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Bilingual Acquisition and Attrition

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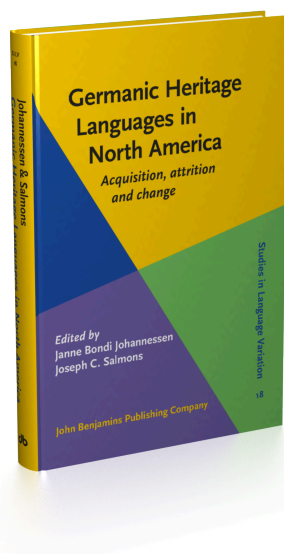
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Word order variation in Norwegian possessive constructions

Bilingual acquisition and attrition

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In Norwegian possessive constructions, the possessive may either precede or follow the noun. Monolingual children initially show a preference for the prenominal possessive construction, although it is much less frequent than the postnominal one in the adult language. A likely explanation is that postnominal possessives are structurally more complex. In this paper, we examine this word order variation in two bilingual populations, Norwegian-English children growing up in Norway and adult Norwegian heritage speakers in the USA. We expected both groups to exhibit a stronger preference for prenominal possessives than the monolingual children due to influence from English. However, we only find this in the bilingual children. One possible explanation is that, while complexity plays a major role in acquisition, high frequency protects against language attrition.

Keywords: Norwegian, Norwegian-English bilinguals, language acquisition, attrition, heritage speakers, possessives, word order, definiteness, frequency, complexity

1. Introduction

Norwegian possessives may be either pre- or postnominal; the two word orders are illustrated in (1)–(2). Postnominal possessives have to co-occur with a noun in the definite form, while this is not possible with prenominal possessives, which must appear with a bare noun.

- (1) *min bil* **min bilen*
my car my car.DEF
'My car'

- (2) *bilen min *bil min*
 car.DEF my car my
 'My car'

In this paper, we discuss this word order variation and investigate how these structures are acquired by Norwegian-English bilingual children, that is, in a context in which Norwegian is acquired simultaneously with a language that only permits one of the two word orders. We compare these findings with data from monolingual Norwegian children investigated in Anderssen and Westergaard (2010), henceforth referred to as A&W. We also consider how this variation affects the language of bilingual adults in a situation where the second language (English) is extremely dominant, which is the situation for the descendants of Norwegian immigrants in the USA.

According to A&W, monolingual Norwegian children show a preference for prenominal possessive structures at an early stage of the acquisition process, despite the fact that the postnominal possessive is considerably more frequent in child-directed speech, as well as in the adult language generally. As the postnominal possessive is also more complex than the prenominal one (morphologically and syntactically), A&W suggest that complexity has a larger impact on the acquisition process than frequency.

In the present study, we show that bilingual children, like monolinguals, produce predominantly prenominal possessives at an early stage of development. In addition, this preference seems to be stronger and to last longer in the bilingual children. This is in sharp contrast to the Norwegian heritage speakers. Given the strong predominance of English in the linguistic environment of these speakers, we expected the postnominal possessive to be vulnerable to language attrition. Surprisingly, this is not the case.

The paper consists of eight sections. In the next section, we provide a brief overview of the syntactic structure, interpretation and frequency of the two word orders in (1)–(2), and in Section 3 we describe the findings from previous research on first language acquisition of Norwegian. Based on these findings, we make predictions for the present study in Section 4. In Section 5, we describe the data from the bilingual children and provide an overview of the results. Section 6 provides equivalent data from the heritage speakers. In Section 7, we discuss the results of the study in light of three questions related to differences between language acquisition and language attrition. The final section provides a brief summary.

2. Pre- and postnominal possessives: Syntactic structure, interpretation and frequency

As mentioned above, A&W argue that postnominal possessive structures are more complex than prenominal ones. In this section, we start by providing a brief overview of the theoretical assumptions behind this description of these structures. We then consider the interpretation of pre- and postnominal possessives. Finally, we provide an overview of how often the two word orders are used by adult speakers, showing that the postnominal possessive is considerably more frequent than the prenominal one.

2.1 Syntactic structure

The syntactic structure of these two word orders has represented a challenge within theoretical linguistics. One problem has been to come up with an analysis that can derive both pre- and postnominal structures in a manner that explains why the latter has to occur with the suffixal article. There exist a considerable number of studies on Scandinavian DP-structure, and many of these also provide an account of possessive structures; while there still is no generally agreed-upon analysis, some aspects tend to be shared by most accounts. Let us consider some of these.

First, Scandinavian DPs are assumed to have two syntactic positions for determiners. One of these is located higher than attributive adjectives while the other is located lower down in the structure (Taraldsen 1990).¹ The main argument for this assumption is so-called double definiteness, as in *den lille gutten* ‘the little boy.DEF’ (cf. Vangsnes 1999, Julien 2005, Anderssen 2006). The suffixal article is consequently also assumed to be associated with the lowest of these two positions (Julien 2005, Anderssen 2006). Possessives are taken to be base-generated higher in the structure than the base position of the noun, but lower than the suffixal article. Based on these arguments, the following basic order can be assumed in the DP:

- (3) DETERMINER – ADJECTIVE – DETERMINER (suffix) – POSSESSIVE – NOUN

Given this structure, the prenominal possessive reflects the basic word order in DPs (4), while the postnominal possessive is derived by moving the noun across the possessive to merge with the determiner (5).

- | | | |
|-------------|------------|------------|
| (4) | <i>min</i> | <i>bil</i> |
| | my | car |
| (DET- suff) | POSS | – NOUN |
-
- | | | | |
|-----|--------------|------------|------------|
| (5) | <i>bilen</i> | <i>min</i> | <i>bil</i> |
| | car.DEF | my | car |
| | NOUN+DET | POSS | NOUN |

Based on this analysis, A&W argue that the structure in (5) is structurally more complex than the one in (4).² To produce a prenominal possessive, children can use the

1. As this discussion regards basic word order, the higher determiner will always be to the left of the one lower down in the structure, and adjectives will consequently be located to the right of the free determiner and to the left of the suffixal article.

2. Given the assumptions that have been made here about Norwegian DP-structure, it could be argued that the possessive also has to move in some contexts. For example, this seems to be required when the prenominal possessive co-occurs with an attributive adjective (such as in *min grønne bil* ‘my green car’). That is, one possible interpretation of these data is that the possessive always has to move to a high position in the DP-structure, also when there is no adjective present. This would challenge the assumption that prenominal possessives are less complex than postnominal ones, as both would be the result of syntactic movement. Irrespective of how these structures

basic word order, while to produce a postnominal structure, the noun has to move past the possessive. Postnominal possessives are also morphologically more complex in that they have to occur with a noun marked for definiteness. Furthermore, postnominal possessive pronouns go against the general word order pattern of (free) determiners in Norwegian, which are typically prenominal.³ Lødrup (2012: 191–196) also argues that the prenominal word order is the unmarked one, partly because it is sometimes the only possible option. For example, this is the only possible word order in cases when the noun cannot co-occur with the suffixal article (e.g., *mitt Norge* ‘my Norway’ vs. **Norge mitt* ‘Norway my’). Similarly, prenominal structures are used in many fixed expressions (e.g., *på min måte* ‘in my way’ vs. **på måten min* ‘in way.DEF my’).

2.2 The interpretation of pre- and postnominal possessives

Pre- and postnominal possessives are used in different contexts. According to standard Norwegian grammar, e.g., Faarlund et al. (1997: 265), prenominal possessives are emphatic or contrastive, while postnominal possessives have a parenthetical possessive interpretation. This is also reflected in the prosodic structure of the elements involved. In prenominal possessives the possessive pronoun is the most prominent element (*MIN bil* ‘my car’), while in postnominal structures, it is the noun that is the most prominent element (*BILEN min* ‘car.DEF my’). Lødrup (2011, 2012) captures this difference in terms of information structure and the relationship between strong and weak pronouns. He follows Cardinaletti and Starké’s (1999) categorization of pronouns as weak or strong and argues that postnominal possessives are weak, while prenominal possessives are strong. Weak pronouns are typically used with topical information, while strong ones are used with focal information, at least in the spoken language (Lødrup 2012: 197). Furthermore, he shows that while postnominal (topical) possessive pronouns may be contrastive (6a), topical prenominal possessives are in general unacceptable, consider (6b) (both from Lødrup 2012: 197):

- (6) a. *De stjal bilen HANS.*
 they stole car.DEF his
 ‘They stole HIS boat.’
 b. *Ola reparerte båten sin /[?]sin båt.*
 Ola repaired boat.DEF his/ his boat
 ‘Ola repaired his boat.’

are analysed, however, this does not represent a problem for our data, as the Tromsø dialect generally does not allow attribution adjectives with prenominal possessives (see A&W 2010: 2580), except in abstract expressions such as *min største drøm* ‘my biggest dream’. Furthermore, the fact remains that prenominal possessive structures can be produced without involving syntactic movement in unmodified cases, while this is never possible with postnominal possessives.

3. We thank an anonymous reviewer for this observation.

This is not the case in written Norwegian, where prenominal possessive structures can also be used with topical possessive pronouns. This is most likely also true of more formal varieties of spoken Norwegian.⁴ In the Tromsø dialect, however, prenominal possessives are primarily used with contrastive focus.

A&W (2010:2580–2581) illustrate the difference between the interpretation of pre- and postnominal possessive structures with authentic examples from a corpus of spontaneous speech, such as (7), where a mother is talking about her daughter:

- (7) a. *ja den derre jabba hennes, den går i ett sett.*
 yes that there mouth.DEF her it goes in one set
 ‘Yes, that mouth of hers, it moves non-stop.’
 b. *æ hørte hennes stemme over alle de andre når æ kom....*
 I heard her voice over all the others when I came
 ‘I could hear HER voice above all the others when I came (to pick her up).’

In (7a), the mother is referring to her daughter’s mouth in a non-contrastive way. The possessive relationship is already known and obvious, and consequently, a postnominal possessive is used. In the second sentence, where the woman is contrasting her daughter’s voice with those of the other children, the possessive is focused and emphatic, and hence the prenominal possessive is used.

2.3 The distribution of pre- and postnominal possessives

We have seen that pre- and postnominal possessive structures are used in different contexts, depending on whether the possessive is topical or focal. This difference is also reflected by the fact that the two structures are used with very different frequencies. A&W (2010:2581) investigated the relative frequency of the two word orders in the data of eight adults in a large child language corpus consisting of almost 73,000 adult utterances (Anderssen 2006), and found that postnominal structures are used at 75% (851/1135), while prenominal possessives only represent 25% (284/1135) of the total number of possessives. Based on the observed distribution, A&W concluded that children acquiring Norwegian (and specifically the Tromsø dialect) are exposed to many more postnominal than prenominal possessives. To ensure that this frequency did not only apply to child-directed speech, we also investigated the proportion of pre- and postnominal possessive structures in *Norsk Talespråkskorpus* (NoTa, the Norwegian Spoken Corpus), which consists of recordings of 166 adult speakers from Oslo. The results of this count confirmed the findings from child-directed speech, as this investigation revealed that prenominal possessives make up 27% (700/2583) of all possessive structures, while postnominal ones represent 73% (1883/2583). As we have

4. We use the terms *variety* rather than *dialect* here because we are assuming that topical prenominal possessives are primarily used in higher registers/styles. We return to this point in the next section.

argued that postnominal possessives are more complex due to syntactic movement of the noun past the possessive, we have a (relatively unusual) situation where the most frequent structure is also the most complex one. We now consider which possessive structure monolingual Norwegian children prefer.

3. Possessive structures and monolingual acquisition

As mentioned in the introduction, A&W’s goal was to test the relative impact of frequency and complexity, which is a central question within language acquisition research. Furthermore, it is a question that typically distinguishes generative and constructivist theories. Norwegian possessive structures are well suited for this kind of study, due to the fact that these structures allow two word orders, where one, POSS-N, is both less complex and less frequent than the other, N-POSS. Accordingly, we would expect POSS-N to be acquired *before* N-POSS if complexity is the more important factor in language acquisition, but *after* it if frequency plays a more important role. To test this, the distribution of pre- and postnominal possessives was investigated in spontaneous production data of three monolingual children growing up in Tromsø. These child language data come from the Anderssen corpus mentioned in 2.3 above, which consists of almost 47,000 child utterances.

Table 1 (based on Table 9 in A&W 2010: 2582) provides an overview of the distribution of pre- and postnominal possessives in the corpus data of the three monolingual Norwegian children.

Table 1. Number/total and percentage of postnominal possessives (N-POSS) in Norwegian child data.

Child	Period 1 (1;8–2;0)	Period 2 (2;0–2;4)	Period 3 (2;4–2;8)	Period 4 (2;8–3;0)
Ina	0/0 (0%)	8/12 (67%)	37/43 (86%)	84/135 (62)
Ann	0/2 (0%)	10/19 (53%)	27/34 (79%)	20/30 (67%)
Ole	0/5 (0%)	6/14 (43%)	23/31 (74%)	43/105 (41%)
Total	0/7 (0%)	24/45 (53%)	87/108 (81%)	147/270 (54%)

The results reveal that the children have a clear preference for prenominal possessives early on in development. Prenominal possessives are attested in the data of all three children before postnominal ones; that is, before the children reach the age of two, only prenominal possessives are attested in their production. Examples of early prenominal possessives are provided in (8)–(10) (A&W 2010: 2582).

- (8) *min seng.* (Ann, 1;11.0)
my bed
‘My bed.’

- (9) *han er min mann.* (Ole, 1;10.22)
 he is my man
 'It is my man.'
- (10) *det er min kjole.* (Ina, 2;1.23)
 it is my dress
 'It is my dress.'

After the children's second birthday, the first postnominal possessives appear, and between the ages of two (2;0) and two years and four months (2;4), these make up approximately 50%, which is still considerably less than in the adult data (75%). Examples of early postnominal structures are provided in (11)–(13) (A&W 2010: 2582).

- (11) *sola di.* (Ann, 2;0.17)
 sun.DEF your
 'Your sun.'
- (12) *han være i skufle di.* (Ole, 2;0.10)
 he be in shovel.DEF your
 'He (should) be in your shovel.'
- (13) *nei no døtt ned mannen på foten min.* (Ina, 2;1.29)
 no now falls down man.DEF on foot.DEF my
 'Oh, now the man is falling down on my foot.'

Only when they are between the age of 2;4 and 2;8 do the children use the postnominal possessive as frequently as the adult speakers. At this stage, the children use this word order 81% of the time.⁵

A&W also show that the early predominance of prenominal possessives cannot only be due to a greater propensity on the part of the children to want to put focus on the possessor, even though this may be a contributing factor. The children clearly also use the prenominal possessive in a non-target-consistent way; that is, in situations that are not contrastive. Examples of this are provided in (14) and (15) (A&W 2010: 2583–2584). In both these dialogues, the adult speakers are using postnominal possessives, while the children are using prenominal ones.

- (14) Ole: *her døtt av hjulan.*
 here fall off wheels.DEF
 'Look, the wheels are falling off.'
- Adult: *døtt hjulan demmes av?*
 fall wheels.DEF their off
 'Are their wheels falling off?'

5. The proportion of postnominal possessives decreases again in the fourth period as the recordings from this period contain many more contrastive contexts, cf. A&W 2010: 2584–2585.

Ole: *ja, demmes hjula dætt av.*
 yes their wheels fall off
 'Yes, their wheels are falling off.'
 (Ole, 2;2)

(15) Adult: *ja eg ser det kjem opp igjennom sugerøret.*
 yes I see it comes up through straw.DEF
 'Yes, I can see it coming up through the straw.'

Ina: *i min munn.*
 into my mouth
 'Into my mouth.'

Adult: *ja og opp i munnen din.*
 yes and up into mouth.DEF your
 'Yes, and up into your mouth.'
 (Ina, 2;9)

A&W claim that, on its own, frequency can neither predict the order of acquisition nor the types of errors that children produce. If frequency were the most important factor, we would expect the children to prefer the postnominal possessive. Instead, the least frequent but also least complex word order seems to be acquired first, and according to A&W, this suggests that complexity has a stronger impact on language acquisition, in that less complex structures are acquired before more complex ones.

Other studies of the acquisition of Norwegian have shown that children have an early command of word order variation that is dependent on fine syntactic distinctions or information structure, e.g., Westergaard (2009) on variation between V2 and non-V2 in North Norwegian dialects. In cases where there is a (slight) delay in the acquisition of this variation and the children prefer one of the two word orders, this has been explained with reference to complexity or a principle of economy rather than frequency, e.g., Westergaard and Bentzen (2007) on word order in subordinate clauses and Anderssen, Bentzen, Rodina and Westergaard (2010) on subject and object shift.

4. Hypotheses

So far we have assumed that the postnominal possessive structure is syntactically more complex than the prenominal one due to the movement of the noun past the possessive. We have also shown that the prenominal structure seems to be preferred at an early stage of acquisition by monolingual Norwegian children, even though it is considerably less frequent in the input. Because of this, it is likely that the postnominal possessive structure will be even more vulnerable in bilingual situations, where the other language only has prenominal structures. Consequently, we propose the following hypotheses for bilingual Norwegian-English contexts:

- A. The preference for the prenominal possessive construction should be both stronger and last longer in bilingual Norwegian-English children than in monolingual Norwegian children.

- B. The postnominal possessive construction should be less frequent in the language of bilingual Norwegian-English adults, where English is the dominant language, than in that of monolingual Norwegian adults.

5. Bilingual acquisition

5.1 Informants and data collection

To test hypothesis A, we have investigated the acquisition of possessive structures in spontaneous production data from two Norwegian-English bilingual children growing up in Tromsø. The two children, Emma and Sunniva, both live in homes in which one of the parents is a native speaker of English; Emma's mother is American and Sunniva's father is British. In both families, English is the home language and is used by both parents when speaking to the child and each other. Norwegian is used everywhere else in society; both children have attended nursery from the age of one and are consequently regularly exposed to Norwegian.

Seven Norwegian recordings were made of both children, but the data collection was quite different in the two cases, which makes it difficult to make direct comparisons. Sunniva was recorded for approximately one year (age: 1;8.8–2;7.24), while Emma was recorded much more intensively in the course of a three-month period (2;7.10–2;10.9). Unfortunately, there are relatively few examples of possessive structures produced by the two children, and as a result, our findings have to be interpreted with some caution.

5.2 Results – overview

Table 2 provides an overview of the distribution of pre- and postnominal possessives in the production of the two Norwegian-English children. Despite the very low number of relevant occurrences, the children's files have been divided into four periods, as was done for the monolingual data in A&W. Data from both children are available in only one of these periods, Period 3.

Table 2. Number/total and percentage of postnominal possessives in bilingual Norwegian-English child data.

Child	Period 1 (1;8–2;0)	Period 2 (2;0–2;4)	Period 3 (2;4–2;8)	Period 4 (2;8–3;0)
Sunniva	4/15 (27%)	2/2 (100%)	1/3 (33%)	NO DATA
Emma	NO DATA	NO DATA	3/10 (30%)	21/25 (84%)
Total	4/15 (27%)	2/2 (100%)	4/13 (31%)	21/25 (84%)

As we can see in Table 2, the development of the bilingual children resembles that of the monolinguals in the sense that they also seem to prefer the prenominal possessive structure at an early stage of development. The data are also different in some ways.

The first of these differences might not be directly relevant, but should nevertheless be commented on: Unlike the monolingual children, Sunniva produces both pre- and postnominal possessives in Period 1 (cf. (16) and (17)), though the latter clearly represent the minority (4/15). It is difficult to explain this difference, other than by referring to individual differences and coincidence: Sunniva seems to be an unusually precocious talker compared to other children. However, despite the fact that she is very advanced for her age linguistically, she seems to acquire target-like use of postnominal possessives somewhat later than the monolingual peers discussed in A&W.

- (16) *nei, ikke min kjole.* (Sun, 1;8.8)
 no not my dress
 'No, not my dress.'
- (17) *baby min.*
 baby my
 'My baby'
- Target: *babyen min*

The second difference between the bilingual and the monolingual children is that the bilingual children seem to exhibit an even stronger preference for prenominal possessives than the monolinguals, as predicted by Hypothesis A. As illustrated in Table 2, postnominal possessives represent 33.3% (10/30) in Periods 1–3.⁶ This proportion is lower than what is reported in A&W for the monolinguals at the same age, where the average percentage for the first three periods is 69.4% (111/160), cf. Table 1. Thus, the predominance of prenominal possessives may last somewhat longer in the bilingual children's production. This suggests that the development of the bilinguals is slightly delayed compared to the monolingual children. This observation is also compatible with Hypothesis A. Due to the limited data on which this study is based, any conclusions drawn about these results need to be made with caution. However, the results indicate that our hypothesis is confirmed: The bilingual children may have both a stronger and a longer lasting preference for prenominal possessives. If so, it is likely that simultaneous exposure to English possessives enhances the prenominal possessive in Norwegian and causes a stronger dominance of this word order. Thus, frequency does seem to have an impact on the acquisition process, but only indirectly, by prolonging a stage during which one word order is preferred due to its lower complexity. A similar argument has been used to explain the difference in the acquisition of subject and object shift in Norwegian monolinguals (Anderssen et al. 2010).

6. Obviously, this is not true of the second period, when only two possessives are produced, both of which are postnominal. Most likely this is a coincidence.

5.3 Similarities between mono- and bilinguals:

The overuse of prenominal possessives

We have seen that there are both similarities and differences between mono- and bilingual children with respect to the acquisition of possessive structures. In this connection, it is relevant to ask whether the bilingual children also use prenominal possessives in situations in which postnominal structures would be more appropriate. In Section 2.2 we reported that pre- and postnominal possessives do not have the same interpretation. In postnominal possessives, possessive pronouns are usually topical and make up part of the background of the utterance, while in prenominal possessives, they are focal and the possessive relationship is foregrounded, often contrastively (Faarlund et al. 1997, A&W, Lødrup 2012). In Section 3, we showed that monolingual children struggle with this distinction at an early stage and use prenominal possessives in situations in which the possessive relationship is part of the background of the utterance (topical information). Not surprisingly, the bilingual children also appear to overuse prenominal possessives this way, as illustrated in the following examples.

(18) *den er ikke i min veska.* (Sun, 1;10.16)

it is not in my handbag
'It is not in my handbag.'

(19) *den tog har æ fått mi mamma.* (Emm, 2;7.10)

that train have I received my mummy
'My mummy gave me that train.'

Accordingly, we can conclude that the preference for prenominal possessives found in the data of the bilingual children cannot be due to a tendency for them to want to foreground the possessive relationship. In this respect mono- and bilingual children behave in a similar way.

5.4 Differences between mono- and bilinguals: Definiteness marking and postnominal possessives

So far, we have seen that both the monolingual and the bilingual children use prenominal possessive structures more than adults, and that some of these structures are pragmatically inappropriate. One striking difference between these two groups relates to definiteness marking. In Section 2.1, we showed that prenominal possessives must be accompanied by nouns in the bare form, while postnominal ones co-occur with definite nouns. The monolingual children rarely make any mistakes with regard to definiteness marking in the two word orders. This is especially true of postnominal possessives, with which the three children Ina, Ann and Ole use bare nouns only 6.7% (10/150), 3.5% (2/57) and 1.4% (1/72) respectively. In prenominal possessive

structures, the proportion of non-target-consistent production is slightly higher: Ina, Ann and Ole have definiteness marking on the noun in these structures 11.4% (9/79), 7.1% (2/28) and 4.8% (4/83). The bilingual children, on the other hand, seem to have relatively little trouble with null definiteness marking on prenominal possessives. There is only one example of a prenominal possessive occurring with a noun in the definite form in Emma's data (cf. (20)), representing 9.1% (1/11). Sunniva produces one structure that could be interpreted as containing a definiteness error (cf. (21)), but it is uncertain whether the *-a* ending should be interpreted as a definiteness marker here.⁷ It is a possible interpretation based on the fact that in the same file, Sunniva says *xx putte kjola* (put dress.DEF) in what appears to be a definite context. If Example (21) is included, this represents 7.7% (1/13) of Sunniva's prenominal possessives.

- (20) *æ vil ha < stor ku> [//] min kua der oppi.* (Emm, 2;8.7)
 I will have big cow my cow.DEF there up-in
 'I want to have my cow in there.'
- (21) *min kjola.* (Sun, 1;8.8)
 my dress.DEF?
 'My dress.'

Thus, the bilingual children appear to fall within the variation observed in the data of the monolingual children with respect to definiteness marking on prenominal possessives. All children make between 4.8% and 11.4% errors. In the postnominal possessive structures produced by the bilinguals, however, 32.3% of all the lack the definite suffix. For Emma, these structures represent 33.3% (8/24) and for Sunniva 28.6% (2/7). Examples are provided in (22)–(24) (cf. also (17) above).

- (22) *og han tok [?] ikke med kylling min.* (Emm, 2;8.20)
 and he took not with chicken my
 'And he didn't bring my chicken.'
- (23) *sånn som æ bruke på finger mi.* (Emm 2;9.11)
 like that I use on finger my
 'Like the type I use on my finger.'
- (24) *Noddy min.* (Sun, 1;9.22)
 Noddy my
 'My Noddy.'

Again, the limited data available makes it necessary to draw our conclusions with caution. However, the bilingual children could possibly be distinguished from the monolinguals not only by exhibiting a stronger and more persistent preference for

7. *Kjole* 'dress' is a masculine noun in the Tromsø dialect, and the definite form should consequently be *kjole-n* 'dress-the.' The use of *-a* here might be an (unsuccessful) attempt at definiteness marking.

prenominal possessives; they also have somewhat more trouble with definiteness marking on postnominal possessives.⁸

5.5 Intermediate summary

In this section, we have shown that Norwegian-English bilingual children are similar to monolingual children in the sense that both groups show a preference for prenominal possessives. Like monolinguals, bilinguals use prenominal possessives in contexts in which an adult would have used postnominal ones. The goal of the study was to test whether the preference for prenominal possessives would be stronger and more persistent in the bilingual children due to influence from English. The (admittedly very limited) data indicate that this could be the case. The fact that English only has a prenominal possessive construction seems to have the effect that it further enhances the prenominal possessive in Norwegian. Furthermore, it was found that the bilingual children have certain problems with definiteness marking in postnominal possessive structures, which suggests that they do not only prefer the least complex structure (the prenominal one), but also disprefer postnominal structures, possibly because they require definiteness marking.

6. Heritage speakers

6.1 Informants

In order to test our Hypothesis B, that the prenominal possessive construction would be preferred also by bilingual Norwegian-English adults, we have studied a selection of Norwegian-Americans in the USA, more specifically informants that were interviewed in connection with the NorAmDiaSyn fieldwork in Wisconsin and Minnesota in September 2010. The selection consists of 37 speakers, 10 women and 27 men, from the following locations: Blair (4), Spring Grove (8), Harmony (5), Decorah (2), Westby (9), Mabel (2), and Coon Valley (7).⁹

8. It is unlikely that the problems that the two bilingual children have with definiteness marking in postnominal possessives is due to a general problem related to the suffixal article. For example, in the two first files (1;8.8 and 1;9.22), Sunniva produces 38 nouns in the definite form (with the suffixal article), and only three ungrammatical bare nouns (7.3%). This is very low for her age. She uses definiteness marking in more than 90% of appropriate cases. Emma, on the other hand, sometimes replaces the definite suffix with the demonstrative determiner *den*, and says *den hest* 'the horse' instead of *hest-en* 'horse-the' (cf. Anderssen and Bentzen 2013). However, such examples are rare in Emma's data as well.

9. In this article we use a coding for the informants that only shows gender and location.

The informants are roughly 70 to 90 years of age and mainly third generation immigrants who grew up speaking Norwegian at home with their parents and grandparents. Most of them did not learn English until they started school around the age of six, and they may therefore be characterized as successive bilinguals. The home language was Norwegian, but they generally had little opportunity to use Norwegian in the community, and English has thus been the dominant language for these speakers throughout their adult lives. They have not passed on the language to their own children, and they rarely speak Norwegian today, mainly due to the very limited number of possible conversation partners. Furthermore, most of these speakers have never learned to read and write Norwegian.

Most of our informants are descendants of immigrants who came from rural areas in Eastern Norway. This means that they generally speak rural East Norwegian dialects, which are different from standard Norwegian and most urban dialects in that they allow postnominal possessor constructions with an indefinite form of the noun if this is a kinship term, as illustrated in (25), cf. Julien (2005). However, it is important to point out that not all kinship terms allow indefinite nouns in this context, cf. (26). This is relevant, as kinship terms are quite frequent in the production data of the heritage speakers.

- (25) *far min, mor mi, sønn min, bestemor mi*
father my mother my son my grandmother my
- (26) **kjerring mi *kone mi *søskenbarn mitt*
woman my wife my cousin my

6.2 Results – overview

Four of the 37 informants do not produce possessive constructions at all. The remaining 33 speakers produce 453 examples altogether, and Table 3 provides an overview of the word orders used.

Table 3. Word order in possessive constructions, 33 heritage speakers.

Construction	N	%
N _{def} -POSS	153	33.8%
N _{indef} -POSS	209	46.1%
POSS-N	90	19.9%
POSS-N-POSS	1	0.2%
Total	453	100%

The most striking result is that the word order N-POSS is very robust in these data. Even though only 153 examples (33.8%) are of the type N_{def}-POSS, i.e., postnominal possessives with a definite noun, there are additionally 209 examples (46.1%) of the type N_{indef}-POSS, i.e., nouns without the definiteness suffix. This means that postnominal possessives are attested as much as 79.9%, which is actually somewhat higher than the percentages found in the corpora of adult speakers from Tromsø and Oslo

(cf. Section 2). We thus do not have any evidence that the postnominal possessor construction is vulnerable in heritage Norwegian. In fact, the prenominal possessor construction, which was expected to be more frequent in these data, according to our Hypothesis B, only makes up 19.9%. There is additionally one example with both a prenominal and a postnominal possessor, and as shown in (27) this is a mixed-language DP where the prenominal possessor is English and the postnominal one is Norwegian.

- (27) *Og son min, my gamlaste son min, han like ...* (8M Spring Grove)
 and son my my oldest son my he likes ...
 ‘And my son, my oldest son, he likes ...’

Furthermore, the relatively complex nominal morphology with respect to gender and number is generally also in place in the data from the heritage speakers, as shown by the examples in (29)–(31):

- (28) *farmen min* (1M Blair)
 farm.DEF my.MASC.SG
 ‘My farm.’
- (29) *kjerringa mi*
 wife.DEF my.FEM.SG
 ‘My wife.’
- (30) *maskineriet mitt*
 machinery.DEF my.NEUT.SG
 ‘My machinery.’
- (31) *unga mine*
 kids.DEF my.PL
 ‘My kids.’

6.3 Possessive constructions with a postnominal possessive

As shown in the previous section, the postnominal possessive construction is clearly intact in the grammar of these bilingual speakers. On closer inspection, the postnominal possessors are not only robust, but also productive, as this construction is also used when the informants use loanwords from English, illustrated in (32)–(33). There are also occasional examples in the data where the noun is Norwegian and the possessive is English, but the word order is nevertheless N-POSS, as in (34).

- (32) *schoolhouse’n din* (3M Spring Grove)
 school.house.DEF your
 ‘Your schoolhouse.’
- (33) *family’n hennes* (5M Spring Grove)
 family.DEF her
 ‘Her family.’

- (34) *bestemor mi, familien her* (1M Spring Grove)
grandmother my family.DEF her
'My grandmother, her family ...'

The most frequent possessive construction in these data is the postnominal possessive without the definite suffix on the noun, i.e., N_{indef}-POSS. This construction makes up almost half of all the possessives in the data, 46.1%. As mentioned above, these are grammatical when the noun is a very frequent kinship term. Such nouns are often used in this material, and some typical examples are given in (35).

- (35) *dotter mi, sønn hans, mor våre, bæssfar min* (1M Blair)
daughter my, son his, mother our, grandfather my

Some of these examples, 14.4% (30/209), are ungrammatical, however, illustrated in (36)–(37). In Section 7 we discuss some possible accounts of these examples in the data.

- (36) **søskenbarn vårt, *onkel vårres* (4M Coon Valley)
cousin our, uncle our
- (37) **forelder dems* (1M Decorah)
parents their

6.4 Possessive constructions with prenominal possessives

According to Hypothesis B, the prenominal possessive constructions should be more frequent in the data of the Norwegian-Americans than in the Norwegian corpora, but as we saw in Table 3, this is not the case. In fact, the prenominal possessive is somewhat less frequent than in the Norwegian corpus material discussed in Section 2. A closer investigation of these constructions in the data of the heritage speakers reveals that most of these POSS-N constructions (73.3%, 66/90) are found in the data of only three informants, who produce almost exclusively prenominal possessives. This is illustrated in Table 4, and (38) provides an example.

Table 4. Informants producing mainly POSS-N.

Informant	N	%
1F Harmony	17/28	60.7%
3M Westby	28/29	96.6%
6M Spring Grove	21/21	100%

- (38) *Min bestemor, je kan ikke huske at jeg hørte henne si*
My grandmother, I can not remember that I heard her say
'My grandmother, I can't remember hearing her say
ett engelsk ord.
one English word
a single English word.'

The remaining examples of prenominal possessive constructions (24/90) are produced by as many as 16 informants, which means that most of the speakers produce only one or two examples, and that as many as 14 speakers do not produce a single example of POSS-N. Furthermore, most of these prenominal possessive constructions are of the type that may not appear with postnominal possessors, such as the fixed expressions in (39) or (40), the latter in fact being a direct translation of an English expression and ungrammatical in Norwegian.

(39) *i mi tid* (**i tida mi*)
in my time

(40) **alt mitt liv*
all my life

6.5 Some questions

Given these results, it is natural to ask some further questions about the data: First, is there a difference between the three informants who use almost exclusively prenominal possessives compared to the majority of speakers who virtually only produce postnominal ones? Second, is there anything in the conversations with these three speakers which indicates that they had a bigger challenge than the others when speaking Norwegian, i.e., are the conversations more demanding in that the speakers have to use nouns that are more infrequent compared to the nouns appearing in the conversations with the other informants? Furthermore, is there any indication in the data that these Norwegian-American speakers master the pragmatic distinction between the two word orders? Alternatively, could it be that they are in fact doing the opposite of the bilingual children, i.e., that they have a preference for the postnominal possessive construction and use it also in contrastive contexts where the prenominal possessor would be more natural? This would open up an interesting issue from the point of view of the regression hypothesis discussed by Johannessen (this volume). This hypothesis predicts that structures that are acquired late should be lost early, while structures that are acquired early should be lost late in language attrition. Johannessen studies determiners and verb placement in an attrited speaker of heritage Norwegian and finds some support for the regression hypothesis, while our results point in the opposite direction.

Unfortunately it is impossible to answer the last question due to limitations in the data. First, it is difficult to identify clearly contrastive contexts in these conversations. Second, in oral speech it is always possible to use prosody to express contrast by adding stress on the possessor, as in (41), cf. Lødrup (2012). It is therefore unclear whether the Norwegian-American informants are any different from the adults in the two Norwegian corpora in the sense that they overuse the postnominal possessor construction.

(41) *bilen MIN*
car.DEF MY
'MY car.'

Furthermore, there are simply not enough informants producing both word orders and it is therefore impossible to investigate whether they make any distinction between the two. In fact, there is only one speaker who produces a considerable number of examples of both word orders (1F Harmony, cf. Table 4), and an investigation of her data shows that her word order choice seems to be relatively random and does not seem to be determined by whether the possessive is contrastive or not, cf. Examples (42)–(43). Furthermore, there is no indication that this variation is due to different registers or stylistic levels (cf. Section 2).

- (42) *Min mor arbeide for ho når min mor var ung.* (1F Harmony)
 my mother worked for her when my mother was young
 ‘My mother worked for her when she was young.’
- (43) *Ja, men far min arbeide med stein, med meisel ...* (1F Harmony)
 yes, but father my worked with stone, with chisel ...
 ‘Yes, but my father worked with stone, with a chisel ...’

With respect to the second question, it turns out that the type of noun used in the conversations with the three speakers who predominantly produce prenominal possessive constructions does not differ from the noun types used in the conversations with the other speakers. All the informants mainly speak about their families and what it was like growing up as a Norwegian-American in the Midwest, and the nouns that are typically used are generally kinship terms, such as *mor* ‘mother,’ *far* ‘father,’ *bror* ‘brother,’ *sister* (loanword, Norwegian: *søster*), or other high-frequency everyday words, e.g., *farm* ‘farm,’ *krøtter* ‘cattle,’ etc.

Finally, we consider the first question, i.e., whether there could be a difference in the background of the three informants using predominantly prenominal possessives compared to the other 30 speakers. It is not easy to find such a distinction, as these three do not seem to differ in any obvious way from the others with respect to family situation and immigrant history. It could of course be that these three have a somewhat weaker competence in Norwegian and therefore more transfer from English. However, listening to the recordings, one is not immediately struck by any difference in proficiency. And according to the background questionnaires of these three speakers, it turns out that they in fact have a very active and conscious relationship to Norway and the language. All three read Norwegian books (regularly or occasionally), which, by comparison with the others, is relatively unusual. Only four of the other 30 claim to have any reading knowledge of Norwegian, and with the exception of an old cartoon magazine (*Han Ola og han Per*), which is mentioned by a number of the informants, they hardly ever read any Norwegian at all.¹⁰

10. *Han Ola og han Per* is a cartoon created by Peter Julius Rosendahl from Spring Grove, Minnesota. This was first published in the Norwegian newspaper *Decorah-Posten* between 1918 and 1935.

One would normally expect that literacy in a language would protect against language attrition. In this case, however, we might interpret this in the following way: These three informants are no longer first language speakers of Norwegian. The reason why they know as much Norwegian as they do is that they are actively re-learning Norwegian as adults. If this is the case, then these three could be considered to be second language learners of Norwegian. Overuse of the POSS-N construction could then be characterized as a feature of the acquisition of Norwegian (as a first or a second language), and not as a sign of attrition.

The question is whether there is any support for such an interpretation of the data, beyond the fact that these three informants read Norwegian. It is again not easy to find evidence, but it is striking that two of these three informants make certain mistakes in other parts of the language that are unusual in the production of the majority of Norwegian-American speakers. This is shown in Examples (44)–(45): Word order (non-V2) and present instead of past tense in (44), and in (45) incorrect irregular past tense form, use of the indefinite article with a profession and the definite suffix on the noun in a prenominal possessive.

- (44) *Og så min tippelderfar han kommer i 1864.* (1F Harmony)

and so my great-grandfather he comes in 1864

‘And then my great grandfather came in 1864.’

Target: *Og så kom min tippoldefar i 1864.*

- (45) *Så jeg lærte det til mine studentene* (6M Spring Grove)

so I taught it to my students.DEF

‘So I taught it to my students’

når jeg var en lærer...

when I was a teacher ...

‘when I was a teacher ...’

Target: *Så jeg lærte det til mine studenter (studentene mine) da jeg var lærer ...*

A further explanation for why these three informants have a predominance of prenominal possessives in their production could also be related to the fact that they read Norwegian. As mentioned above, it is reasonable to assume that literacy protects against language attrition, but this requires that there is overlap between the spoken and the written language. This is generally the case in Norwegian, but the possessive constructions actually constitute an exception. Recall from Section 2 that the prenominal possessive is focused, while the possessor is normally topical in the postnominal possessive construction. This is the case in most Norwegian dialects, and topical prenominal possessives are generally odd or unacceptable in the spoken language (Lødrup 2012). But the most frequently used written standard (*bokmål*) is very different from this. According to Lødrup (2012: 191, footnote 2), a search in the Oslo corpus of written Norwegian shows that only 22% of all possessives in texts from newspapers and magazines were postnominal (out of a total of 43,449). In fictional texts this word order made up 47% (out of a total of 12,884). These percentages are

in strong contrast with the proportions we attested in the spoken language: 73% in NoTa and 75% in the Tromsø corpus. Because of these differences, it is conceivable that being literate in Norwegian is not necessarily an advantage with respect to the acquisition or maintenance of word order variation in possessive constructions. In fact, it seems relatively unlikely that it would be possible to learn the pragmatic difference between the two word orders (in the spoken language) from the written language alone. Thus, reading Norwegian is obviously a good solution for people who wish to learn or maintain their Norwegian in situations where they have few conversation partners. But with respect to the two word orders in possessive constructions and the pragmatic distinction between them, considerable exposure to written Norwegian may in fact turn out to be a disadvantage.

7. Discussion

In this section we discuss more general issues related to bilingualism and the word order in Norwegian possessive constructions:

1. If our assumption about the three informants in Section 6 is correct (i.e., that they should be considered second language learners), why is it the case that the postnominal possessive construction is vulnerable in acquisition, but not in attrition?
2. Does the fact that the difference between the two word orders is partly pragmatic play an important role?
3. Why is definiteness morphology vulnerable in both bilingual situations, but not (to the same extent) in first language acquisition?

In Section 2 we argued that the postnominal possessive construction is morphologically and syntactically more complex than the prenominal one, as it involves movement of the noun across the possessive in order to merge with the definiteness suffix. We also showed that this is more frequent in the spoken language. We can therefore answer the first question by referring to these factors. As shown in many studies of both first and second language acquisition, syntactic complexity is an important factor, which often causes a certain delay in the acquisition process. In A&W we also showed that monolingual Norwegian children are slightly delayed in the production of the postnominal possessive construction.

It is therefore not surprising that this construction is acquired late also in a bilingual situation. But why do we not see the same vulnerability in the production of the bilingual Norwegian-Americans? A likely explanation is that, once a construction has been acquired, its complexity is somehow lost. The construction has simply been automatized in the grammar of the speaker of the language, and using it no longer involves any extra effort or cost in the speech situation, compared to the less complex construction. Frequency presumably also plays a role here: A highly frequent construction will continually be strengthened in the speaker's grammar, and this input should therefore protect this construction against attrition.

However, it needs to be investigated whether the difference between the bilingual children and the heritage speakers could not simply be related to dialect differences. According to Larsson et al. (this volume), early Swedish settlements saw the development of a standard American Swedish based on features from the different dialects, as well as features from English. As Johannessen and Laake (this volume) point out, such a standard may not have developed in American Norwegian due to the higher status of dialects in Norway (see also Hjelde this volume). A high proportion of Norwegian heritage speakers in the US descend from the rural eastern part of Norway, and they thus grew up hearing rural Eastern dialects, while the bilingual children studied here live in Tromsø and are mainly exposed to Northern dialects. Both word orders are found in the Tromsø dialect today (cf. the adults in the acquisition corpus), but it is unclear whether the prenominal possessive exists at all in the Norwegian dialects spoken in the USA. For obvious reasons we do not know what these dialects were like approximately 150 years ago when the first generation of Norwegians emigrated, but it is possible to investigate present-day Eastern dialects in the Nordic Dialect Corpus (Johannessen et al. 2009). Thus, we have studied the files of speakers from Oppland county, and our findings show that 76.2% (172/252) of the possessives in this material are postnominal, 57 of which (22.6%) are kinship terms appearing without a definite suffix. This means that 23.8% (60/252) of the possessives are prenominal, which corresponds exactly to the findings in the Tromsø and NoTa corpora. Furthermore, the prenominal possessives are typically used in contrastive contexts, as shown in (46). These findings indicate that it is unlikely that dialect differences are responsible for the high frequency of postnominal possessives in the production of the heritage speakers.

- (46) ... *og gjorde det samme som han gjorde* (Brekkom01um)
 and did the same as he did
 ‘... and I would do the same as he did
 med sin traktor med min trå -traktor.
 with his tractor with my pedal-tractor
 with his tractor with my pedal tractor.’

A further possible explanation for the lack of prenominal possessives in the production of the Norwegian-Americans could simply be that the interview situations and the topics of the conversations make it more natural to use postnominal possessives, i.e., that there are few contrastive contexts. If so, there would be no difference in the I-language grammars of the heritage speakers compared to adult speakers in Norway. However, given that the interviews in NoTa and the Nordic Dialect Corpus are similar to the interviews carried out in the NorAmDiaSyn project, this is not a particularly likely explanation either.

Finally, we would like to suggest that frequency in fact plays an important role here, in the following way: As discussed above, we may assume that for constructions that are already acquired, complexity is no longer an important factor. The language of an adult may instead be more influenced by frequency. Just as the postnominal possessive may be protected against language attrition by its high frequency, the

correspondingly low frequency of the prenominal possessive may cause *this* construction to be vulnerable. We can thus turn the question around and ask if it could be that it is the prenominal possessive that is vulnerable in the language of the heritage speakers, due to its low frequency. The data show that the majority of the speakers do not produce this construction at all. In our view this is an interesting hypothesis, which should be investigated in further research on acquisition and attrition.

We now turn to the question whether the pragmatic difference between the two word orders plays a role for the results of our investigation. It has recently been argued that constructions involving the interface between syntax and pragmatics are especially vulnerable in bilingual acquisition and attrition. This is referred to as the Interface Hypothesis (e.g., Sorace 2011), which, among other things, has been used to account for the vulnerability of null subjects, e.g., in the Italian produced by English-Italian bilinguals, both children and adults. The choice between a pronominal and a null subject in Italian is dependent on whether the speaker wishes to mark a topic shift, which means that this involves the syntax-pragmatics interface. Brown and Putnam (this volume) also refer to the permeability of the semantic and discourse-pragmatic levels of the grammar in their discussion of a change in Pennsylvania Dutch involving an extension of the progressive aspect to certain stative verbs. For the possessives in Norwegian, we may argue that the choice between the two word orders is dependent on the interpretive difference between them (contrastive or neutral), and this distinction should also be vulnerable according to the Interface Hypothesis. In our acquisition material we have also shown that the bilingual children (just like the monolinguals) do not seem to have understood the contrastive interpretation of the prenominal possessive, in that they use it also in non-contrastive contexts, cf. Examples (18)–(19) in Section 5. For the Norwegian-Americans, on the other hand, the data material is too limited, as also mentioned in Section 6: Hardly any of the informants produce both word orders to an extent that makes it possible to investigate whether there is an interpretive distinction between them. None of the examples stand out as pragmatically odd. Contrastive contexts are rare in the data, and as mentioned above, a contrastive interpretation may also be expressed by stress on the postnominal possessive, which means that word order is less important.

Finally, we discuss the vulnerability of definiteness morphology in bilingual situations, which we saw examples of in Sections 5 and 6 (*baby min* ‘baby my,’ target: *babyen min*; *søskenbarn vårt* ‘cousin our,’ target: *søskenbarnet vårt*), where the definite suffix is missing. Bilingual acquisition thus seems to be different from monolingual acquisition, where morphology does not seem to pose any particular problems, cf. Wexler’s (1999: 43) claim that small children are “little inflection machines.” Anderssen (2006, 2010) also shows that the definite suffix is acquired very early by monolingual Norwegian children, which has also been found in Swedish first language acquisition (cf. Bohnacker 2004). In the grammars of the heritage speakers, morphology is generally not vulnerable, according to Johannessen and Laake (this volume), with the possible exception of the loss of dative case. The possessives may be another exception,

as there seems to be a distinction between syntax and morphology in this context: while the N-POSS word order is both robust and productive, definiteness morphology is somewhat more vulnerable. In our view there could be two different explanations of this: First, what we see in the data could be an internal overgeneralization in Norwegian, i.e., from the frequent kinship terms (which typically appear without definiteness in the relevant dialects) to other kinds of nouns. This explanation is of course only relevant for the heritage speaker data, as the bilingual children are growing up in Tromsø and are therefore mainly exposed to a dialect where the lack of definiteness with kinship terms is uncommon. Second, omission of definiteness may be caused by interference from English, where the definite article is never included in possessive constructions, e.g., **the my car*. It should be noted that these explanations in principle do not exclude each other.

8. Conclusion

We have discussed the word order variation in Norwegian possessive constructions (POSS-N or N-POSS) in two bilingual populations, bilingual Norwegian-English children growing up in Norway (Tromsø) and a group of Norwegian-Americans who have English as their dominant language. Given previous research on monolingual Norwegian children, our hypothesis was that the word order with a postnominal possessive would be vulnerable in these bilingual contexts, despite the fact that it is considerably more frequent than the prenominal possessor construction in spontaneous speech: This construction is morphologically and syntactically more complex (requires definiteness marking on the noun as well as movement of the noun across the possessor to merge with the definiteness suffix) and it is somewhat delayed in the production of monolingual children. Furthermore, we expected that the prenominal possessor construction would be reinforced by the speakers' exposure to English. Our investigation shows that the bilingual children produce a higher proportion of the prenominal possessor construction at an early stage, and that this tendency seems to last longer than in the monolingual data. In the data of the Norwegian-American heritage speakers, the picture is completely different: The postnominal possessive construction is both robust and productive; it is even more frequent than in the corpora of Norwegian adults and it is also used with English loanwords. We therefore conclude that our hypothesis is partly confirmed. Our interpretation of this is that linguistic complexity is an important factor in the acquisition process (mono- or bilingual), while high frequency may protect against language attrition.

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