

The Acquisition of Word Order in L2 Norwegian: The case of Subject and Object Shift

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Abstract

This article reports on a syntactic acceptability judgement study of 59 adult L2/Ln learners of Norwegian and a group of native controls, studying subject and object shift. These constructions involve movement of (mainly) pronominal subjects or objects across negation/adverbs. Both subject shift and object shift display considerable micro-variation in terms of syntax and information structure, dependent on factors such as nominal type (pronoun vs. full DP), function (subject vs. object), and information status (given vs. new/focused). Previous studies have shown that Norwegian children have an early preference for the unshifted position in both constructions, but that they acquire subject shift relatively early (before age 3). Object shift, on the other hand, is typically not in place until after age 6-7. Importantly, children are conservative learners, and never shift elements that should not move in the adult language. The results of the current study show that L2/Ln learners do not make all the fine distinctions that children make, in that they have a clear preference for all subjects in shifted position and all objects in unshifted position, although some distinctions fall into place with increased proficiency. Importantly, unlike children, the L2/Ln learners are not conservative learners; rather, they over-accept syntactic movement in several cases. The equivalent to this in language production would be to apply syntactic movement where it is not attested in the target language, which would be the opposite behaviour to that observed in L1 children.

Keywords

conservative learning, economy, frequency, information structure, L1 vs. L2/Ln acquisition, micro-variation, syntactic movement

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1. INTRODUCTION

This article reports on a study of the acquisition of argument placement by L2/Ln learners of Norwegian, more specifically subject shift and object shift. These constructions refer to the phenomenon where a pronominal subject or object moves across adverbials/negation, while full DP subjects (typically) and full DP objects (consistently) remain in an unshifted position as illustrated in (1)–(2).

- (1) a. Derfor likte **hun ikke** huset.
 b. Derfor likte **ikke Kari** huset.
 therefore liked she not Kari house.DEF
 ‘Therefore she/Kari didn’t like the house.’

- (2) a. Hun likte **det ikke**.
 b. Hun likte **ikke huset**.
 she liked it not house.DEF
 ‘She didn’t like it/the house.’

Both subject shift and object shift involve considerable micro-variation with respect to the kind of element that may undergo this shift.ⁱ Thus, it is to be expected that these fine distinctions may pose a challenge to learners of Norwegian, both L1 children and adults learning it as an L2 (or as a third or fourth language, hence the term Ln, which will be used for the current study henceforth). Several studies have investigated these two constructions in Norwegian child language, based on spontaneous production as well as experimental data (e.g. Westergaard 2008, 2011, Anderssen & Westergaard 2010, Anderssen, Bentzen, Rodina & Westergaard 2010, Anderssen, Bentzen & Rodina 2012). The general finding is that children initially prefer the unshifted position for both subjects and objects, which is non-target like for pronominal subjects and pronominal objects. Moreover, the target-like

constructions are acquired at very different ages for the two phenomena; subject shift before the age of 3 and object shift considerably later (around age 6-7). Importantly, children are shown to be conservative learners in that they never shift an element that does not shift in the adult language (e.g. typically full DPs for subject shift, full DPs and certain pronouns for object shift). In this paper we use an acceptability judgement test to investigate subject shift and object shift in L_n learners of Norwegian and compare them to adult native controls with respect to the micro-variation found in the target language. We also make comparisons with previous data from child language. Our findings show that the adult learners generally prefer all subjects in a shifted position and all objects in an unshifted position, a distribution that corresponds to frequencies found in spoken corpora.ⁱⁱ With increasing proficiency, they also become sensitive to some important distinctions, and to some extent exhibit different preferences for pronouns and full DPs. Nevertheless, there are a number of distinctions that they do not make, viz. between subject shift in main and subordinate clauses and between object pronouns with nominal and non-nominal antecedents. Importantly, however, they are not conservative learners, in that they are found to over-accept shifted arguments, both in subject shift and object shift constructions.

2. BACKGROUND

2.1 Subject shift and object shift in Norwegian

Both subject shift and object shift involve movement of nominal elements across adverbials/negation. In this subsection we outline the two phenomena, starting with subject shift. Norwegian is a V2 (Verb Second) language, which means that there is subject-verb inversion in non-subject-initial clauses, resulting in the subject appearing adjacent to adverbials/negation, as in (3)-(5). Whether the subject precedes or follows these elements is relatively straightforwardly determined by pragmatic/discourse factors: New information and stressed/contrastive subjects follow adverbials/negation, while given and non-contrastive

subjects precede adverbials/negation. Pronominal subjects are typically given information and thus precede all adverbials/negation unless they are contrastively stressedⁱⁱⁱ, as shown in (3)-(4). Full DP subjects may appear in either position, as shown in (5).

(3) a. Den boka har **han ikke** lest.

b. Den boka har **ikke *han** lest.

that book.DEF hashe not he read

‘That book he hasn’t read.’

(4) a. Den boka har ***HANikke** lest.

b. Den boka har **ikke HAN** lest.

that book.DEF has HE not HE read

‘HE hasn’t read that book.’

(5) a. Den boka har **Per ikke** lest.

b. Den boka har **ikke Per** lest.

that book.DEF hasPer not Per read

‘That book Peter hasn’t read.’

Numerous syntactic analyses have been proposed to account for this variation in subject placement, and one area of contention is the location of the two subject positions, in the IP (e.g. Cardinaletti 2004, Westergaard & Vangsnes 2005, Westergaard 2011), in the CP (e.g. Wiklund et al. 2007, Bentzen 2009) or in between the two (e.g. Nilsen 1997, Mohr 2005). As this issue is not relevant to our study, we leave this question aside here, and proceed with the general assumption that we are dealing with two subject positions.

The distribution of different subject types in adult Norwegian has been studied in various spoken corpora. For example, reporting on data from the NoTa corpus (Oslo dialect, N=166),

Westergaard (2011) shows that in main clauses, 84.7% (1839/2170) of pronominal subjects appear in the shifted position, while only 3.4% (1/29) of full DP subjects shift.^{iv} Anderssen & Westergaard (2010) find a very similar distribution in Child Directed Speech (CDS), where 87.9% of pronominal subjects shift.^v For subject shift, the results from these spoken corpora further reveal that the distribution of nominal types (pronouns versus full DPs) in subject position is very uneven, with subjects overwhelmingly expressed as pronouns (98.7% in NoTa, 94% in CDS). Hence, subjects in general occur much more frequently in the shifted position than in the unshifted position in Norwegian main clauses.

The two subject positions are also found in embedded clauses. However, Norwegian does not display verb movement/V2 in embedded contexts. Thus, the subject appears either immediately following the complementizer, preceding adverbials/negation, or following these elements, as shown in (6). In embedded clauses, both full DPs and pronouns are clearly preferred in the shifted position in the adult language (Westergaard 2011).

(6) a. Jeg visste [at **Peter/han ikke** hadde lest boka].

b. Jeg visste [at **ikke ?Peter/?han** hadde lest boka].

I knew that Peter/he not Peter/he had read book.DEF

‘I knew that Peter had not read the book.’

Anderssen & Westergaard (2010) investigate the acquisition of subject shift by L1 learners, using production data from a longitudinal corpus of three children between the ages of 1;9 and 3;3. The results show that the children start out with a preference for all subjects in an unshifted position, both in main and embedded clauses, despite the high frequency of shifted subjects in the input. The distribution of subject types in main clauses reaches adult-like levels around age 3, as also confirmed by an experimental study of slightly older children

(Anderssen et al. 2010). In embedded clauses, target-consistent (shifted) word order falls into place somewhat later (Westergaard 2011). This means that while young children (target-consistently) do not make a distinction between pronominal and full DP subjects in embedded clauses, they do make a distinction between the two clause types in the sense that subject shift is not acquired simultaneously in the two. The higher preference for the unshifted position early on is argued to be caused by economy principles in acquisition and a general dispreference for syntactic movement at an early stage of development, which is found in numerous other studies of L1 acquisition (see e.g. Westergaard 2014 for an overview of Norwegian phenomena). Importantly, children can be shown to be conservative learners (see e.g. Snyder 2007), never shifting an element that does not shift in the adult language.

We now turn to object shift. In object shift constructions, unstressed pronominal objects typically appear preceding all adverbials/negation, while full DP objects never shift across such elements, (7). Not shifting is the only grammatical word order if the pronoun is contrastively stressed, (8).

(7) a. Han spiste ***fisken/denikke**.

b. Han spiste **ikke fisken/*den**.

he ate fish.DEF/it not fish.DEF/it

‘He didn’t eat the fish/it.’

(8) a. Han likte ***DEN ikke**.

b. Han likte **ikke DEN**.

he liked IT not IT

‘He didn’t like that one.’

Another restriction on object shift depends on whether the object has a nominal antecedent or not (see e.g. Anderssen et al. 2012, Andréasson 2008, 2010). Objects with nominal antecedents typically shift, as shown in (9), where the pronominal object *det* ‘it’ refers to the skirt. However, when the pronominal object refers to a non-nominal element, such as a clause, there is generally no object shift. In (10), the antecedent of the pronominal object *det* ‘it’ is the embedded clause ‘that they shall move’. The antecedents of the pronouns are in bold in the a-examples.

(9) a. **Skjørtet** var på salg.

skirt.DEF was on sale

b. Mona kjøpte **det ikke** den dagen.

c. Mona kjøpte **ikke *det** den dagen.

Mona bought it not it that day.DEF

‘Mona didn’t buy it that day.’

(10) a. Maria vil **at de skal flytte**.

Maria wants that they shall move

‘Maria wants them to move.’

b. Magnus ønsker ***det ikke** akkurat nå.

c. Magnus ønsker **ikke det** akkurat nå.

Magnus wishes that not that right now

‘Magnus doesn’t want that right now.’

Object shift has been argued to be a defocusing operation (see Holmberg 1999, Mikkelsen 2011). Thus, objects that are not focused have to leave the focus domain (the VP) and shift to a position preceding adverbials/negation. An object that remains in the VP (and consequently follows adverbials/negation) will receive a focus interpretation (in line with the pragmatic

principle of end focus, see e.g. Firbas 1957, Halliday 1967, Gundel 1985). Anderssen et al. (2012), on the other hand, suggest that object shift has to do with topicalization rather than focus, and they argue that a topical object obligatorily has to move to a topic position higher in the structure.

Compared to subject shift, object shift is relatively infrequent in spoken language. In a 13-hour sample of child-directed speech investigated in Anderssen et al. (2010), there were 157 examples of subject shift and only 3 examples of object shift. According to Westergaard (2010) the main reason for this is that, while subjects are realized as pronouns much more often than as full DPs (cf. previous section), the opposite is true for objects. Based on a sample of spontaneous speech from the NoTA corpus (one conversation between two speakers), Westergaard reports that objects constitute full DPs or clauses 66.4% (142/214) of the time, while pronouns (personal, reflexive as well as *det* ‘it/that’) make up only 32.7% (70/214) of all objects (leaving 0.9% for miscellaneous). Moreover, Bentzen et al. (2013) show that 83.5% (237/284) of pronominal objects have a non-nominal antecedent. While pronominal objects with nominal antecedents overwhelmingly undergo object shift in their study (87%), pronominal objects with non-nominal antecedents almost consistently remain in situ (95%).^{vi}

Previous research on language acquisition has found that children start out with all objects unshifted, and has argued that this is a result of conservative learning (Anderssen et al. 2010). Furthermore, children begin to show a preference for shifted objects considerably later than for subject shift (subject shift: before age 3), as object shift is still not completely acquired at the age of 6-7 (Anderssen et al. 2012). In Anderssen et al. (2010) it is argued that this delay is due to the considerable discrepancy in input frequency between the two constructions. Anderssen et al. (2012) argue that this may also be attributed to object shift being more complex than subject shift, in that there are more restrictions to be acquired.

2.2 Acquisition of movement: L1 and L2

As mentioned in the introduction, the acquisition of subject shift and of object shift follow similar paths, in that children initially tend to place all subjects and objects in the unshifted position. When children start applying the shifting operation, they do so conservatively, in the sense that they only move elements that may appear in shifted position in the adult language, and never move elements that do not shift.

For a number of other syntactic movement phenomena, it has been shown that there are differences between L1 and (adult) L2 acquisition, in that L2 learners are not conservative, but may instead be found to overgeneralize movement. A well-known example is V2 word order, i.e. verb movement to the second position of the clause (normally argued to be the C position). In L1 acquisition, development of verb movement and finiteness morphology typically go hand in hand, attested for e.g. Swedish, Norwegian, Danish, German and Dutch (see Platzack 1998, Westergaard 2009, Hamann & Plunkett 1998, Poeppel & Wexler 1993, Blom 2003, Haegeman 1995). At an early stage, children produce utterances where the uninflected verb remains in the VP, i.e. there is no verb movement, while the verbs that do move to second position are always finite (Wexler 2013). Thus, L1 learners never move the infinitival verb to the V2 position. Adult L2 learners differ from L1 learners in this domain in that they fail to distinguish between finite and non-finite verbs. There is vast evidence of non-target movement of non-finite verbs to the V2 position, and there is evidence of failure to move the finite verb to the V2 position (e.g. Clahsen, Meisel & Pienemann 1983, Meisel 1994, Prévost & White 2000, Eide 2015). These findings suggest that with regard to verb movement, children are conservative, while L2 learners may overgeneralize movement, also where their input lacks evidence for such movement.

Another movement phenomenon where differences between L1 and L2 learners are documented is scrambling, which is often described as movement of the object across an

adverbial. Unsworth (2005) found that both child and adult L2 learners of Dutch go through a stage not attested among L1 learners, where they fail to scramble. She argues that the lack of scrambling is due to transfer from the L2 learner's L1 English. Thus, in addition to L2 learners being different from L1 children in that they are not conservative learners, influence from the L1 may also play a role.

To sum up, there are detected differences between L1 and L2 learners for different phenomena involving syntactic movement. For verb movement, L1 learners are found to be conservative, while L2 learners both allow for non-target movement and show lack of target-like movement. For scrambling, L2 learners go through a stage not found in child L1 acquisition, in which they fail to scramble.

3. RESEARCH QUESTIONS

The main purpose of this paper is to investigate to what extent L_n learners of Norwegian are sensitive to the micro-variation found in subject shift and object shift constructions. Given that we already know quite a lot about L1 acquisition, we would also like to compare this to the L1 acquisition of these phenomena in order to identify similarities and differences, both in terms of extent to which the learners are sensitive to the relevant micro-variation and with regard to the developmental paths exhibited by the learners. Making this comparison is not straight forward. The child language data that we reported on in the previous section is based either on corpora, which involve naturalistic production, or on experimental studies, which also involve production data. In the current study we compare these to judgement data. This is not unproblematic, but there is good reason to believe that the structures that are judged as grammatical (receive a high acceptability score) are the ones that would be used in a production study by the same informant. Equivalently, we expect participants to be unlikely to produce structures that they consider ungrammatical.

Similarly, while the child language studies can consider developmental paths because they are longitudinal (corpora) or cross-sectional (experimental studies involving different age groups), this is not so easy to ensure with adult second (or third, fourth etc.) language learners. In order to be able to consider language development, we included three groups of speakers assumed to be at different proficiency levels. To measure proficiency, we assumed that the level of the Norwegian course that they were attending (levels 1-3) would reflect this, and further included a cloze test in the study in order to ensure that these levels reflected their actual language competence, and as we will see in the next section, they do. In this sense, we are expecting to see a developmental path towards a more target-like Norwegian in these L_n learners. Naturally, the expectation is that the higher proficiency the L_n learners have in Norwegian, the more target-like their behaviour will be with subject shift and object shift.

This further means that we are abstracting away from the influence of the L₁, even though we obviously acknowledge that any previously acquired language will influence the acquisition process (see e.g. Odlin 2013). However, the current study was not designed with this in mind, and as a result, the L₁ of the participants (and other previously acquired languages) was not sufficiently controlled for to include this as a factor.^{vii} Thus, the focus of the current study is the extent to which the L_n learners are sensitive to the micro-variation in Norwegian with regard to subject and object placement the way adult native speakers are, and to what extent their behaviour is compatible with the same kinds of factors as those observed in child L₁ acquisition. For example, can the L_n learners be shown to avoid syntactic movement, how sensitive are they to the frequency of the different structures and do they make big, sweeping generalizations regarding the behaviour of categories such as subject and object or do they take different subcategories (e.g. pronominal vs full DPs) into account? We included a group of adult L₁ Norwegian speakers in order to have a target baseline to

compare the L_n learners to when it comes to the preferences for the different word orders with the different realizations of the subjects and the objects.

Based on these considerations, our research questions are formulated as follows:

i. Sensitivity to micro-variation

- a. Are L_n learners sensitive to the distinction between pronominal and full DP subjects and objects in a similar way to L1 speakers?
- b. Concerning subject shift, do L_n learners distinguish between main and subordinate clauses, in a similar way to L1 speakers?
- c. Concerning object shift, do L_n learners distinguish between pronominal objects with a nominal and a non-nominal antecedent, in a similar way to L1 speakers?

If the learners are sensitive to the micro-variation in the input, we would expect the L_n learners to exhibit similar preferences to the control group (the L1 adults). On the assumption that our results will match previous studies, this means that we expect the following: (i) The learners should give a high acceptability score to shifted pronominal subjects and objects (the latter only when it has a nominal antecedent) and a low score to shifted full DPs; (ii) they should provide a higher acceptability score to shifted full DP subjects in subordinate clauses than in main clauses; and (iii) they should distinguish between pronominal objects with nominal and non-nominal antecedents, and give the former a high score in the shifted position and the latter a high score in the unshifted position.

ii. Mastery of the patterns

- a. Do L_n learners, like L1 children, have a preference for unshifted subjects and objects? Is this related to general proficiency?
- b. Do L_n learners master subject shift before object shift, like L1 children; i.e. what is the correlation between mastery of subject/object shift and general proficiency?

If L_n learners can be shown to give both subjects and objects (of all nominal types) a high score when they occur in the unshifted position, this would be similar to the production preferences of L1 children, which is to leave all subjects and objects in situ. On the assumption that the conclusions drawn in previous studies are correct, this would further suggest that L_n learners also are guided by economy principles (avoid movement). If this is related to proficiency, we would expect less proficient learners to have a stronger preference for unshifted subjects and objects than more proficient ones. Finally, if there is a stage at the lower proficiency level during which L_n learners can be shown to give pronominal and full DP subjects a high acceptability score and pronominal and full DP objects a low score, this would be equivalent to what has been observed in production studies with children, as they go through a stage when they shift subjects but not objects in production. Naturally, we expect more proficient L_n learners to provide acceptability scores that are more similar to the native controls.

4. METHODOLOGY AND PARTICIPANTS

4.1 Participants

In total 59 learners of Norwegian and a number of native controls completed two tests: one targeting object shift and one targeting subject shift. The L1 speakers were recruited through Facebook, where speakers of the local dialects from two regions, the counties of Troms and Trøndelag, were asked to take part in a survey. A total of 51 Norwegian speakers (aged 27-62, mean 40.8) completed the object shift task. 43 Norwegian speakers (aged 24-72, mean 41.1) completed the subject shift task. 34 of these were also among the 51 who did the object shift task. The L_n learners were students enrolled in a ‘Norwegian as a foreign language’ course at two Norwegian universities located in the counties that the L1 participants were recruited from. The students came from different parts of the world and were enrolled in three different levels of Norwegian courses. According to the official course descriptions, upon completion

of the first of these courses, students are expected to have a proficiency at A2/B1 level according to the Common European Framework of Reference for Languages (CEFR). After the second course, proficiency is expected to be at level B1/B2, and after the third course, a proficiency at level B2/C1 is expected. The number of participants enrolled in each of the three courses is given in Table 1.

Course	1	2	3	No information
Number of participants	12	24	21	2

Table 1. Number of participants enrolled in each course (or course completed in previous semester for those not currently enrolled).

The participants reported to have been learning Norwegian for a period of time ranging between 3 months and 5 years, which means that some of the students presumably attended other Norwegian courses or had lived in Norway for some time prior to enrolling in these university courses. Most adult learners of Norwegian are likely to already know two or more languages, including English, and our participants can thus be classified as Ln learners (only a few were true L2 learners — generally those with English as their L1, hence we use the term Ln rather than L2).

The participants provided information about their first language(s) and potential further language knowledge. All of the Ln learners had some proficiency in English, but otherwise they had a variety of language backgrounds. As many as 27 languages were listed as L1s, the most common ones being English (14), German (7), Spanish (7), Russian (6), and Dutch (5). As is well known, a large body of research over many decades has shown that crosslinguistic influence may have major effects in Ln acquisition (cf. e.g. Odlin 2013 and references therein), and as we have seen, the relevant information about the learners' L1s was collected

for this study, and thus, it would be possible to check whether this had any effect on the participants' performance. However, as the participants were not recruited with this in mind, this factor has not been sufficiently controlled for to reliably be included in the analysis. Indeed, we did run statistical analyses including this factor; we did not get any significant results, but the analyses did reveal some tendencies which suggest that if the factor had been included for the outset, it would probably have had an effect.

In addition to the questions about language background and length of exposure to Norwegian, we also checked the participants' general Norwegian proficiency by including a cloze test consisting of 20 items, targeting the participants' general lexical and morphosyntactic knowledge of Norwegian. According to the cloze test, proficiency did not turn out to vary greatly between the L1 groups, the overall proficiency mean being 14.1 (out of a maximum score of 20; SD = 4.25). As expected, proficiency scores increased with higher course levels.

4.2 Materials and procedure

The L1 Norwegian data were collected through an electronic survey distributed on the Survey Gizmo platform. The object shift survey was sent out first and the subject shift survey followed approximately a week later. The reason for this interval between tests was to avoid test fatigue and to avoid priming effects between the two structure types. The Ln data was collected in conjunction with Norwegian as a foreign language classes through the Survey Gizmo platform. In Tromsø, the object shift survey was distributed to the students in class, while the subject shift survey was distributed via email a week later. In Trondheim, both the object shift and the subject shift survey were distributed via email, the object shift survey first and the subject shift survey a week later. In total, 76 participants completed the object shift survey and 59 of these also completed the subject shift survey. The subject shift survey contained 80 sentences, 40 of them involving subject shift. The 40 test sentences included 20

main clauses and 20 embedded clauses, all containing structures where full DPs or pronominal subjects (Pron) either preceded or followed negation, as illustrated in Table 2. All full DPs were proper nouns. In our discussion, we refer to the distinction between pronominal and full DPs as one of ‘Nominal Type’. The remaining 40 sentences were either fillers or targeted other grammatical phenomena such as verb placement in embedded clauses. Examples (11)-(14) illustrate the type of test sentences included in the subject shift survey.

<i>Main clauses</i>	<i>Embedded clauses</i>
5 x Full DP-Neg (11a)	5 x Full DP-Neg (13a)
5 x Neg-Full DP (11b)	5 x Neg-Full DP (13b)
5 x Pron-Neg (12a)	5 x Pron-Neg (14a)
5 x Neg-Pron (12b)	5 x Neg-Pron (14b)

Table 2. Types of sentences in the subject shift survey.

(11) Brus er dyrt.

soda is expensive

- a. Derfor kjøper **Tor ikke** Cola så ofte.
 b. Derfor kjøper **ikke Tor** Cola så ofte.

therefore buys Tor not Tor Cokeso often

‘Soda is expensive. Therefore Tor doesn’t buy Coke very often.’

(12) Tor synes at brus er dyrt.

Tor thinks that soda is expensive

- a. Derfor kjøper **han ikke** Cola så ofte.
 b. Derfor kjøper **ikke han** Cola så ofte.

therefore buys he not he Coke so often

‘Tor thinks that soda is expensive. Therefore he doesn’t buy Coke very often.’

(13) Det var mye bråk på festen.

it was much noise on party.DEF

a. Han forstod at **Mona ikke** ville dra dit.

b. Han forstod at **ikke Mona** ville dra dit.

he understood that Mona not Mona wanted go there

‘There was a lot of noise at the party. He understood that Mona didn’t want to go there.’

(14) Det var mye bråk på festen.

it was much noise on party.DEF

a. Han forstod at **hun ikke** ville dra dit.

b. Han forstod at **ikke hun** ville dra dit.

he understood that she not she wanted go there

‘There was a lot of noise at the party. He understood that she didn’t want to go there.’

The object shift survey consisted of a total of 50 sentences, of which 30 directly targeted object shift and the remaining 20 were fillers. The test sentences were all main clauses and included structures where (definite or indefinite) full DP objects or pronominal objects with nominal or non-nominal antecedents (Pron and PronNN) either preceded or followed negation, as shown in Table 3. Examples (15)-(17) illustrate the type of test sentences included in the object shift survey.

Each item consisted of two sentences: one sentence providing some background, followed by a target sentence with a shifted or unshifted argument. The test set included a shifted and an unshifted version of each item. In the target sentences with object pronouns, the antecedent of the pronoun was always introduced in the preceding sentence, see example (16-17).

<i>Full DP objects</i>	<i>Pronominal objects</i>	
	<i>Nominal antecedent (Pron)</i>	<i>Non-nominal antecedent (PronNN)</i>
5 x Full DP-Neg (15a)	5 x Pron-Neg (16a)	5 x PronNN-Neg (17a)
5 x Neg-Full DP (15b)	5 x Neg-Pron (16b)	5 x Neg-PronNN (17b)

Table 3. Types of sentences in the OS survey.

(15) Det var salg på kjøpesenteret.

it was sale on shopping-mall.DEF

a. Mona kjøpte **klær ikke** der den dagen.

b. Mona kjøpte **ikke klær** der den dagen.

Mona bought clothes not clothes there that day.DEF

‘There was a sale at the shopping mall. Mona didn’t buy clothes there that day.’

(16) Det gule skjørtet var på salg.

the yellow skirt.DEF was on sale

a. Mona kjøpte **det ikke** den dagen.

b. Mona kjøpte **ikke det** den dagen.

Mona bought it not it that day.DEF

‘The yellow skirt was on sale. Mona didn’t buy it that day.’

(17) Maria vil at de skal flytte.

Maria wants that they shall move

a. Magnus vil **det ikke** akkurat nå.

b. Magnus vil **ikke det** akkurat nå.

Magnus wants it not it just now

‘Maria wants to move. Magnus doesn’t want that right now.’

The sentences were shown in a pseudo-randomized order, such that the shifted and unshifted version of each item appeared with at least 10 sentences between them. The participants were asked to rate each sentence on a Likert scale from one to six, where 1 is *completely unacceptable* and 6 is *completely acceptable*. The use of a scale gives the participants the option to give more nuanced answers, while still capturing the tendencies of acceptance for the different types of examples.

4.3 Method of Analysis

In presenting the results, we plot the mean acceptability score for each of the conditions for the L1 and Ln groups with error bars representing a 95% confidence interval. In addition, we analyze the data using mixed effects modelling. For the first three research questions (sensitivity to micro-variation), we investigate how the factors *Nominal Type* (full DP, pronoun with nominal and with non-nominal antecedents), *Syntactic Function* (Subject and Object), and *Clause Type* (Main and Embedded) affect preference for shifting an argument across negation. The dependent variable is what we call the *shift preference*, which we calculate by subtracting the acceptability score for the unshifted sentence from the acceptability score for the shifted sentence (for each participant and shifted-unshifted item pair). We thus get an 11 point scale, ranging from -5 (lowest possible score (1) for shifted sentence, and highest possible score (6) for the unshifted sentence) to 5. A score of 0 indicates that the shifted and unshifted sentence were assigned the same acceptability score. We estimate the effect of each factor by comparing an intercept-only model to a model containing the relevant predictor. In addition, we consider the interaction of the different predictors. We repeat this procedure for each of the research questions, for both the L1 and the Ln groups.

For the two final research questions (Mastery of Patterns), we correlate the participants' shift preference in the relevant conditions with their proficiency score. We again use mixed effects modelling with the shift preference as the dependent variable, and we investigate a possible interaction between proficiency score and the relevant condition. In appendix A-C we include the model coefficients, standard errors and t-values from the full models of the Ln speakers, including proficiency score and linguistic predictors.

5. RESULTS

5.1 Sensitivity to micro-variation

We start by considering the core cases of subject and object shift: full DPs and pronouns (for object shift, with nominal antecedents) in main clauses involving verb movement (research question ia). For L1 speakers (N=43/51) there is a strong preference for shifted pronouns and unshifted full DPs, both for subjects and objects, as shown in Figure 1.

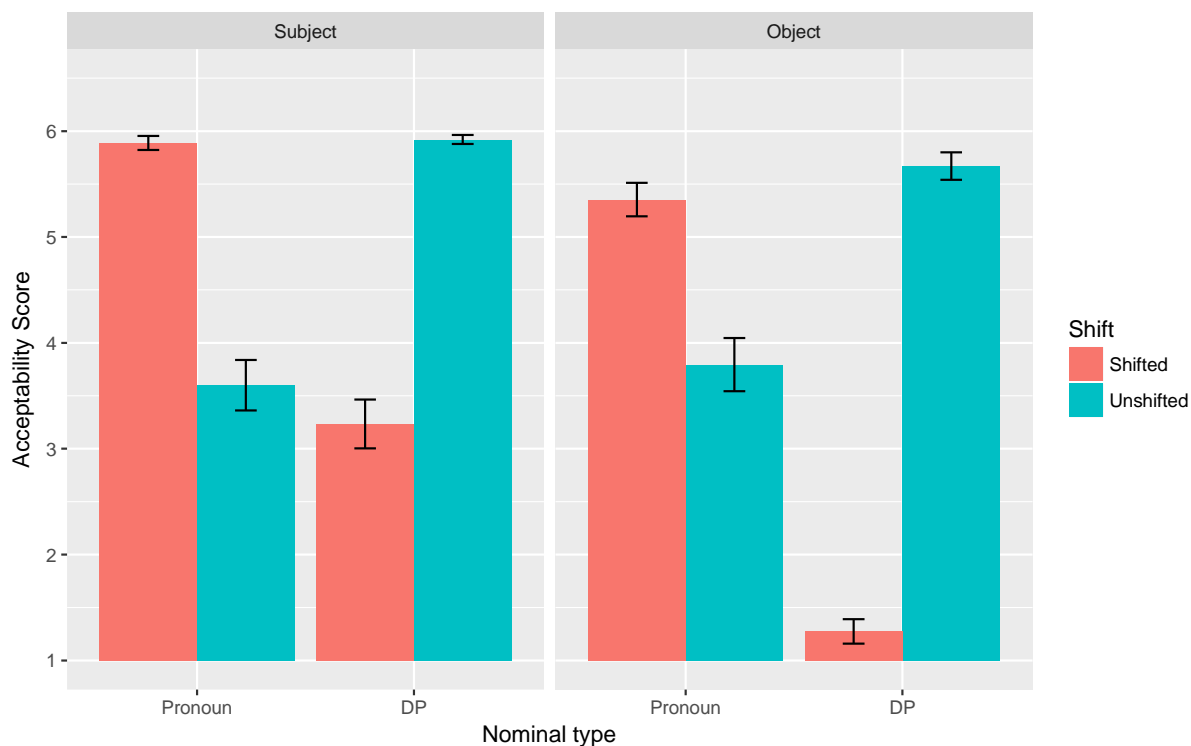


Figure 1. L1 speakers' mean judgement of pronominal and full DP subjects (N = 43) and objects (N = 51).

The analysis of the shift preference reveals a main effect of Nominal Type ($\chi^2(1) = 46.024, p < 0.001$), no main effect of Syntactic Function ($\chi^2(1) = 0.92, ns$), but an interaction between Nominal Type and Syntactic Function ($\chi^2(2) = 14.74, p < 0.001$). As we see in Figure 1, both pronominal subjects and pronominal objects are preferred in the shifted position, while DP subjects and DP objects are preferred in unshifted position. The shift preference is slightly smaller for pronominal objects compared to pronominal subjects, and the preference for the unshifted position is higher for full DP objects than for full DP subjects. The results are in accordance with the standard description of argument shift in Norwegian: subject and object pronouns shift, full DP subjects preferably do not shift and full DP objects cannot shift.

As shown in Figure 2, the results from the Ln speakers look quite the opposite of those from the L1 speakers. We see a general preference for shifted subjects and for unshifted objects.

The mixed effects models reveal a main effect of Syntactic Function ($\chi^2(1) = 37.4, p < 0.001$),

but not for Nominal Type ($\chi^2(1) = 1.94, ns$). Again, we find an interaction between Syntactic Function and Nominal Type ($\chi^2(1) = 70.2, p < 0.001$). The factor Nominal Type plays a minor role for objects, but not for subjects.

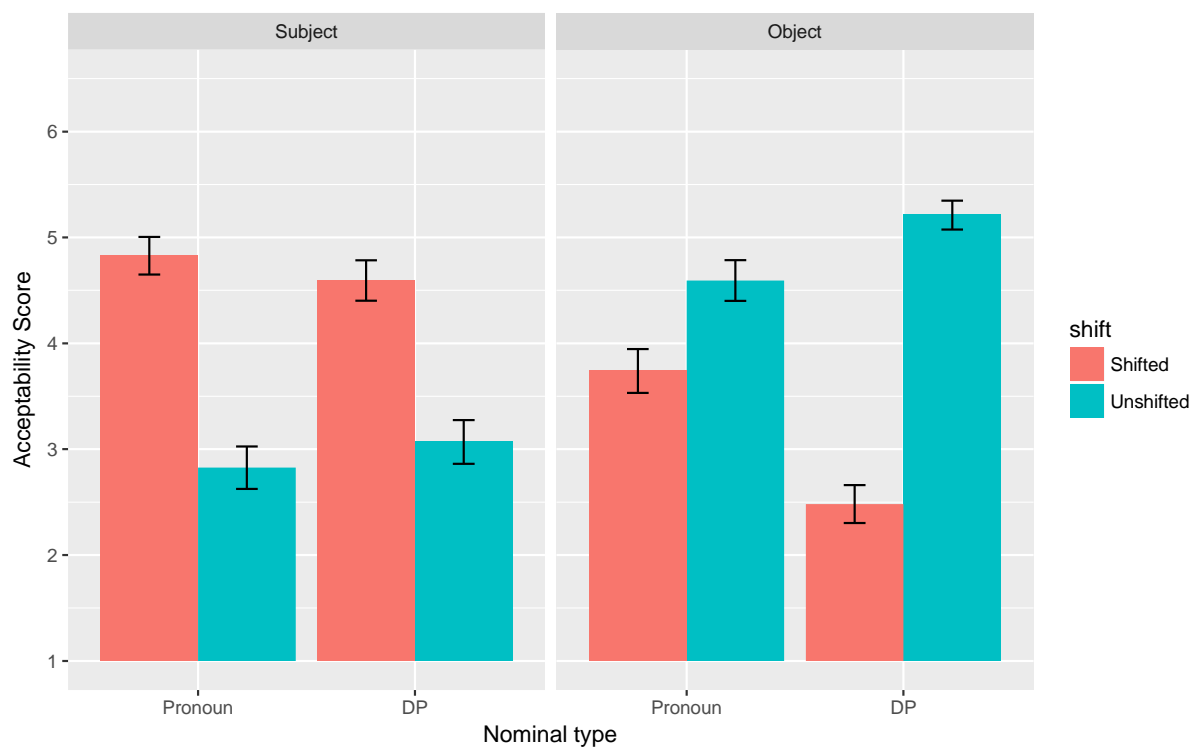


Figure 2. Ln learners' mean judgement of pronominal and full DP subject and objects (n = 59).

In short, whereas L1 speakers mainly make their choice of argument placement based on the Nominal Type (pronominal vs. full DP), the Ln speakers make their choice based on Syntactic Function (subject vs. object). However, both groups show an interaction between the two predictors in the same direction: the effect of nominal type is larger for objects than for subjects. This suggests that the Ln group may be developing towards the preferences of the L1 group.

We now move on to research question ib: Concerning subject shift, do Ln learners distinguish between main and subordinate clauses, in a similar way to L1 speakers? The

results for subject placement in embedded clauses for the L1 speakers are shown in Figure 3.

We repeat the main clause results here, for a simple comparison.

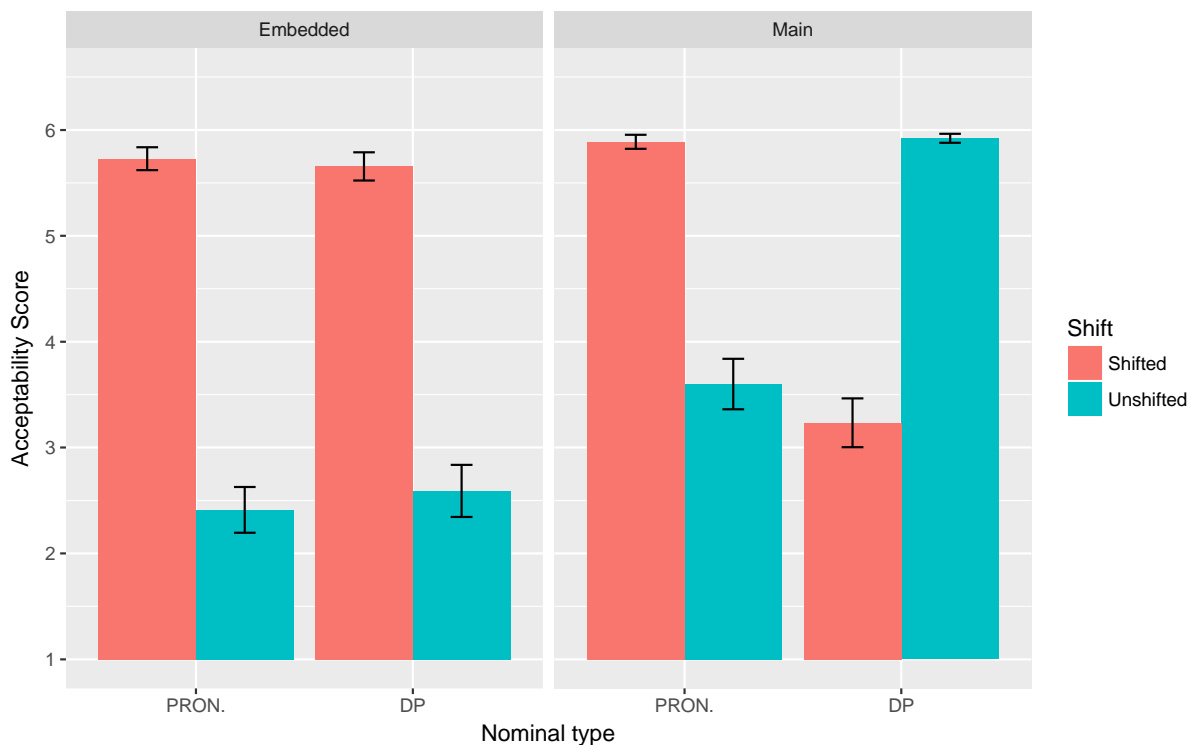


Figure 3. L1 speakers' mean judgement of pronominal and full DP subjects in embedded and main clauses. (N = 43)

We see a high shift preference for both full DPs and pronouns in embedded clauses, which contrasts with the results for the main clauses, where only pronouns shift. There is no significant effect of Nominal Type for the embedded subjects. On this point Ln speakers show similar preferences to L1 speakers, as shown in Figure 4. The Ln speakers overall have a significantly higher preference for shifted subjects in embedded clauses compared to main clauses ($\chi^2(1) = 19.4, p < 0.001$), and the shift preference is equally strong for pronouns and full DPs.

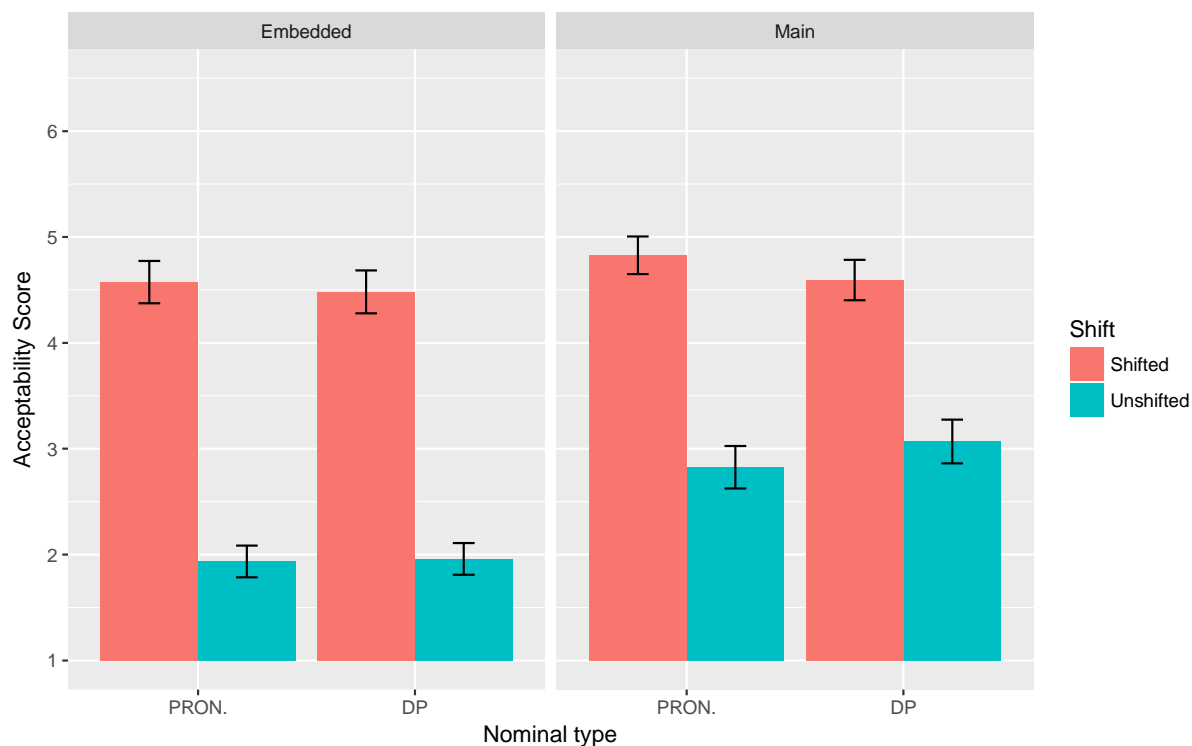


Figure 4. Ln learners' mean judgement of pronominal and full DP subjects in embedded and main clauses. (n = 59).

The final research question addressing micro-variation (ic) concerns the difference between object pronouns with nominal and non-nominal antecedents. The results are shown in Figure 5. The graph contains data from both L1 and Ln speakers and shows that L1 speakers are indeed sensitive to whether pronominal objects have a nominal or a non-nominal antecedent ($\chi^2(1) = 23.7, p < 0.001$). Pronominal objects with a nominal antecedent are preferred in shifted position, while pronominal objects with a non-nominal antecedent are preferred in unshifted position. In contrast, the Ln speakers are not sensitive to this distinction ($\chi^2(1) = 1.6393, df = 1, ns$); both types of pronominal objects are preferred *in situ*, even though the shifted position also received quite a high rating.

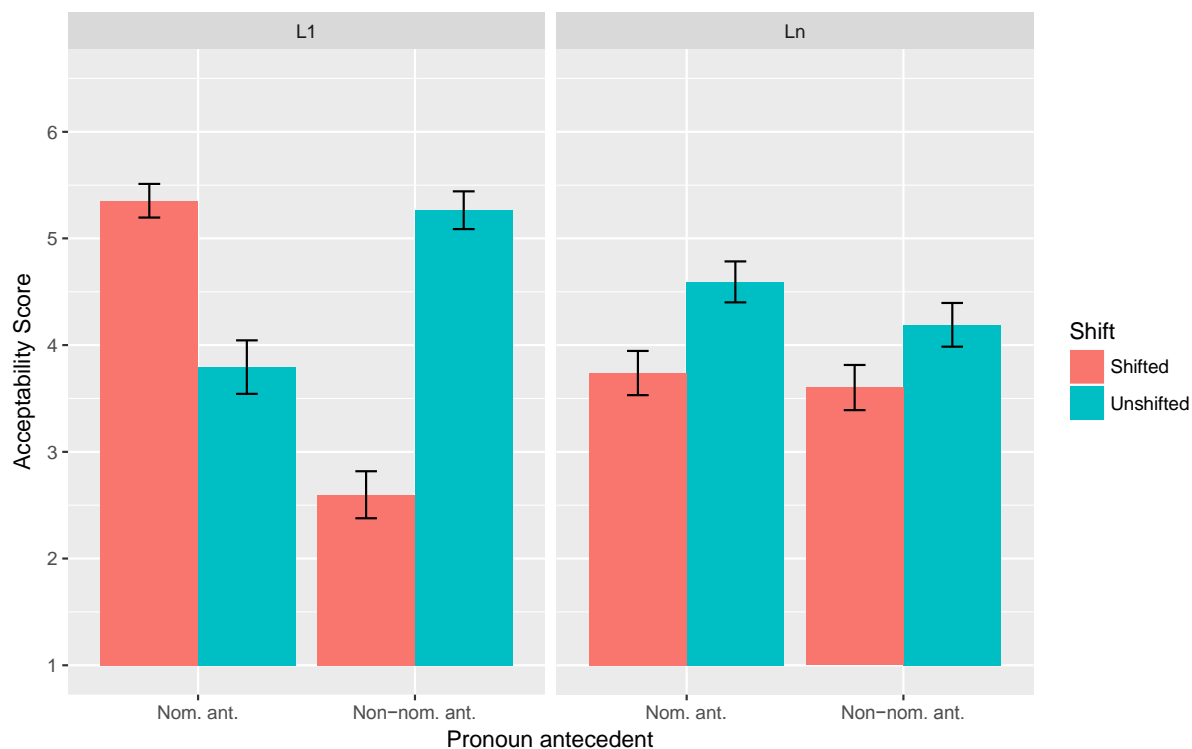


Figure 5. L1 speakers (n = 51) and Ln learners' (n = 59) mean judgement of pronominal objects with nominal and non-nominal antecedents.

To summarize the results concerning the first three research questions, we see that Ln speakers make their choice of argument placement based on syntactic function: subjects are placed before negation and objects are placed after negation. This leads to two non-target like structures: full DP subjects are preferred before negation, and pronominal objects are preferred *in situ*. However, there are indications that Ln learners also take Nominal Type into consideration, at least for objects with nominal antecedents. Shifted pronominal objects receive higher scores compared to shifted full DP objects. The general shift preference for subjects is stronger in embedded clauses compared to main clauses, which suggests an awareness of the effect of clause type on argument placement.

5.2 *Mastery of patterns*

Above, we saw that L_n speakers were not very sensitive to the full DP-pronoun distinction.

Whether the antecedents of object pronouns were nominal or non-nominal also did not appear to have any effect on argument placement. In the second set of research questions, we investigate whether L_n speakers develop a more target-like grammar as their general proficiency increases. We investigate this by adding the factor proficiency score to our models, to see whether increased proficiency leads to more target-like shift preferences.

In Figure 6, we plot the correlation between proficiency score and the shift preference for main clause pronominal and full DP subjects and objects. We include the L1 shift preference in the graph (dotted lines) as reference points. A value above 0 indicates that shifted word order is preferred over unshifted, and a value below 0 indicates a preference for unshifted word order. We expect the L_n preferences to approach the L1 value as proficiency increases. This turns out to be true for pronominal subjects, pronominal objects and full DP objects (red, black and purple lines), but not for full DP subjects (blue line). Contrary to expectations, L_n speakers increase their preference for shifting full DP subjects, thus moving further away from the target L1 grammar with increased proficiency.

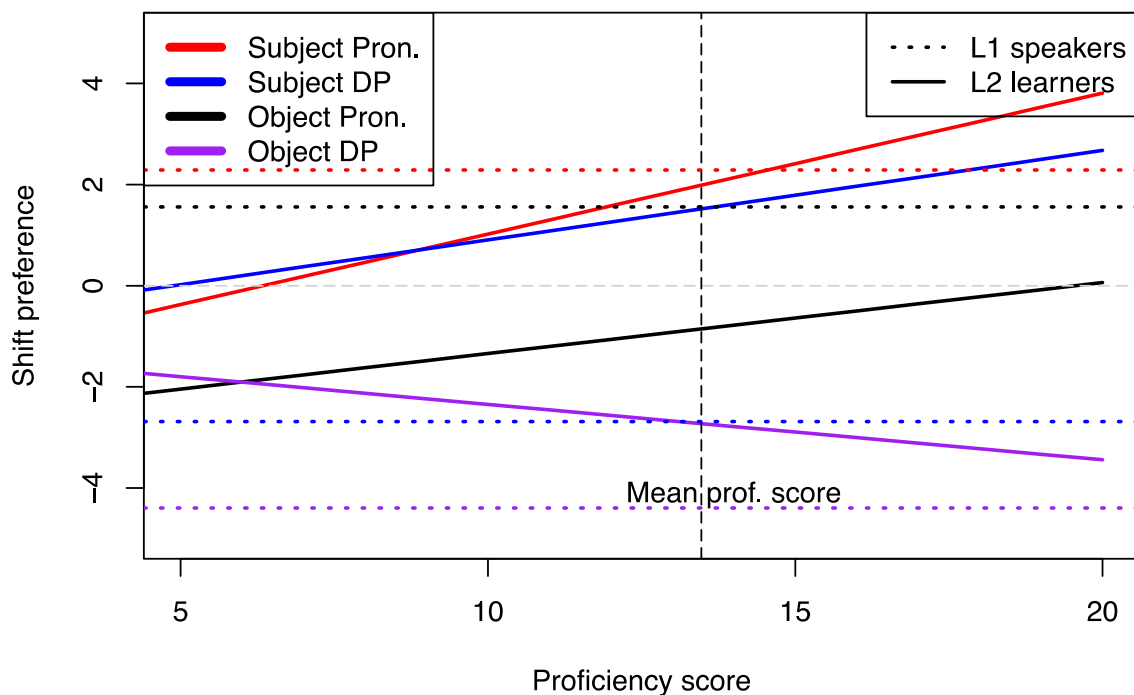


Figure 6. Ln speakers' shift preferences relative to proficiency score and L1 speakers.

The coefficients and standard errors from the mixed effects model for the interaction between proficiency score, Nominal Type and function can be found in appendix A. We find a main effect of proficiency score ($\beta = 0.28$, $SE = 0.06$, $p < 0.001$), but no interaction between proficiency score and argument, or proficiency score and function. This means that the preference for shifted pronominal subjects, full DP subjects, and pronominal objects increases with increasing proficiency scores. However, there is a three-way interaction between proficiency score, argument and function ($\beta = -0.15$, $SE = 0.07$, $t > 2$) – in fact, we see a small increase in the dispreference for shifted full DP objects with increased proficiency. From the model we can also conclude that Ln speakers with the lowest proficiency have a strong preference for unshifted objects, both pronouns and full DPs. The low proficient Ln learners however seem to have no clear preferences for subject placement, as both pronominal and full

DP subjects are scored around zero; the preference for shifted subjects increases with increased proficiency, but this is only the target for pronouns.

The Ln speakers thus seem to be in the process of acquiring object placement. The shift preference is increasing for the pronouns and decreasing for the full DPs. However, even the most proficient learners still have not reached a point where they prefer pronominal objects in shifted position. We can now investigate whether the Ln speakers are sensitive to the fine distinctions with respect to the type of antecedent of pronominal objects, in that they adjust their preferences for the placement of objects with non-nominal antecedents. Based on L1 preferences, we would expect these objects to pattern with full DP objects rather than pronominal objects with nominal antecedents. However, it turns out that the slope for objects with non-nominal antecedents is not significantly different from the slope for other objects ($\chi^2(2) = 1.23, ns$): With increased proficiency, the Ln speakers increase their acceptance of shifted pronominal objects with both nominal and non-nominal antecedents. The model coefficients for both types of pronominal objects are given in appendix B.

For embedded subjects, we see the same development as for main clause subjects: the shift preference for both full DPs and pronouns correlate positively with proficiency score. The effect of proficiency score is not significantly larger for embedded clauses compared to main clauses ($\chi^2(1) = 0.017, ns$), or for embedded pronouns compared to embedded full DPs ($\chi^2(1) = 0, ns$). The model coefficients for embedded and main clause subjects are given in appendix C.

6. DISCUSSION

Our first research question concerned the Ln learners' sensitivity to the variation in subject shift and object shift constructions, with sub-questions addressing finer distinctions between pronouns and full DPs, main and embedded clauses, and pronouns with nominal and non-nominal antecedents. As we saw in the previous section, the general picture is that Ln learners

prefer all subjects shifted and all objects unshifted, whether they are realized as pronouns or full DPs. However, for objects, we see that the L_n learners soon start to treat pronouns and DPs differently. We see that the preference for unshifted over shifted full DP objects is stronger than for pronouns, indicating that although the L_n learners do not display target-like preferences for shifting pronouns, they are more willing to accept (target-like) shifted pronouns than (non-target-like) shifted full DPs. Importantly, there is development towards distinguishing more clearly between pronominal and full DP objects with increased proficiency, as we see a significant correlation between proficiency and a preference for unshifted full DPs (cf. Figure 6). This means that with increasing proficiency the learners get better at rejecting a word order that is completely ungrammatical in the target language, i.e. shifted full DP objects, while they in fact get worse at rejecting a word order that is clearly dispreferred by L1 Norwegians but not ungrammatical, i.e. shifted full DP subjects. Thus, our results indicate that the L_n learners to some extent distinguish between pronouns and full DPs. However, recall that even the most proficient learners have only just reached a point where they have no shift preference with object pronouns, but the developmental trend is in the direction of the target, as less proficient learners prefer them unshifted. Furthermore, the target-consistent micro-variation is not yet in place.

We then move to the sub-question regarding the distinction between main and embedded clauses. The L_n learners' general preference for shifted subjects leads to target-like preferences for embedded clauses, where all subjects are preferred in shifted position also by the native controls. This is presumably due to a general tendency — both for L1 and L_n speakers — for clause-initial subjects. Given that this is different from L1 children's initial production (a preference for unshifted subjects), it further indicates that L_n learners may have an early preference for shifted subjects (cf. research question iia.). Furthermore, the stronger rejection of unshifted word order in embedded clauses indicates that L_n learners make a

distinction between main and embedded clauses. The L_n learners thus exhibit a similar preference to L1 children, who also have been shown to distinguish between the two clause types.

We also addressed whether L_n learners of Norwegian make a distinction between pronouns with nominal and non-nominal antecedents in the case of object shift. Not surprisingly, L1 speakers clearly prefer the former in shifted position and the latter *in situ*. However, there is no significant difference in preferences among the L_n learners; both types of pronominal objects are preferred in unshifted position. There is also no indication of development of such a distinction with increased proficiency. In fact, there is a slight increase in acceptance of shifted pronouns of both types with increased proficiency.

Our second main research question asked whether L_n learners' would exhibit a preference for the unshifted position and whether they would acquire subject shift before object shift in a manner similar to L1 learners. The first sub-question, whether L_n learners show a preference for unshifted subjects and objects at an early stage of development, was based on previous research showing that Norwegian L1 children initially produce both subjects and objects in unshifted position. While adult L_n learners of Norwegian do show a preference for unshifted objects, just like L1 children, they seem to prefer both pronominal and full DP subjects in shifted position, in main and as well as embedded clauses. Thus, whereas L1 children acquire the two subject positions early on, the L_n learners seem to have a strong preference for the shifted position. Moreover, with increasing proficiency they even develop a stronger, non-target-like preference for shifted full DP subjects, showing no signs of connecting information structure, and hence also Nominal Type, to syntactic position (i.e. whether the subject conveys given or new information, cf. section 2.1). For objects, we see that the L_n learners disprefer shifting pronominal objects, like L1 children. As shown in Figure 2, they make a clear distinction between pronominal and full DP objects in a target-like fashion, and further,

the difference between the two argument types increases with increased proficiency (cf. Figure 6). However, object pronouns with non-nominal antecedents, which behave like full DPs in the target grammar, are not distinguished from other pronouns in the L_n speakers' judgements. Thus, the L_n learners over-accept shifted arguments, especially in subject shift constructions (preferring DP subjects in the high position), but also to some extent in object shift constructions (in that pronouns with non-nominal antecedents are treated like pronouns with nominal antecedents). In the L2 literature, the initial state of L2 acquisition is one of the most debated issues (see White 2003 for an overview). Assuming full transfer (Schwartz & Sprouse 1996), the initial state should be the end-state of the learners' L1. Since there is a high number of L1s involved in this learner group, it is to be expected that there would be a variety of initial states. Furthermore, we have not investigated the L_n learners at a very early stage of acquisition and do not have any access to their earliest preferences. Nevertheless, we see a general increase of shifting with increased proficiency (Figure 6), which could indicate an early preference for lack of shifting. However, from their preferences one could also argue that they start out with shifted subjects and unshifted objects, which would directly correspond to the frequency of shifting in the input (cf. section 2).

The final sub-question concerned whether there is a difference between subject shift and object shift in how target-like the L_n performance is. Recall that subject shift falls into place several years before object shift in child L1 acquisition. As already pointed out, we find a different pattern in the current study. Like L1 children, the L_n learners seem to show an early preference for all objects in situ, but unlike the children, all subjects are preferred in shifted position. This means that becoming more target-like would require the opposite development for the two phenomena: The acceptability score of shifted full DP subjects should decrease, while that of shifted object pronouns (with nominal antecedents) should increase. For both subject shift and object shift, we see a development towards a stronger preference for target-

like placement, in that with increased proficiency, the L_n learners are more likely to accept target-like shifted pronominal subjects and unshifted full DP objects. For pronominal objects, the trend is also going in a target-like direction (higher acceptability), while the opposite is true for full DP subjects.

In previous studies on L1 acquisition of subject shift and object shift (Anderssen & Westergaard 2010, Anderssen et al. 2010, Anderssen et al. 2012), the developmental path was explained by considerations of economy, i.e. assuming that children initially prefer not to move elements and that they will only do so upon encountering clear evidence in the input. The earlier development of subject shift than object shift was explained by frequency factors, since subjects are in themselves much more frequent than objects, and since, for reasons to do with information structure, most subjects are pronominal and shift, while most objects are full DPs (or have non-nominal antecedents) and do not shift. Furthermore, Anderssen et al. (2012) argue that object shift is more complex than subject shift and that this may be another explanation for the acquisition delay.

These findings may indicate that adult L_n learners are more sensitive to frequency than to economy in the early stages of acquisition. Potentially, the comparatively high proportion of shifted subjects that they encounter in the Norwegian input causes them to prefer all subjects in shifted position. Recall that previous studies based on both CDS and adult-to-adult conversations reveal that subjects overall overwhelmingly occur in the shifted position. We cannot guarantee that this is representative of the kind of input the L_n learners have been exposed to, but we have no reason to assume that the distribution in the society at large or in a Norwegian class for foreigners should be significantly different. Related to this is the possible explanation that the L_n learners are not really analyzing the sentences in the acceptability judgement test syntactically, but rather relying on some kind of shallow processing based on lexical and semantic information (see Clahsen & Felser 2006). Thus, they may not be

perceiving the placement of the argument as movement at all. In this context, it is relevant to note that in embedded clauses, native speakers prefer all subjects in shifted position, adding to the overall frequency of shifted subjects. Interestingly, the preference for shifted subjects is even stronger in subordinate clauses than in main clauses also for the L_n learners in our study. The lack of a positive correlation between proficiency and preference for full DP subjects in situ in main clauses indicates that this non-target-like preference is persistent, at least throughout the proficiency levels represented in our sample.

7. FINAL NOTES

In this paper, we have compared judgement data from L_n learners with similar data from native controls for two word order phenomena in Norwegian where there is considerable micro-variation, subject shift and object shift. We have also compared our findings to previous (production) data from L1 children. The aim of the study was to investigate to what extent L_n learners of Norwegian are sensitive to the micro-variation found in the placement of subjects and objects relative to the negation (and adverbials). Using native controls as a point of reference, we found that the learners give a high acceptability score to all shifted subjects and a low score to all shifted objects. Thus, they fail to make the target-like distinction between pronouns and full DPs. A similar result has been found in production data from L1 learners. However, while the L1 learners generally disprefer the shifted position, the L_n learners seem to make a distinction based on function (subject versus objects). Furthermore, unlike L_n learners, the L1 learners never shift elements that should not shift. When the L_n learners' preferences are considered in relation to their proficiency, it becomes apparent that as they get more proficient, their preference for all shifted subjects increases, making their scores less like the native controls' for DP subjects and more target-like for pronouns. For objects, the preference for shifted DPs decreases, while it increases for pronouns, suggesting that the development is going in a target-like direction. However, this development has only

progressed far enough that the most proficient learners can be shown to not have a shift preference for pronominal objects.

The comparison that is made in this study between the judgement data of L_n learners and production data in L1 acquisition is admittedly not optimal, and a production study of L_n learners may be required in future investigations. Nevertheless, there is reason to believe that the two types of data are compatible in the sense that it is likely that structures that receive a high acceptability score are the structures that the learners would produce in a production experiment. Ultimately, these results suggest that the L_n learners are different from L1 children, in that they are not conservative learners, but to some extent both over-accept syntactic movement operations (for example with subject DPs) and under-accept them (with pronominal objects).

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APPENDIX

Appendix A. L_n speakers, model coefficients for shift preference for the core subject shift and object shift conditions

The fixed effects are *Proficiency score* (centred), *Type* (DP, Pron.) and *Function* (Subject, Object). Total number of observation: 1173, N = 59, Items = 20 (7 missing values). The intercept is the estimated shift preference for pronominal subjects. The model includes random intercepts for Participants and Item, and by-participant random slopes for *Type* and

Function. The lme\$ package in R (Bates et al. 2015) was used to fit the model. All *t*-values bigger than 2 or smaller than -2 in boldface.

Fixed effects	Estimate	SE	<i>t</i>	Random effects	Variance
Intercept	1.99	0.28	7.1	Participant Intercept	3.28
Proficiency	0.28	0.06	4.63	Participant TypeDP	1.8
TypeDP	-0.47	0.27	-1.7	Participant FuncObject	8.2
Func.Object	-2.84	0.43	-6.6	Participant DP:Object	3.3
Prof.:TypeDP	-0.1	0.05	-1.95	Item Intercept	0.06
Prof.:FuncObject	0.14	0.09	-1.47		
TypeDP:FuncObject	-1.4	0.38	-3.71	Residual:	2.5
Prof.:TypeDP:FuncObject	-0.15	0.07	-2.07		

Table A1. Shift preference for the core subject shift and object shift conditions in Ln speakers.

Appendix B. Ln speakers, model coefficients for shift preference for referential and non-referential object pronouns

The fixed effects are *Proficiency score* (centred) and *Pronoun Type*. Total number of observation: 589, N = 59, Items = 10 (1 missing value). The intercept is the estimated shift preference for object pronouns with nominal antecedents. The model includes random intercepts for Participants and Item. The lme4 package in R (Bates et al. 2015) was used to fit the model. All *t*-values bigger than 2 or smaller than -2 in boldface.

Fixed effects	Estimate	SE	<i>t</i>	Random effects	Variance
Intercept	-0.85	0.28	-3	Participant Intercept	3.5
Proficiency	0.14	0.06	2.2	Item Intercept	0.03
Type NonNom	0.26	0.19	1.34		
Prof:NonNom	-0.03	0.04	-0.83	Residual	3.7

Table A2. Shift preference for referential and non-referential object pronouns in Ln speakers.

Appendix C. Ln speakers, model coefficients for shift preference for subjects in main and embedded clauses

The fixed effects are *Proficiency score* (centred), *Type* (DP, Pron.) and *Clause Type* (Main, Embedded). Total number of observation: 1166, N = 59, Items = 20 (14 missing values). The intercept is the estimated shift preference for pronominal subjects. The model includes random intercepts for Participants and Item, and by-participant random slopes for *Type* and *Function*. The lme4 package in R (Bates et al. 2015) was used to fit the model. All *t*-values bigger than 2 or smaller than -2 in boldface.

Fixed effects	Estimate	SE	<i>t</i>	Random effects	Variance
Intercept	1.99	0.28	7.1	Participant Intercept	3.36
Proficiency	0.28	0.06	4.63	Participant TypeDP	1.8
Type DP	-0.47	0.25	-	Participant ClauseEmb.	3.03
			1.86		
Clause Embedded	0.68	0.29	2.37	Participant DP:Embedded	2.1
Prof.:TypeDP	-0.1	0.05	-	Item Intercept	0.04
			1.95		
Prof.:ClauseEmbedded	-0.05	0.06	-		
			0.91		
TypeDP: ClauseEmbedded	0.32	0.31	1.05	Residual:	2.1
Prof.:TypeDP: ClauseEmbedded	0.1	0.06	1.66		

Table A3. Shift preference for subjects in main and embedded clauses in Ln speakers.

ENDNOTES

- i. We use the term micro-variation to refer to processes that are dependent on fine distinctions in syntax or information structure involving subclasses/subcategories of elements, e.g. different clause types (instead of all CPs) or different types of pronouns (instead of all DPs).

ii. Be aware that traditionally full DP subjects have been described as optionally undergoing subject shift. However, they are hardly attested in the input in the studies reported above, and as we will see, the L1 speakers also give a much low acceptability score to shifted than unshifted full DP subjects (but not as low as shifted full DP objects). Because of this, we will assume that shifted full DP subjects are strongly dispreferred, even though they clearly are not as degraded as shifted full DP objects.

iii. As indicated by being written in uppercase letters.

iv. Thus, even though DP subjects are generally said to be acceptable in the shifted position (preceding the negation and adverbials, cf. (5)), they hardly ever occur in this position in spontaneous speech.

v. CDS refers to the language of the adult speakers in child language corpora. These kinds of data are often used to study both input in child language acquisition and to consider whether CDS is different from adult-to-adult language. Both for subject shift and object shift the CDS data are very similar to adult-to-adult data.

vi. Similarly, based on adult-to-adult data from the Nordic Dialect Corpus, Bentzen (2014) shows that 87.6% (149/170) of pronominal objects with nominal antecedents undergo object shift.

vii. In fact, none of the statistical analyses that included L1 as a factor turned out to be significant, but we could see some tendencies which suggested that L1 might play a role. However, we did not have enough participants from the different L1s to draw such a conclusion.

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- ⁱ We use the term micro-variation to refer to processes that are dependent on fine distinctions in syntax or information structure involving subclasses/subcategories of elements, e.g. different clause types (instead of all CPs) or different types of pronouns (instead of all DPs).
- ⁱⁱ Be aware that traditionally full DP subjects have been described as optionally undergoing subject shift. However, they are hardly attested in the input in the studies reported above, and as we will see, the L1 speakers also give a much low acceptability score to shifted than unshifted full DP subjects (but not as low as shifted full DP objects). Because of this, we will assume that shifted full DP subjects are strongly dispreferred, even though they clearly are not as degraded as shifted full DP objects.
- ⁱⁱⁱ As indicated by being written in uppercase letters.
- ^{iv} Thus, even though DP subjects are generally said to be acceptable in the shifted position (preceding the negation and adverbials, cf. (5)), they hardly ever occur in this position in spontaneous speech.
- ^v CDS refers to the language of the adult speakers in child language corpora. These kinds of data are often used to study both input in child language acquisition and to consider whether CDS is different from adult-to-adult language. Both for subject shift and object shift the CDS data are very similar to adult-to-adult data.
- ^{vi} Similarly, based on adult-to-adult data from the Nordic Dialect Corpus, Bentzen (2014) shows that 87.6% (149/170) of pronominal objects with nominal antecedents undergo object shift.
- ^{vii} In fact, none of the statistical analyses that included L1 as a factor turned out to be significant, but we could see some tendencies which suggested that L1 might play a role. However, we did not have enough participants from the different L1s to draw such a conclusion.