occur (Müller & Hulk 2001). However, in both of these structures, the overlap between Norwegian and English is only partial, 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 higher proficiency in Norwegian, the inhibition of the English structures reinforces the structure or configuration that is *different* from English, while for the less proficient speakers it activates the English alternative (see the discussion for a more articulated proposal). Note, however, that the preferences of the *Norwegian* group also correspond to the structures or configurations that are more frequent in Norwegian.

- (18) Possessives:
- | | | | |
|------------------------|---------------|----------|---------------|
| Norwegian: | POSS N | + | N POSS |
| English: | POSS N | | |
| HN speakers: | | | |
| <i>English group</i> | POSS N | | |
| <i>Norwegian group</i> | | | N POSS |
- Double definiteness:
- | | | | |
|-------------------|------------|------------|--------------|
| Norwegian: | def | adj | N-def |
| English: | def | adj | N |
| HN speakers: | | | |

<i>English group</i>	def	adj N
<i>Norwegian group</i>		adj N-def

3. Research questions and predictions

We have previously found that HN speakers seem to be sensitive to frequency, having a preference for the more frequent option in cases of partial overlap (possessives and double definiteness). However, CLI may override this frequency effect, in the sense that the more proficient speakers (referred to as the Norwegian group in the previous section) are affected by crosslinguistic differences (CLH), while the less proficient speakers (referred to as the English group) are affected by crosslinguistic similarities (CLI). Based on these previous findings, we make the following predictions for SS and OS in HN.

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 2.3). 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, it has been shown in a number of studies that speakers are able to make fine distinctions between syntactic constructions, and according to the micro-cue model (Westergaard 2009), we would assume that frequency will play a role only in more local domains, i.e. individual clause types or construction types separately. Thus, SS should be relatively unproblematic, since most subjects appear in shifted position (2392 shifted subjects to 440 unshifted ones in the NoTa corpus), while the opposite situation holds for OS, since all DP objects and non-nominal pronouns do not shift. According to an investigation in Westergaard (2010), objects are realised by DPs/clauses 66.4% and as (non-shifting) *det* ‘it/that’ at 17.3% (83.7% in total), while they are personal/reflexive pronouns in 15.4% of all cases (as well as 0.9% misc.). A similar ratio is observed in Bentzen et al. (2013), who investigate two child language corpora (Simonsen 1996, Anderssen 2006) and show that of a total of 284 object pronouns, only 53 of them shift (approx. 19%). The vast majority of these object pronouns have a non-nominal antecedent (237). We do not have any numbers from the NoTa-corpus for object shift. However, Anderssen et al. (2010) show that the vast majority of objects are realised by DPs; in a sample consisting of 13 hours of recordings of adult speakers, there is a total of 93 potential contexts for OS, but only four of these are realised by pronominal elements with nominal antecedents and only three of these are shifted. Thus, the vast majority of subjects shift, while objects occur in the unshifted position.

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). This has been the case with the properties that have previously been investigated in HN, possessives and double definiteness. With SS and OS, on the other hand, there is generally no structural overlap, since both constructions require verb movement in Norwegian, and we would therefore 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 total structural overlap, with opposite preferences in the two languages. Based on previous findings, we would therefore expect groups of HSs to be affected differently: In questions with auxiliaries and *be*, more proficient speakers should be affected by CLH 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).

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

- (19) If frequency has a global effect:
 - a. OS more affected than SS
 - b. SS possibly (more) affected in embedded than in main clauses
- (20) If frequency plays a role in local domains:
 - a. OS vulnerable (non-shifted position more frequent)
 - b. SS unaffected in main and embedded clauses (shifted position more frequent than unshifted)
- (21) If crosslinguistic influence plays a role in contexts with total overlap:
 - a. More proficient speakers prefer SS (affected by CLH)
 - b. Attrited speakers prefer non-shifted order (CLI)

4. Participants

The participants of the present study are taken from the Corpus of American-Norwegian Speech (CANS) (Johannessen 2015), collected through the project NorAmDiaSyn. This database currently consists of transcribed interviews/conversations with 50 heritage speakers, but the data available per speaker is limited. These heritage speakers are typical in the sense that they learned Norwegian from birth from parents/grandparents (and only to a limited extent from the community), while they learned English around age 5-6, typically when starting school. The background information on the different speakers is quite sparse. Furthermore, many of them comment on the fact that they have not passed the language on to their children, often because they remember how challenging it was to start school without any knowledge of English. Thus, they are typical examples of sequential bilinguals. However, these heritage speakers are unusual from the point of view that they are 2nd-4th generation Norwegian-Americans, and thus up to several

generations removed from the original variety of the language. They are also different from the heritage speakers usually investigated because of their age; most of them are approximately 70-90 years old. These speakers 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. This means that in this group we expect to find both effects of a language community that has developed in isolation under severe pressure from the majority language (see Johannessen & Lake 2017 for arguments that the variety spoken by Norwegian immigrants in the US should be regarded as one lexically defined dialect) and effects of erosion of the minority language in the minds of individual speakers.

5. Results

1. Subject Shift in Heritage Norwegian

The results of our investigation of SS in the CANS corpus are provided in Table 1. First and foremost, we observe that the data are surprisingly sparse, with only 179 contexts for SS altogether (non-subject-initial declaratives and questions plus embedded clauses with negation). 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 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, and the HSs may be affected by English in this respect (in fact, Westergaard & Lohndal 2016 have attested a significantly lower production of non-subject-initial declaratives in HN than in non-heritage Norwegian, as little as 6%).

Table 1. Word order in SS contexts with pronominal subjects in CANS (n=50)

	S-Neg	Neg-S
Main clauses	59.3% (86/145)	40.7% (59/145)
Embedded clauses	86.1% (31/36)	13.9% (5/36)

As illustrated in Table 1, 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 of this is provided in (22). It should be noted that all relevant embedded clauses (i.e. including Negation) are produced by the *Norwegian* and *Middle* groups (31 and 5 respectively), suggesting that the speakers with a lower proficiency (the *English* group) are not producing very many embedded structures at all.

- (22) *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.’

In main clauses, on the other hand, the proportion of shifted subjects is much lower, only 59.3%. This is significantly different from the two non-heritage Norwegian corpora, where pronominal subjects were shifted 84.7% and 87.9% ($p < 0.001$). An example of the unshifted word order is provided in (25).

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

With respect to the different groups of HSs, we find that the ones with the highest proficiency generally shift more than those with a lower proficiency, in that the speakers in the *Norwegian* group shift subjects 61.5% (64/104), while the speakers in the *English* and *Middle* groups shift 53.7% (22/41). However, this difference is not significant.

As shown in section 2, the context where there is complete overlap between Norwegian and English word order (Neg-S and S-Neg) is (*yes/no-* and *wh-*) questions. There are altogether 54 questions in the CANS corpus, 28 with S-Neg and 26 with Neg-S word order. This means that questions make up a considerably larger proportion of the unshifted cases, 44.1% (26/59) vs. 32.6% (28/86), indicating that CLI may be playing a role here. This also means that **more than half of all questions, 51.9% (28/54)**, appear with Neg-S, while only 36.3% (33/91) of all declaratives appear with this unshifted word order. In questions, there is a distinction between the speaker groups, in that the *Norwegian* group shifts pronominal subjects 55.6% (20/36), while the two groups with a lower proficiency only shift 44.4% (8/18). An example of the unshifted word order in a tag question is provided in (24). Despite the fact that unshifted word order is occasionally possible in non-heritage Norwegian, the word order in (24) clearly signals some influence from English.

- (24) *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?’

Furthermore, we may note that lack of SS (Neg-S) 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. The copula and auxiliaries are quite common in the corpus, making up as much as 62.8% (91/145) of all verbs in main clauses. The numbers for shifted word order (S-Neg) appearing with *be/aux* is 52.3% (45/86), while as much as 78.0% (46/59) of the Neg-S cases appear with these verbs. This means that the unshifted word order rarely occurs with lexical verbs, again indicating that this word order may be affected by English, more specifically the frequent contraction of *be/aux* and negation in English (*isn’t*, *hasn’t*, etc.). Again, there is a certain difference between

the various speaker groups, in that when the verb is the copula or an auxiliary, the *Norwegian* group uses shifted word order 52.5% (31/59), while the other two groups only shift 43.6% (14/32).

Summarizing, we can say that these numbers indicate that all heritage speakers in CANS seem to be affected by CLI, and that the effect of the preferred word order in English increases with lower proficiency in Norwegian.

5.2 Object Shift in Heritage Norwegian

An examination of OS in the CANS corpus reveals that the heritage speakers shift pronominal objects with nominal and non-nominal antecedents at 61% and 15% (Table 2), clearly distinguishing between the two.

Table 2. Pronominal objects in CANS (n=50)

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

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 (25)-(26). Nevertheless, the distribution between the shifted and non-shifted position is significantly different from that of non-heritage speakers. For example, for heritage speakers, 61% of pronominal object with nominal antecedents shift, while for Norwegian speakers in Norway the equivalent proportion is 87% ($p < 0.001$).

- (25) *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.’
- (28) 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.’

If we consider the different groups of heritage speakers identified in Anderssen & Westergaard (under revision), there is a relatively clear difference between the *Norwegian* group, on the one hand, and the *Middle* and *English* groups on the other. Recall that the *Norwegian* group represents the most proficient group, while the *English* group is the least proficient one. The former group shifts objects with nominal antecedents at 66%

(19/29), while the latter group does so at 50% (6/12). However, the difference is not significant.

5. Discussion

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

- (19') If frequency has a global effect:
 - a. OS more affected than SS
 - b. SS possibly (more) affected in embedded than in main clauses
- (20') If frequency plays a role in local domains:
 - a. OS vulnerable (non-shifted position more frequent)
 - b. SS unaffected in main and embedded clauses (shifted position more frequent than unshifted)
- (21') If crosslinguistic influence plays a role in contexts with total overlap:
 - c. More proficient speakers prefer SS (affected by CLH)
 - d. Attrited speakers 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 a role, as the predictions in (19) are not borne out. OS is not more affected than SS; in fact both constructions seem to be equally vulnerable. And 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-heritage Norwegian, embedded clauses are unproblematic. This may be due to similarity with English and a general preference for subject-initial clauses in both languages. Also, even though there is some variation in the non-heritage variety of Norwegian with regard to subject placement in subordinate clauses, it is quite limited.

If we consider frequency in more local domains (i.e. each construction type or clause type separately), we do seem to find certain effects. That is, the predictions in (20) seem to be generally borne out. Pronominal objects in HN shift across negation significantly less than in non-heritage Norwegian (61% vs. 87%). This could be argued to be due the high frequency of unshifted objects compared to shifted objects. As mentioned above, most objects are realized either as DPs or pronouns with non-nominal antecedents, neither of which shift. Thus, the HN speakers develop a preference for the most frequent word order for objects, i.e. the unshifted one (Neg-O). Nevertheless, the rate of shifted objects is surprisingly high, given its low frequency. For SS a preference based on local frequency should lead to the opposite result: Since most subjects are pronouns and most pronouns shift, the shifted word order is clearly the more frequent one. Thus, SS should be

unaffected. This holds in embedded clauses, but not in main clauses. An explanation for the latter result is presumably to be sought in the third and final set of predictions in (21), i.e. the lack of SS constructions should be related to crosslinguistic influence.

According to the predictions in (21), crosslinguistic influence should play a role in SS constructions, since the two languages display total structural overlap in questions. This prediction seems to have been borne out, as there is considerably less SS in questions in HN. 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/unmarked word order in their dominant language. However, the prediction that the more proficient speakers (the *Norwegian* group) should be influenced by CLH; i.e. they were expected to produce more SS than non-heritage Norwegian, does not hold.

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 should be inhibited, which is the case when the Norwegian heritage speakers use Norwegian. Against this backdrop, we may postulate that there is a difference between partial and total overlap and between more and less proficient speakers: In cases of partial overlap, when a choice has to be made between two word orders in heritage Norwegian, 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). In possessives, this means that POSS-N gets overused (by speakers with a lower proficiency), in modified definites that the suffixal article is dropped. A speaker with a higher proficiency will successfully inhibit the English word order and because of this, be more sensitive to the non-overlapping (*different*) alternative (N-POSS) and overuse this word order (CLH). Similarly, in modified definites, it is the prenominal determiner that is omitted, i.e. the structure that is more typically Norwegian. It is likely 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 CLH. 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 the heritage language are in direct competition with corresponding structures in English, and one of them will be stronger in the dominant language and thus harder to inhibit (i.e. the one that is dispreferred in the heritage language). In such a situation, both word orders require inhibiting, and there is no one word order in the heritage language that is *different* from the dominant language and consequently will be preferred by the more proficient speakers due to the inhibition of the other alternative. This has two consequences, (i) no

CLH can take place and (ii) inhibition of the dominant language is weakened. The latter can also explain why we find CLI in all speakers of heritage Norwegian in SS structures, as the inhibition of both structures makes even the more proficient speakers transfer the order preferred in English to Norwegian.⁴

Thus, a possible analysis of the findings is that **all** HN speakers are affected by crosslinguistic influence in cases where there is total structural overlap and opposite preferences in the two languages. This effect increases with increasing attrition, such that it affects less proficient speakers (the *English* group) more than the more proficient HNs (the *Norwegian* group). That is, the speakers who are more dominant in English experience a larger effect of crosslinguistic influence.

To summarize, we have seen that, as predicted, there are (local) frequency effects in HN, accounting for target-consistent word order in embedded clauses and a certain lack of shifting in OS constructions. However, the effects of frequency may be overridden by crosslinguistic influence, especially in cases of total structural overlap where the two languages have opposite word order preferences.

6. Summary/Conclusion

This paper set out to investigate how the factors frequency and structural similarity and difference play out in word order phenomena in heritage Norwegian. The two structures are Subject Shift (SS) and Object Shift (OS), that is, structures where in specific syntactic environments subjects and objects may either precede or follow 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 argued that highly proficient heritage speakers are affected by frequency and crosslinguistic hypercorrection (CLH, 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 CLH, except in questions with auxiliaries or *be*, where there is complete overlap between English and Norwegian — with opposite preferences. The results indicate that frequency has a local effect on both SS and OS. The heritage speakers have a strong preference for SS in embedded clauses, corresponding to the most frequent word order in non-heritage Norwegian. OS is somewhat vulnerable, probably due to low frequency. Surprisingly, 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 CLH and do not overuse SS

⁴ Note that we here are talking about speakers where even the most proficient ones have very few possibilities of using the heritage language. Speakers who use both languages on a regular basis are expected to successfully inhibit the dominant language without any of these effects.

in these structures; rather both proficient and less proficient speakers overuse the unshifted word order, that is, 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, even more proficient heritage speakers are affected by CLI, causing SS to be vulnerable.

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