Argument placement in Swedish

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abstract

This paper gives an overview of the Swedish data on argument placement in the Nordic Word Order Database (NWD; Lundquist et al. 2019). The data were collected from 54 native speakers in three different locations, and the experimental task elicited argument placement (subject shift, object shift, long object shift, particle shift). The results confirm that there is considerable inter- and intra-speaker variation in argument placement in Swedish, with the exception of the order between arguments and particles. Whereas subject shift appears to be obligatory with pronouns, there is variability in the placement of NP subjects, which cannot fully be explained with information structural factors. Long object shift is frequent with reflexives, whereas only a few speakers produce a small number of instances of long object shift with personal pronouns. Regular object shift is frequent, but not obligatory. We cannot observe any effects of dialect area or age in the dataset.

[1] introduction

Argument placement is known to vary in Swedish. Post-verbal, non-pronominal subjects can either precede or follow negation (and other sentence adverbials), as in (1a).[1] Pronominal subjects tend to precede sentence adverbs unless they carry contrastive stress, but even unstressed, "weak" pronominal subjects may occasionally follow negation, at least in some dialects; see (1b). With respect to object placement, there is also variation. As in the other Mainland North Germanic languages, non-pronominal objects appear after sentence adverbials. Pronominal objects, on the other hand, may appear before sentence adverbs, but only if the main verb has moved out of the VP (Holmberg's Generalization, Holmberg 1986). This reordering of objects and adverbs is known as object shift. Unlike in many other North Germanic varieties, pronominal object shift is not completely obligatory in Swedish; a weak object pronoun therefore sometimes follows negation; see (1c). Moreover, Swedish allows so called long object shift, where an object pronoun moves across the subject, as illustrated in (1d) (see e.g. Josefsson 1992, Heinat 2010). In verb particle constructions, on the other hand, object placement is strict in Swedish: all types of objects must follow a verb particle, as in (1e). Again, this makes Swedish different from the other North Germanic varieties (and, in fact, from all other Germanic varieties, too). Note also that subjects most often appear in the sentence initial position, and that objects can undergo topicalization, whereby they are fronted to the sentence initial position. In this article, we will not discuss sentence initial arguments, nor will we discuss argument placement in subordinate clauses.

(1) a. I dag går {Lisa} inte {Lisa} till jobbet.
today goes Lisa not Lisa to work.DEF
'Lisa will not go to work today.'

b. Idag går {hon} inte {%hon} till jobbet.
today goes she not she to work.DEF
'This is the translation.'

c. Lisa köpte {den} inte {den}.
Lisa bought it not it
'Lisa didn't buy it.'

[1] If nothing else is said, the examples are in Swedish.

d. Idag gav {mig} Lisa {mig} en ny bok.
today gave me Lisa me a new book
'Today, Lisa gave me a new book.'

e. Lisa skrev {*kontraktet/*det} på {kontraktet/det}.
Lisa write contract.DEF/it PART contract.DEF/it
'Lisa signed the contract.'

The word order variation (or lack thereof) illustrated in (1) has been extensively discussed in previous literature. Studies of subject shift, as illustrated in (1a) and (1b), have suggested that information structure plays a role in Swedish (e.g. Holmberg 1993, Andréasson 2007; cf. also e.g. Westergaard 2011, Keihl Olsen 2019 for Norwegian). For pronominal objects, it has been shown that pronouns behave differently depending on whether they have a nominal antecedent or not (Andréasson 2010; cf. Bentzen & Anderssen 2019, Anderssen & Westergaard 2020). It has also been suggested that the optionality of pronominal object shift (1c) can be explained by prosodic factors (most recently by Erteshik-Shir et al. 2020), but syntactic factors clearly also play a role in object shift (e.g. Holmberg 1986). With regard to long object shift, it seems clear that the form of the object pronoun plays a role (see e.g. Holmberg 1986). The diachronic development of the strict word order in particle constructions has been investigated by Larsson & Lundquist (2014, 2022). Throughout the article, we will use the terms subject shift and object shift in the way they have been established in the literature, but we will remain agnostic about the exact analysis of these "shifts", including their base and target position. In order to distinguish object shift across a sentence adverbial from long object shift across the subject, we sometimes refer to the former as *regular object shift*. The term (*long* or *regular*) *object shift* covers both pronominal, non-pronominal and reflexive object placement (if nothing else is said). We will refer to the order particle > object as involving *particle shift*, although we do not necessarily want to assume that the particle moves (see Larsson & Lundquist 2022 for a different analysis).[2]

Despite the attention that has been given to North Germanic argument shifts in the literature, there are few studies that investigate variation within and between speakers. One reason for this is that corpora simply do not provide enough data; even in large written corpora the number of examples of sentences with postverbal non-pronominal subjects and a sentence adverbial is limited, and the syntactic contexts for pronominal object shift are highly infrequent: finite clauses that contain a main verb in V2 position, a sentence adverb and a pronominal object are surprisingly hard to come across (cf. Larsson to appear on Icelandic). In the Scandinavian Dialect Syntax project, acceptability judgments were collected for both subject shift and object shift (see Bentzen 2014a, 2014b), but these data do not provide information about the speakers' choice between several different equally possible alternatives. As pointed out by Bentzen (2014a), the judgment data do not control for prosody, although it is known that prosodic factors and information structure can clearly affect the acceptability (see e.g. Thráinsson's 2013 discussion of non-pronominal object shift in Faroese).

This paper investigates argument placement in Swedish, using the experimental data available in the Nordic Word Order Database (NWD, Lundquist et al. 2019).[3] The database covers several phenomena that concern the placement of subjects and objects in the North Germanic languages (see also Lundquist 2020 on Faroese, Larsson to appear on Icelandic). The aim of the present paper is to give an overview of the Swedish data and lay the groundwork for future comparative studies and prosodic analyses.[4]

The Swedish data in NWD were collected during field trips in the period from 2017 to 2019. Currently (March 2022), the database includes recordings from Gothenburg, Stockholm, and (to a lesser extent) Åland (Finland); see Map 1. A total of 12491 Swedish sentences are included in the

[2] In the experimental data discussed below, subject shift, object shift and particle shift are variables; also non-shifted arguments and particles will therefore be discussed under these headings in sections 2 and 5.

[3] The present paper is only concerned with L1-Swedish; NWD includes data from L2 Swedish, as well.

[4] A subset of the data are discussed in Tennøe (2019).

database, but 3024 of these target the word order of embedded clauses; these are discussed in Westendorp (2021). 9467 sentences target the argument placement phenomena discussed in this article, and 4731 of these carry direct information about the word order patterns dicussed in this article; see more below.

map 1: Swedish field work locations: Gothenburg, Stockholm, and Åland (Finland).

The paper is organized as follows. In section 2, we give a brief background to argument placement in Swedish. Section 3 describes the experimental design and test items, and section 4 gives an overview of the participants and the set-up. In section 5, we give an overview of the results, looking in turn at subject shift, long object shift, regular object shift, and particle placement. Section 6 provides a brief comparative discussion of the findings. Section 7 concludes the paper.

[2] background

In this section, we give a background to argument placement in Swedish, focussing on the phenomena that are covered in the Nordic Word Order database. Section 2.1 is concerned with subject placement relative to sentence adverbials (subject shift, SS). Section 2.2 covers object placement relative to sentence adverbials (object shift, OS) and object placement relative to the subject (long object shift, LOS). Section 2.3 considers the placement of verb particles relative objects (particle shift) and subjects (long particle shift).

[2.1] *Subject shift*

Like the other North Germanic languages, Swedish is a V2-language. In main clause declaratives, the subject is most often sentence initial, as in (2a); in the spoken language, around 62% of all declaratives have SV-order according to the study reported in Jörgensen 1976. In a main clause with another phrase in initial position, the subject must be post-verbal, and it can then either precede or follow a sentence adverbial, as illustrated in (2b) and (2c) below (cf. also (1a) and (1b) above). Following established terminology, we will refer to a pre-adverbial subject as in (2b) as a shifted subject, whereas the subject in (2c) is non-shifted.

(2) a. Läraren kunde inte svaret.
teacher.DEF knew not answer.DEF
'The teacher didn't know the answer..'
b. Idag kunde läraren/hon inte svaret.

today knew teacher.DEF/she not answer.DEF
'The teacher/she didn't know the answer today.'

c. Idag kunde inte läraren/%hon svaret.
today knew not teacher.DEF/she answer.DEF
'The teacher/she didn't know the answer today.'

In a study of written Swedish, Andréasson (2007:135) shows that post-verbal pronominal subjects almost always (98%) shift, whereas a slight majority (58%) of the non-pronominal subjects do. Andréasson argues that it is mainly information structure that determines the word order: the *topic* (or *ground* in the sense of e.g. Vallduví 1992) precedes a *scene*, which in turn precedes the *focus*.

The other North Germanic languages show different patterns with respect to subject shift. In Danish, there is hardly any variability (Tengesdal & Larsson to appear, and references therein): subjects surface before negation and other sentence adverbials. In Icelandic, subject placement is influenced by definiteness (see Larsson to appear and references therein). Norwegian is more similar to Swedish: pronouns almost without exceptions precede negation, and non-pronominal subjects occur either before or after negation (see e.g. Westergaard 2011, Keihl Olsen 2019, Lundquist & Tengesdal to appear). However, the patterns are not identical in Norwegian and Swedish: shifted non-pronominal subjects appear to be more common in Swedish than in Norwegian (see also Svenonius 2002:218 and references therein). There is also dialect variation, as discussed by e.g. Østbø Munch (2013) and Bentzen (2014b). For instance, in Central Norwegian and Northern Swedish varieties, negation can more easily precede a subject pronoun. Data from Northern Swedish dialects are however not included in the present study (or currently in the data in NWD).

The experimental data discussed in what follows include main clauses that elicit SS across negation, with a pronominal or non-pronominal definite subject; the results are discussed in section 5.1 below.

[2.2] *Regular and long object shift*

All present-day North Germanic languages are VO-languages, and an object generally remains in the VP, unless it is topicalized to sentence-initial position. However, object shift (OS) is possible across a sentence adverbial. In Icelandic, and to some extent also in Faroese, both pronominal and non-pronominal objects can shift (see e.g. Lundquist 2020, Larsson to appear, and references therein), whereas in Mainland Scandinavian, only weak pronominal objects and reflexives shift across negation; compare (3a) with (3b) and (3c).[5] Stressed pronouns never shift in Mainland North Germanic.

(3) a. Lisa tvättade inte tröjan.
Lisa washed not sweater.DEF/it
'Lisa didn't wash the sweater/it.'

b. *Lisa tvättade tröjan inte.

[5] As pointed out by Svenonius (2002:207), Norwegian allows non-pronominal object shift across some sentence adverbials (e.g. *heldigvis* 'luckily'), but not negation. The same seems to be true in Swedish. Consider the sentences with the adverb *aldrig* 'aldrig' in (i).

(i) a. Han köpte boken aldrig.
he bought book.DEF never
'He never bought the book.'

b. *Han hade köpt boken aldrig.
he had bought book.DEF never

c. Han hade aldrig köpt boken.
he had never bought book.DEF
'he had never bought the book'

In (ia) the non-pronominal object precedes the adverbial. Example (ib) shows that the adverbial cannot be in sentence-final position, but is a medial adverb as shown in (ic).

The possibility of non-pronominal object shift across different kinds of sentence adverbials needs to be investigated further. Examples like (ia) are somewhat marked and are not frequent in actual usage (cf. non-pronominal object shift across negation in Faroese, discussed by Thráinsson 2013).

Lisa washed sweater.DEF not.
'Lisa didn't wash the sweater.'

c. Lisa tvättade {den/sig} inte {den/sig}.
Lisa washed it/REFL not it/REFL
'Lisa didn't wash it/herself.'

There are well-known syntactic restrictions on OS (see Holmberg 1986, 1999, Sells 1998, and many others). OS is only possible if the main verb has moved out of the VP; it is therefore ungrammatical in sentences with an auxiliary, as in (4a). An indirect object inside the VP will block OS of the direct object; see (4b). In Swedish, but not in the other North Germanic languages, a verbal particle also blocks OS, as in (4c).

(4) a. Lisa skulle {*den} inte tvätta {den}.
Lisa would it not wash it
'Lisa wouldn't wash it.'

b. Lisa gav {*den} inte honom {den}.
Lisa gave it not him it
'Lisa didn't give it to him.'

c. Lisa tog {*den} inte upp {den}.
Lisa took it not up it
'Lisa didn't take it up.'

In some North Germanic varieties (e.g. Icelandic), pronominal OS is obligatory whenever it can apply (see Larsson to appear, and references therein). In Danish, pronominal OS is also in general obligatory (when it can apply) with weak pronouns that have a nominal antecedent, but not with CP- or VP-anaphors, nor with pronouns that have a type-reference (see Andréasson 2010, Ørsnes 2013). Also in Norwegian and Swedish, the type of antecedent matters both for the possibility and the frequency of OS (see Bentzen & Anderssen 2019, Lindahl & Engdahl to appear, for recent discussion). The present study only includes pronouns with nominal reference and reflexives.

As mentioned, Swedish allows so-called long object shift (LOS) across a non-pronominal subject. In sentences with a non-initial subject, an object pronoun (5a) or reflexive (5b) can therefore appear in front of the subject. As with regular object shift, LOS cannot apply across an intervening verb, indirect object or particle; see (5c). Moreover, LOS has been claimed only to be possible with pronouns that have a distinct object form; the third person plural pronoun *dom*, which in colloquial Swedish is used both as subject and object, can therefore not shift across the subject; see (5d). Yet, it should be pointed out that there is considerable variation in the acceptability and production of LOS with different types of pronouns: some speakers accept no third person pronouns to be shifted over subjects, and as we will see below, some speakers seem to have restricted LOS to the simple reflexive pronoun *sig*.[6] Note that LOS shift is never obligatory.

(5) a. Igår tvättade {mig} Lisa {mig}.
yesterday washed me Lisa me
'Yesterday, Lisa washed me.'

b. Igår tvättade {sig} Lisa {sig}.
yesterday washed herself Lisa herself
'Yesterday, Lisa washed herself.'

c. Igår kunde {*mig} Lisa tvätta {mig}.
yesterday could me Lisa wash me
'Yesterday, Lisa could wash me.'

[6] The varying acceptability of LOS in the dialects still remains to be investigated; the present study does not include any judgment data.

d. Igår tvättade {*dom} Lisa {dom}.
yesterday washed 3.PL Lisa 3.PL
'Yesterday, Lisa washed them.'

Since subject shift, object shift, and long object shift are partly optional processes in Swedish, the word order of elements in the domain between the finite verb and the left edge of the VP (i.e. the I-domain, or the so-called midfield) is relatively unspecified (see also Engdahl et al. 2004). All the six logically possible orders of a phrasal subject, pronominal object and negation are at least to some extent acceptable and attested in Swedish when the three elements all appear in the midfield, as illustrated in (6a–f) (with the abbreviations S for subject, O for object and N for negation). This variation will be discussed further in section 5.3. As we will see, the order illustrated in (6f) is not attested in the experimental data; according to our own native intuitions, it is also the most marked option of the six.

(6) a. Igår hjälpte inte John mig. NSO
yesterday helped not John me
b. Igår hjälpte John inte mig SNO
yesterday helped John inte mig.
c. Igår hjälpte John mig inte. SON
yesterday helped John me not
d. Igår hjälpte mig John inte. OSN
yesterday helped me John not
e. Igår hjälpte mig inte John. ONS
yesterday helped me not John
f. ?Igår hjälpte inte mig John. ONS
yesterday helped not me John
'Yesterday, John didn't help me.'

The experimental data in the present study include sentences that test pronominal and reflexive object shift across negation, as well as sentences that test long object shift of a reflexive or pronoun across the subject. A number of sentences provide syntactic contexts for both subject shift and (long) object shift, giving rise to several different possible word orders (as in (6) above); these will be discussed in sections 5.2 and 5.3 below.

[2.3] *Particle shift*

As is well-known, there is in general no variability in the relative placement of verbal particles and objects in Swedish (see e.g. Toivonen 2003, Larsson & Lundquist 2014, 2022).[7] In Swedish, both full NP objects and object pronouns follow a particle, as in (7). Notice that this is true both for particles that are otherwise prepositions (7a), and for particles that are otherwise adverbs (7b).

(7) a. Lisa skrev {*kontraktet/*det} på {kontraktet/det}.
Lisa wrote contract.DEF/it PART contract.DEF/it
'Lisa signed the contract/it.'
b. Lisa skrev {*kontraktet/*det} ut {kontraktet/det}
Lisa wrote contract.DEF/it out contract.DEF/it
'Lisa printed the contract/it.'

The present study includes a number of sentences that investigate the order of different types of particles and objects, but we do not expect to find variation in the Swedish data, unlike in e.g. Norwegian and Icelandic. The variables included are therefore discussed in more detail in the papers

[7] There are a few systematic exceptions. For instance, a reflexive can sometimes precede a particle. See further Larsson & Lundquist (2022) for discussion.

on Icelandic (Larsson to appear) and Norwegian (Lundquist & Tengesdal to appear).

In addition, several sentences in the experiment target the order between a subject and a verbal particle. Particles are VP-internal in Swedish (unless topicalized), as in the other North Germanic languages, and we therefore hardly expect variation in the order of subjects and particles in sentences like (8) below: subjects precede verbal particles.

(8)	Då	låste	läraren	upp	dörren.
	then	locked	teacher.DEF	PART	door.DEF
	'Then, the teacher unlocked the door.'				

However, there are a couple of reasons why examples like (8) are still included in the present study (see also Lundquist 2020, Larsson to appear). First, these sentences never include a sentence adverbial, and can therefore act as fillers for the sentences that elicit subject shift and object shift. Second, they will allow future investigations of prosody in different types of particle constructions. Third, examples of the order particle > subject have been observed informally (as reported by Lundquist 2020), and we might therefore expect to find some variation in some North Germanic variety.

[3] material

This section gives an overview of the Swedish experiment. See Lundquist et al. (2019) for more details, regarding both experimental design and the database. The experiment consists of three parts that target the different phenomena under investigation. Note that the experiment does not directly target the issue whether the different word order options are grammatical, but it elicits the speakers production in controlled syntactic contexts, and it addresses the frequencies of different word order options, which later can be compared across languages and dialects. Different versions of the experiment have been used to investigate all of the North Germanic languages; see Lundquist et al. (2019).

In the experiment, the participant is presented with a subject-initial sentence (the so-called background sentence) on a computer screen, and is asked to read this sentence aloud; an example is given in (9a). The background sentence is followed by the appearance of the so-called trigger, which gives the start of a new sentence; see (9b). The participant is asked to complete the sentence, using the material in the background sentence; cf. (9c) which illustrates the target word orders that a Swedish participant is expected to produce.[8]

(9)	a.	Läraren	gav	mig	en	ny	bok	igår.	(Background)
		teacher.DEF	gave	me	a	new	book	yesterday	
		'The teacher gave me a new book yesterday.'							
	b.	Igår…							(Trigger)
		yesterday							
	c.	…gav	{mig}	läraren	{mig}	en	ny	bok.	(Target)
		gave	me	teacher.DEF	me	a	new	book	
		'Lisa didn't take it up.'							

In the first part of the experiment, the participant is presented with a subject-initial background sentence, as in (9a), where the finite verb is followed by an indirect object pronoun, a reflexive, negation, or a particle. In the produced sentence, there is always an initial adverbial (provided in the trigger in (9b)), and the subject must therefore be postverbal, due to the V2-requirement in Swedish. However, the speaker might vary the order between subject–object, subject–reflexive, subject–

[8] A reviewer asks if the participants are instructed to give several possible word orders, or only one. However, the instruction does not mention what is to be investigated. Instead, the instruction is simply "finish the sentence using the material in the background sentence," with the aim of making the participants produce the word order they find most natural and automatic. See Lundquist et al. (2019) for more details on the experimental design.

negation, or subject–particle. In this way, the produced sentences provide information about the syntactic variables under investigation: long object shift with reflexive or pronoun (as in (9c)), subject shift, and the order between subject and particle.

In the second part of the experiment, the participant is presented with a subject-initial sentence with a complex future tense (with *kommer att* 'will'); an example is given in (10a). The trigger contains an adverbial and a finite main verb in the past tense, as shown in (10b). (10c) illustrates the different word order patterns that the Swedish participants might produce; this item elicits both (long) object shift and subject shift (cf. (6) above).

(10) a. Löparen kommer inte att tvätta (Background)
runner.DEF will not to wash
sig efter loppet.
REFL after race.DEF
'The runner won't wash himself/herself after the race.'

b. Igår tvättade… (Trigger)
yesterday washed

c. … {sig} {löparen} {sig} inte {sig} (Target)
REFL runner.DEF REFL not REFL
{löparen} {sig}.
runner.DEF REFL

In this part of the experiment, the main verb is followed by a particle or a pronominal direct object, and in some conditions (as in (10)), the finite auxiliary is followed by negation. In this way, the experiment elicits subject shift, long and regular object shift, and the order between subject and particle.

In the third part of the experiment, the background sentence is a subject-initial passive sentence with an agent adverbial.[9] The trigger provides the beginning of the corresponding active sentence (subject plus finite main verb); see (11a) and (11b). (11c) gives the word order that the Swedish participants are expected to produce.

(11) a. Studenten blev utkastad från puben (Background)
student.DEF was thrown.out from pub.DEF
av vakterna
by doorman.PL.DEF
'The student was thrown out from the pub by the doormen.'

b. Vakterna kastade… (Trigger)
doorman.PL.DEF threw

c. … ut studenten från puben. (Target)
out student.DEF from pub.DEF

The sentences in this part of the experiment contain either negation (*inte* 'not') or a verb particle. In this way, we get information about object shift and particle shift.

The first set of data was collected from seven participants during fieldwork in Gothenburg in 2017. At this point in time, the experiment included the first two parts, focusing on subject shift and object shift — the placement of objects with respect to particles was not investigated. The third part, which mainly targets particle placement and object shift, was added at a later stage. The version of the experiment used during the first fieldwork instead included more subconditions (i.e. manipulated independent variables) for subject shift and object shift.

[9] Both periphrastic and morphological passives are used.

Part	Phenomena	Subcondition 1	Subcondition 2
1. Subject-Verb inversion (n = 30[1], 35[2])	Subject shift (n = 10)	NP subj (n = 5)	
		Pro subj (n = 5)	
	Long object shift (n = 15, 20[1])	NP subj (n = 10)	Refl. obj. (n = 5)
			1st. obj (n = 5)
		Pro subj (n = 5, 10[1])	Refl. obj (n = 5)
			1st. obj (n = 5)
	Subject-Particle (n = 10[2])	NP subj (n = 5[2])	
		Pro subj (n = 5[2])	
2. Subject-Verb inversion, complex to simple tense (n = 20, 30[1])	Subject shift, (long) object shift (n = 10, 22[1])	NP subj (n = 5, 11[1])	Refl. obj (n = 5)
			1st. obj (n = 5[1])
			NP obj (n = 1[1])
		Pro subj (n = 5, 11)	Refl. obj (n = 5[1])
			1st. obj (n = 5)
			NP obj (n = 1[1])
	Subject-Particle (n=10, 8[1])	NP subj (n = 5, 4[1])	
		Pro subj (n = 5, 4[1])	
3. Passive to active (n =25[2])	Object shift, negation (n = 11)	NP obj (n = 5)	
		Pro obj (n = 6)	
	Particle shift (n=23)	NP obj (n = 13)	See section 5.3
		Pro obj (n = 12)	

table 1: Overview of the Swedish experiment.[10]

Table 1 provides an overview of the experiment, specifying also if items are only included in the first or the second version of the experiment. As is specified in the table, part one of the experiment includes 35 items (30 in the first fieldwork session), covering three different phenomena (SS, LOS and long particle shift), with both pronominal and non-pronominal subjects (subcondition 1). The LOS condition in addition includes items with a reflexive or a first person object pronoun (subcondition 2). Part 2 and 3 of the experiment covers two phenomena each, again with one or two subconditions. The particle shift condition in part three includes a number of different types of particles as subcondition 2, and these are mentioned very briefly in section 5.3 below; for the Swedish results, the type of particle has little to say for the word order (unlike in Icelandic and Norwegian, see Larsson to appear, and Lundquist & Tengesdal to appear).

[4] set up and participants

The experiment was run on a laptop using the software OpenSesame (Mathôt et al. 2012). In Gothenburg and Stockholm, the participants were recorded with audio recorders (ZoomH4n, ZoomH4npro) using the inbuilt omnidirectional condenser microphone capsule or an external lapel microphone (audio-technica AT831) whenever possible. All of the recordings were made in WAV-format (44.1 kHZ, 16 bit). In Åland, the recordings were made directly on the computer, in mp3-format. The experiment was always carried out individually with one participant at the time. Instructions were given in Swedish or Norwegian.[11]

An overview of the participants is given in Table 2. The participants were recruited with the help

[10] Conditions or subconditions that were only included in the first data collection session are marked with the superscript 1, and conditions that were only included in the subsequent sessions are marked with the superscript 2.

[11] The data collection was carried out by Ida Larsson, Eirik Tengesdal, Anne Caroline Thomlevold Tennøe, Ida Toivonen, and Maud Westendorp.

of colleagues at the University of Gothenburg and Stockholm University, through facebook groups for Swedish teachers, and through personal connections. All participants volunteered in their participation. The participants in Stockholm and Gothenburg were offered a chocolate bar or a cinema gift card as compensation for their participation.

	No. of participants	**Male/Female**	**Age range**
Gothenburg	24	7/17	1964–1994
Stockholm	26	9/17	1991–2003
Åland	4	0/4	1944–1973
Total	**54**	**16/38**	**1944–2003**

table 2: Overview of the Swedish participants

24 speakers were recorded in Gothenburg in 2017 and 2018; seven of these were men, 17 women. Most of the participants (19/27) were born in Western Sweden (Gothenburg, Halland, Bohuslän or Västra Götaland); the others came from different parts of Sweden. Only three speakers were born in the 1960s or 1970s; the rest were younger.

26 participants were recorded in Stockholm or the area around Stockholm (Sollentuna) in 2018. 20 of these were high school students, and born between 1999 and 2003; 6 were university students born between 1991 and 1999. Nine of the participants were male. All participants grew up in or around Stockholm, except one who grew up in Skåne, in Southern Sweden.

The data in NWD also include data from 4 Fenno-Swedish speakers (all women), recorded in Åland in 2017. These participants were born between 1944 and 1973, and they were all from Finström (Åland).

[5] results

The results are presented in four sections, which focus on subject placement with respect to negation (5.1), subject placement with respect to objects (5.2), object placement with respect to negation (5.3), and argument placement with respect to particles (5.4).

[5.1] *Subject shift*

The variable subject shift, i.e., the linear order of a subject and negation, is tested both in the first and second part of the experiment; the test items include both pronominal and full NP subjects. In the second part of the experiment, the test sentences include an object in addition to the subject and the negation; the placement of the object will be discussed in sections 5.2 and 5.3.

From the first part of the experiment, we have in total 586 observations. 270 of these have pronominal subjects, and 316 have NP subjects: an example of a background and target pair is given in (12).

(12) a. Läraren/Han tog inte bussen till (Background)
teacher.DEF/he took not bus.DEF to
jobbet igår.
work.DEF yesterday
'The teacher/he didn't take the bus to work yesterday.'

b. Igår tog {läraren/han} inte (Target)
yesterday took teacher.DEF/he not
{läraren/han} bussen till jobbet.
teacher.DEF/he bus.DEF to work.DEF

As expected, pronominal subjects almost always occur in the shifted position; only 1/270 pronominal

subjects is unshifted. In the case of NP subjects, on the other hand, there is a preference for the unshifted position: 194 produced sentences have unshifted NP subjects (61.4%), compared to 122 shifted subjects (38.6%). In this data set, shifted NP subjects are less common than in the written language corpus investigated by Andréasson (2007); as mentioned in section 2.1 above, 58% of the NP subjects are shifted in her study.

From the second part of the experiment, we have in total 621 observations: 310 have NP subjects, and 311 pronominal subjects. An example of a background/ target pair is given in (13) below, from the so-called subject shift/reflexive condition, where a light reflexive pronoun is included in the sentence. As illustrated in (6) above, we expect considerable variation in this condition.

(13) a. Löparen/Han kommer inte att tvätta (Background)
runner.DEF/he will not to wash
sig efter loppet.
REFL after race.DEF
'The runner/he will not wash himself after the race.'

b. Igår tvättade {sig} {löparen/han} (Target)
yesterday washed REFL runner.DEF/he
{sig} inte {sig} {löparen/han} {sig}.
REFL not REFL runner.DEF/he REFL

As in the first part of the experiment, we can observe an almost categorical pattern in the placement of pronominal subjects: only two pronominal subjects (0.6%) are placed after the negation, compared to 296 in the shifted position. In the NP condition, there are, as expected, more unshifted subjects. However, a majority of the NP subjects are shifted: 189 (66.3%) shifted NPs compared to 96 (33.7%) unshifted. Note that there is an interesting difference between the results from the first and second parts here: unshifted NP subjects are considerably more common in the first part (61.4%), whereas the results from the second part are more similar to what is found in written corpora. We return to this in the discussion in section 6.[12]

There are no obvious regional patterns in our results: participants from all our recording sessions show variability in subject placement. Three participants produce only shifted subjects, and one participant produces only unshifted NP subjects, but overall most participants produce both orders in a quite balanced manner. We show the results from the individual participants in Figure 1 below.

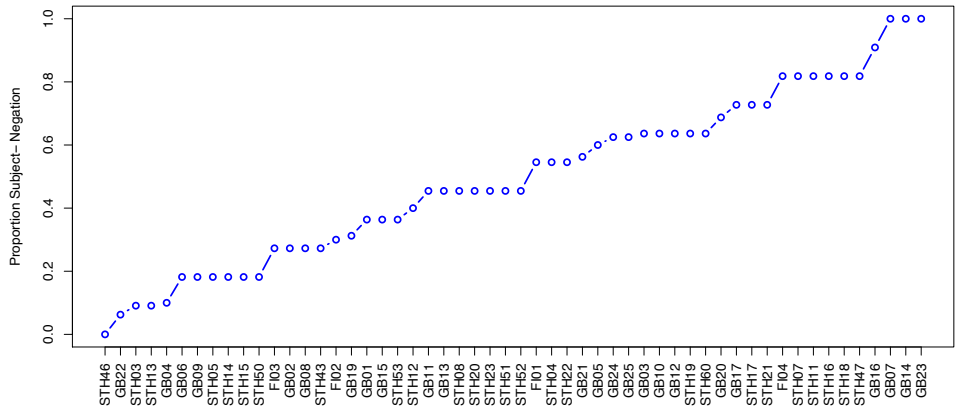

figure 1: Proportions of NP subject shift for indidual participants.

[12] In the second part of the experiment, there are a total 38 unexpected (and irrelevant) answers, coded as "OTHER" in the NWD database. In most cases, the participants forget to include the negation in their responses.

The results concerning subject shift are summarized in Table 3 below. Here, the results regarding pronominal subject shift from part 1 and part 2 have been combined, whereas the two parts are kept separate for non-pronominal subject shift. The category 'other' includes production errors and other irrelevant answers.

Word order pair	Subject first	Negation first	Other	Total
Part 1-2: Pro – Neg	565 (97.2%)	3 (0.5%)	13 (2.2%)	581
Part 1: NP – Neg	122 (38.6%)	194 (61.4%)	0	316
Part 2: NP – Neg	189 (60.9%)	96 (30.9%)	25 (8.1%)	310
Total	876 (72.5%)	293 (24.3%)	38 (3.1%)	1207

table 3: Summary of the produced sentences with shifted and unshifted subjects.

[5.2] *Long object shift*

In this section, we continue to look at the placement of subjects, but now in relationship to objects. Objects appearing to the left of a subject are said to have undergone long object shift (cf. section 2.2 above).

The variable long object shift is investigated in the first and second parts of the experiment. The test items include an object pronoun, either the first person singular object *mig* or the light third person reflexive pronoun *sig*. We are mainly interested in sentences where the subject is not a pronoun, as we do not expect long object shift across a subject pronoun, but we will report on the results for the pronominal subjects, as well; as we will, see there are a few unexpected responses.

In the first part of the experiment, the placement of first person and reflexive object pronouns is tested directly against NP- and pronominal subjects. However, only at the first test session (Gothenburg, seven participants) did we include items where a first person object pronun is tested against a subject pronoun. Examples for the reflexive and the first person long object shift conditions are given in (14) and (15) below:

(14) a. Läraren/Han ställde sig på bordet igår. (Background)
teacher.DEF/he stood REFL on table.DEF yesterday
'The teacher stood on the table yesterday.'

b. Igår ställde {sig} läraren/han (Target)
yesterday stood REFL teacher.DEF/he
{sig} på bordet.
REFL on table.DEF

(15) a. Läraren/Han hjälpte mig med (Background)
teacher.DEF/he helped me with
läxan igår.
homewor yesterd
k.DEF ay
'The teacher/he helped me with the homework yesterday.'

b. Igår hjälpte {mig} läraren/han (Target)
yesterday helped me teacher.DEF/he
{mig} med läxan.
me with homework.DEF

As for reflexive objects, the majority shift across an NP subject: there are 222 (83.8%) shifted reflexives compared to 43 (16.2%) unshifted. There is also a small number of reflexive objects that shift across a

pronominal subject, as in (16): in total 5 (1.6%) cases compared 262 unshifted instances.[13] Eight answers involve deviations from the instruction and are coded as OTHER. Of these, the cases where the reflexive object is doubled are of some interest: *Igår ställde sig läraren sig på bordet* (in total four cases).

(16)	Igår	ställde	sig	han	på	bordet
	yesterday	stood	REFL	he	on	table.DEF

The placement of first person singular objects differs greatly from the placement of reflexives. There are altogether only 25 pronominal objects that are shifted over an NP subject, compared to 228 unshifted objects. In other words, less than 10% of the first person pronominal objects shifted over an NP subject, compared to 83.8% shifted reflexive objects. There are no cases where a first person object pronoun has shifted across a pronominal subject.

In the second part of the experiment, long object shift is tested in sentences that contained negation in addition to the subject and the object. An example with a reflexive object and an NP subject is given in (17) below. Reflexive objects against pronominal subjects and first person pronouns against NP subjects were only tested in the first session (Gothenburg, seven participants).

(17)	a.	Polisen	kommer	inte	att	raka	sig	(Background)
		police.DEF	will	not	to	shave	REFL	
		med	rakhyvel.					
		with	razor					
		'The policeman won't shave himself with a razor.'						
	b.	Igår	rakade	{sig}	{polisen}	{sig}		(Target)
		yesterday	shaved	REFL	police.DEF	REFL		
		inte	{sig}	{polisen}	{sig}	med	rakhyvel.	
		not	REFL	police.DEF	REFL	with	razor	

The results from part 2 are summarized in Table 4 below, including all theoretically possible word orders (cf. the examples in (6) above). As expected, there is considerable variation in the produced word orders in sentences with NP subject; only the order negation > object > subject is unattested.

Word order	NP Sub	NP	Pro	Pro Sub
1.	8.6%	40%	97.1%	74.3%
2.	3.7%	17.1%	0	20.4%
3.	47.8%	2.8%	0	0
4.	29.1%	0	0	0
5.	3%	28.6%	0	0.8%
6.	0	0	0	0
Other	**7.8%**	**11.4%**	**2.9%**	**4.4%**

table 4: Ordering of subject, object and negation.

When counting instances of long object shift, we ignore the placemenent of negation, i.e. the three orders object > subject > negation (3 in Table 4), object > negation > subject (4 in Table 4), and negation > object > subject (6 in Table 4) all count as instances of long object shift. We return to the ordering of objects and negation in section 5.3 below.

With respect to long object shift, the results from the second part of the experiment look virtually

[13] The example in (16) (with sentence number 1102 in NWD) is produced by participant GB01. The same participant produces another example (sentence number 1104 in NWD).

indentical to those from the first part. There are 41 (16.5%) unshifted reflexive objects, and 206 (83.4%) shifted ones. Moreover, there are no examples of first person objects shifted over pronominal subjects, and in total only one (out of 35) first person object preceding an NP subject. The results regarding LOS are summarized in Table 5 below, where the results from part 1 and part 2 have been combined.

Word order pair	Subject first	Object first (LOS)	Other	Total
NPSub – R	84 (15.6%)	428 (79.4%)	27 (5.0%)	539
NPSub – 1st	258 (84.5%)	26 (8.5%)	21 (6.9%)	305
ProSub – R	292 (94.5%)	5 (1.6%)	12	309
ProSub – 1st	292 (96.1%)	0	12 (3.9%)	304
Total	926	459	72	1457

table 5: Long object shift.

Thus, there is a very clear difference between the reflexive objects and first person singular objects: LOS of first person pronouns is relatively rare, compared to LOS of reflexive objects. Still, shifting of a reflexive object across an NP subject is far from obligatory: 16.4% (84/512) of the reflexive objects appear in an unshifted position, and a majority of the participants (32/54, 59%) produce at least one instance of an unshifted reflexive. We show the spread of the individual results in the histogram in Figure 2. 22 speakers (40.7%) produce only shifted reflexives in sentences with an NP-subject, and 14 speakers produce only one (out of 10) example of the order subject > reflexive. Only very few participants (n=3) produce more unshifted than shifted reflexives (6–8 unshifted reflexives out of a maximum of 10). We cannot find obvious effects of dialect, age, or item in the results.

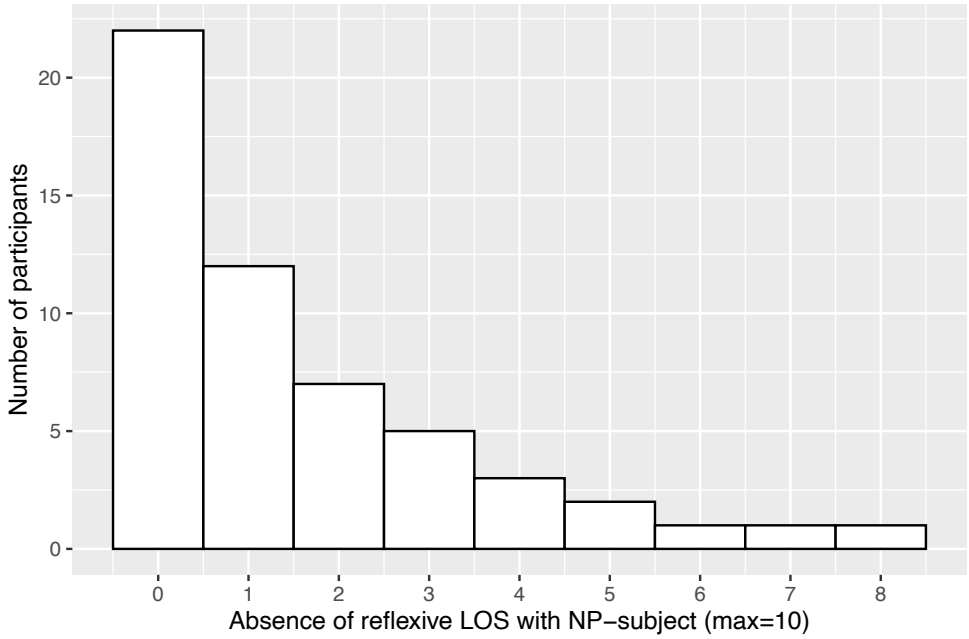

figure 2: Spread of individual results with regard to unshifted reflexive pronouns in sentences with an NP-subject.

The variation in long object shift with first person pronouns appears to be more tied to individual

preferences. There are in total only 26 cases (9.2%) of first person long object shift, compared to 256 (90.8%) cases of non-shift. In fact, the large majority (42/54) of the speakers never produce first person long object shift, and most participants that produce first person long object shift produce more than one instance: 6 speakers produce 3–4 instances of LOS each. However, we find no demographic or dialect pattern in the repsonses: these six speakers are spread over the dialects and age groups sampled, although note that there are currently only a small number of older speakers in NWD.

[5.3] *Regular object shift*

The variable object shift concerns the placement of a direct or indirect object with respect to negation or a sentence adverb. In our study, only shift across negation has been investigated.

As we have seen in the previous two subsections, object shift is tested together with subject shift and long object shift in part 2 of the experiment; the results were summarized in Table 4 above. A couple of general notes about the patterns in Table 4 are in order before we focus on regular object shift. First, as already mentioned, it is notable that we find all the logically possible orderings of the elements subject, object and negation except for negation > object > subject. We interpret this in the following way: an object that shifts over a subject (long object shift) also necessarily shifts over negation/adverb (regular object shift). Two other striking patterns have been discussed in the previous subsections: (1) pronominal subjects precede both adverbs and objects more or less without exception, and (2) reflexive objects are much more likely to undergo long object shift than first person pronouns.

Since regular object shift, long object shift, and subject shift are tested in the same sentences, something needs to be said about what counts as *absence* of regular object shift. Consider the following sentence, where the object follows both the negation and the subject:

(18)	Igår	hjälpte	inte	läraren	mig	med	läxan.
	yesterday	helped	not	teacher	me	with	homework.DEF
	'Yesterday, the teacher didn't help me with the homework.'						

In (18), negation precedes the subject; there is no subject shift. Moreover, the subject precedes the object, and there is thus no long object shift. This means that regular object shift is not possible in (18): object shift is dependent on subject shift or long object shift. We will therefore not count sentences where neither subject shift nor long object shift has applied as relevant syntactic contexts for object shift.

Following this line of reasoning, we will count examples with the order subject > object > negation, object > subject > negation and object > negation > subject (word orders 1, 3 and 4 in Table 4 above) as instances of object shift, and examples with the order subject > negation > object and the (unattested) order with negation > object > subject (word orders 2 and 6 in Table 4) as absence of object shift. The order negation > subject > object (order 5 in Table 4) is treated as a context where regular object shift cannot apply (due to absence of subject shift and long object shift); these sentences are therefore disregarded here.

Altogether, we find 478 instances of shifted objects (84.1%), and 71 instances of non-shifted objects (12.9%) in part 2 of the experiment. However, reflexive and first person object pronouns show slightly different behavior. There are only 10 (3.7%) unshifted reflexive pronouns (contra 263, 96.3% shifted), but as many as 61 (22.1%) unshifted first person objects (contra 215 shifted, 77.9%).

The third part of the experiment includes items that test object shift of third person object pronouns and NP objects. Examples of background and target sentences are given in (19) and (20) below.

(19) a. De blev inte arresterade av (Background)
they were not arrested by
polisen igår.
police.DEF yesterday
'They were not arrested by the police yesterday.'
b. Polisen arresterade {dom} inte {dom} igår (Target)
police.DEF arrested them not them yesterday
'The police didn't arrest them yesterday.'

(20) a. Dörren låstes inte av (Background)
door.DEF lock.PST.PASS not by
vaktmästaren igår.
janitor.DEF yesterday
'The door wasn't locked by the janitor yesterday.'
b. Vaktmästaren låste {dörren} inte {dörren} igår. (Target)
janitor.DEF locked door.DEF not door.DEF yesterday
'The janitor didn't lock the door yesterday.'

As was mentioned in section 2.2 above, shifting of NP objects is in general not allowed in Swedish. In our results we find 3 shifted NP objects, and 202 unshifted ones; two of the shifted objects are produced by the same speaker. With respect to third person pronouns, there is more variation, as expected: there are 111 (41.7%) unshifted 3rd person pronouns and and 155 shifted (58.3%). There is a fairly high proportion of irrelevant responses (coded as OTHER); these almost exclusively come from one item, provided in (21).

(21) Kritikern/Han blev inte imponerad av den (Background)
critic.DEF/he was not impressed by the
nya föreställningen
new show.DEF
'The critic/He was not impressed by the new show.'

Here, many participants choose to realize the object in the target as an oblique/PP object, as in (22).

(22) Den nya föreställningen imponerade inte på honom.
the new show.DEF impressed not on him
'The new show didn't impress him.'

The results from part two and three of the experiment are summarized in Table 6 below. We can note that the three types of pronouns show different response patterns: the simple reflexive object (*sig*) shifts more or less obligatorily (96.4% shift), the first person pronoun (*mig*) shifts in 77.9% of the cases, and the third person pronoun shifts in only 58.3% of the cases. As expected, NP-objects stay in situ more or less without exceptions. For the pronouns, we find no clear effect of dialect or age. Nine of the 54 participants (16.7%) produce pronominal object shift consistently, and all participants produce object shift at least once.

Word order pair	Object first	Negation first	Other	Total
Refl.Obj – Neg	264 (89.2%)	10 (3.4%)	22 (7.4%)	296
1st pers – Neg	215 (73.6%)	61 (20.8%)	16 (5.5%)	292
3rd pers – Neg	155 (55.4%)	111 (39.6%)	14 (5.0%)	280

NP – Neg	3 (1.3%)	202 (86.0%)	30 (12.8%)	235
Total	636 (57.7%)	384 (34.8%)	82 (7.4%)	1102

table 6: Overview object placement with regard to negation

[5.4] *Particle shift and long particle shift*

With respect to particle placement, we do not expect to find any variation in Swedish (see section 2.3 above): particles follow subjects and precede objects, independently of whether the arguments are pronouns or not; see the examples in (23).

(23) a. Igår gav min gamla farmor
yesterday gave my old grandmother
bort tröjan.
away sweater.DEF
'Yesterday, my old grandmother gave away the sweater.'

b. Igår gav hon bort den.
yesterday gave she away it
'Yesterday she gave it away.'

The placement of particles with respect to subjects is tested in part 1 and 2 of the experiment. The subjects are either NPs or pronouns. Examples of background/ target pairs are given in (24) and (25).

(24) a. Den bästa löparen gav upp under (Background)
the best runner.DEF gave up during
sista rundan igår.
last round.DEF yesterday
'The best runner gave up during the last round yesterday.'

b. Igår gav {upp} den bästa löparen (Target)
yesterday gave up the best runner.DEF
{upp} under sista rundan.
up during last round.DEF
'Yesterday, the best runner gave up during the last round.'

(25) a. Hon kommer att ge upp under (Background)
she will to give up during
sista rundan.
last round.DEF
'She will give up during the last round.'

b. I fjol gav {upp} hon {upp} under (Target)
last year gave up she up during
sista rundan.
last round.DEF
'Last year, she gave up during the last round.'

As expected, the Swedish participants consistently place subjects before particles. There are two elicited sentences with the order particle > subject, but both of these contain clear hesitations. There are in total 955 instances of the expected order subject > particle, and 39 produced sentences that contain an irrelevant answer.

Particle shift is tested in the third part of the experiment. An example of a background/target pair is given in (26).

(26) a. Studenten blev utkastad av (Background)

student.DEF was out.thrown by
vakterna igår.
guard.PL.DEF yesterday
'The student was thrown out by the guards yesterday.'

b. Vakterna kastade ut studenten igår. (Target)
guard.DEF.PL threw out student.DEF yesterday
'The guards threw the student out yesterday.'

The experiment includes several different types of particles, e.g. with directional or metaphorical semantics, and items where the particle is combined with a directional PP (e.g. 'kastade ut studenten från puben' *threw the student out of the pub*). In Icelandic and Norwegian, the type of particle can affect the order of object and particle (see Larsson to appear and Lundquist & Tengesdal to appear for an overview). In Swedish, on the other hand, there is no reason to distinguish between different particle constructions here – they all behave the same.

In total, we collected 1168 sentences that test the order of objects and particles (611 with NP objects, 545 with pronominal objects). 60 of the responses contain some unexpected element (coded as OTHER). Only two elicited sentences have the order object > particle. These are both presented by the same speaker, and they involve a particle with a directional PP (*ut från puben* 'out of the pub'). In fact, this is the context where Larsson & Lundquist (2022) in their diachronic investigation find that the order object > particle is preserved the longest, and where it is still sometimes (marginally) acceptable. Note, however, that the other 1105 elicited sentences have the expexted order particle > object, and that 370 of these have the order particle > object also in the context of a directional PP.

[6] discussion

The experimental data in NWD show that there is considerable variation in argument placement in Swedish, both within and across speakers. However, we do not see any obvious geographical or other demograpic patterns in the word order results, although, it should also be noted that currently only three areas are included, and that most speakers are rather young; further work is needed to reach any conclusions regarding geographical and generational variation. Given the controlled experimental setting, it seems reasonable to assume that the observed intra-speaker variation involves variability within a single grammar; we hardly expect the speakers to vary between registers or dialects in this setting. In this section, we briefly discuss the results in comparison to earlier studies and the comparative data available in NWD, focussing on Mainland North Germanic.

With respect subject shift, we can observe that pronominal subject shift is (almost) categorical. This is what we expect, given previous studies (e.g.. Andreásson 2007), and it is also what we find in Norwegian (Lundquist & Tengesdal to appear) and Danish (Tengesdal & Larsson to appear).

With NP subjects, there is more variation, also as expected. However, as mentioned in Section 5.1 above, the results from part 1 and part 2 of the experiment differ: there are considerably fewer shifted NP subjects from part 1 than from part 2. Note that the difference in results from the two experimental settings is relatively large: 38.6% subject shift in part 1 compared to 66.1% in part 2. We can note that the results from part 2 are more in line with what we expect from corpus studies. As we discussed in section 2.1, variation in subject placement has previously been accounted for in terms of information structure: given/background subjects are expected to appear before sentence adverbs, while focused or new subjects appear after. In the experimental material we use, it is hard to see why the subjects should be more likely to be interpreted as new/focused in part 1 of the experiment compared to part 2. In (27)–(28), we repeat the background sentences and expected targets from the two parts.

(27) a. Läraren tog inte bussen till (Background)
teacher.DEF took not bus.DEF to
jobbet igår.

work yesterday
'The teacher didn't take the bus to work yesterday.'

b. Igår tok {läraren} inte {läraren} (Target)
yesterday tok teacher.DEF not teacher.DEF
bussen till jobbet.
bus.DEF to work.DEF
'Yesterday, the teacher/he didn't take the bus to work.'

(28) a. Polisen kommer inte att raka sig (Background)
police.DEF will not to shave REFL
med rakhyvel.
with razor
'The policeman won't shave himself with a razor.'

b. Igår rakade {sig} {polisen} {sig} inte (Target)
yesterday shaved REFL police.DEF REFL not
{sig} polisen {sig} med rakhyvel.
REFL police.DEF REFL with razor.
'Yesterday the policeman didn't shave himself with a razor.'

In both cases, the NP subject appears sentence-initially in the background sentence, which should give rise to the same information structural status in both cases. In principle, the presence of a pronominal object in part 2 (see (28)) could affect the information structure status, but it is unclear how. Furthermore, in the data collection in Norway, items that did not include pronominal objects were included in part 2, and the same patterns in the results were seen: subjects were shifted to a higher degree in part 2 than in part 1 (see Lundquist & Tengesdal to appear).

Instead of accounting for the difference in terms of information structure, we propose that they are the result of priming in the experimental setting. In part 1, the participant reads the verb-negation sequence in the background sentence, and can simply repeat this sequence in the target. In part 2, the main verb and the negation do not appear as a linear sequence: the negation appears after the future axuliary, and the main verb appears after the infinitival marker.

If this account of the experimental result is correct, one may question whether information structure really plays an important in the placement of subjects, or if subject-negation ordering is determined to a higher degree by e.g. recently used (heard/produced) collocations or prosodic units.

However, it is noteworthy that we do not see any effect of task (part 1 vs. part 2) in the placement of pronominal subjects: subjects appear before negation (nearly) categorically in both parts. One explanation for this could be that it is a fact about the grammar of Swedish: the order negation > unstressed pronoun could simply be ungrammatical, and therefore not produced. Another possibility is that the priming does not really target the linear order verb > negation, but rather a prosodic unit containing the verb and negation. In part 1, the participants tend to chunk the verb and negation into one prosodic unit. This prosodic unit has to be broken up into two (or more) units when an NP subject intervenes. However, if the subject is a pronoun, the subject can be sandwiched between the verb and negation, without affecting the prosodic structure.

In any case, the priming effects show that information structure cannot be the sole determinant of subject placement in Swedish, and they suggest that prosodic structure might have something to say. In our material, we find a tendency among the participants to re-use the prosodic units that have been established in the background sentence when phrasing the target sentence. Currently, we see no obvious way to link the prosodic chunking of verb and negation to information structure, but a more detailed prosodic analysis of the material may reveal links between the de-stressing of negation (which often happens in the verb—negation units), and information structure.

It should also be mentioned that the Norwegian and Swedish participants do not have the same

preferences: in the experimental setting, subject shift is dispreffered in Norwegian (Lundquist & Tengesdal to appear find less than 25% subject shift in the result from the Norwegian experiment). This difference between Swedish and Norwegian is also discussed by Svenonius (2002), and it has furthermore been confirmed by judgment data (Westendorp & Lundquist 2021). In the Danish data in NWD, subject shift is almost completely generalized, as is expected (see Tengesdal & Larsson to appear). In short, Swedish NP subject placement varies considerably, more so than the in the other North Germanic languages, and, again, our results suggest that a lot of the variability cannot be straightforwardy explained in terms of information structure.

Swedish differs from the other North Germanic languages also with respect to long object shift. In our Swedish material, we find many instances of long object shift, and this contrasts strongly with the NWD material from Icelandic, Faroese, Danish and Norwegian, where we find virtually no instances. However, there is a clear difference between reflexive and pronominal objects. Reflexives undergo long object shift frequently, and a large majority of speakers produce long object shift with reflexives. First person object pronouns only rarely undergo long object shift, and only a small portion of the participants produce long pronominal object shift.

It remains to be seen if these differences between speakers' production reflect differences in acceptability; it seems possible that not all speakers accept long object shift with non-reflexive pronouns. The pattern observed suggest that there is an ongoing change in Swedish where reflexive pronouns more or less obligatorily start to encliticize to the main verb. This change would in such cases look very similar to the reanalysis of reflexives into passive/medial *-s(t)* which has taken place in the North Germanic languages at an earlier stage (see e.g. Holm 1952, Ottósson 1992). Note, however, that the reflexive *sig* still more or less obligatorily follows pronominal subjects, which suggests that *sig* still is not reanalysed as a clitic, unless a postverbal pronominal subject also have been reanalysed as clitics.

In the discussion above we have assumed that the generalizations hold over a specific item, namely the reflexive pronoun *sig*, rather than over a morphologically or syntactically defined class of items. An alternative would be to assume that the pattern with regard to long object shift is better captured if stated over reflexive objects more generally, i.e., overt objects that are co-referential with the subject. Given that *sig* does not shift over pronominal subjects, we would not expect to see shifting of first and second person object pronouns when used as reflexives, as they are always preceded by pronominal subject (e.g. *Jag tvättade mig* 'I washed myself').

However, as pointed out by Cecilia Falk (p.c.), plural first and second person object pronouns used reflexively may precede a coordinated subject. We give examples of a third person reflexive with a coordinated antecedent and a first person plural reflexive object with a coordinated antecedent in (29).

(29) a. Förra veckan satte {sig} han och
last week.DEF sat 3.SG.REFL he and
Kalle {sig} på första raden.
John 3.SG.REFL ON first row.DEF
'Last week, he and John sat down on the first row.'

b. Förra veckan satte {oss} jag och
last week.DEF sat 2.PL.REFL me and
Kalle {oss} på första raden.
John 2.PL.REFL on first row.DEF
'Last week, me and John sat down on the first row.'

Although we have not tested pairs like (29a-b) in our study, the authors' native intuitions are that the shifted object *oss* in (29b) is marked, in contrast to the shifted object *sig* in (29a), supporting the long object shift tendencies we find in the material, i.e., that the contrast between *sig* and *mig*, is an effect

of the item *sig* itself, rather than a syntactic or morphologically defined group of items (see also Lundquist 2013, who argues that a large proportion of Swedish speakers have developed specific patterns that adhere only to the element *sig*).

With respect to regular object shift, we observe a difference between *sig* and *mig* as well: *sig* shifts almost categorically (3.4% non-shifted), while the proportion of non-shifted *mig* is higher (20.8%). The near categorical shifting of *sig* lends support to the clitic analysis of *sig*. Still, the difference between the two pronouns is much smaller in the realm of regular object shift compared to long object shift: for regular object shift, shifting is the unmarked option for both *sig* and *mig*, and as far as we can tell, shifting is unmarked for the other first and second person pronouns as well, i.e., for the whole series *mig, dig* (singular) and *oss, er* (plural). Note however that we find very few unshifted first person object pronouns in the NWD material from the other Scandinavian languages, well below 10%.

On the other hand the class of third person non-reflexive pronouns show a much more varied pattern: as much as 41.7% of the third person pronouns are unshifted. This again contrasts to the other North Germanic languages where the preference for object shift is much stronger. It is notable that the Swedish participants make a distinction both between reflexives and non-reflexive pronouns, and between different kinds of non-reflexive pronouns.

In the case of long object shift, we can be quite certain that there is a categorical difference emerging between *sig* on the one hand, and the other personal pronouns on the other (and within the class of other pronouns, there may be a finer sub-division based on syncretism between subject and object forms). For regular object shift, it is less clear that the different types of object pronouns have different syntactic status. Object shift may in general be optional, with factors like information structure and prosody probabilistically influencing the likelihood of the shifting taking place.

Yet, it is still unclear if a factor like information structure at all influences the placement of light pronouns. The large majority of the unshifted objects in the database appears to be unstressed, and given the constrained context given by the background sentences, it seems unlikely that the produced sentences differ in information structure implications. Still, it can be argued that *sig* is inherently non-contrastive (in contrast to complex reflexive *sig själv*), and therefore by default ends up in a syntactic position that hosts non-contrastive or given elements. However, note that reflexive *sig* ends up in a shifted position also in existential constructions, when the subject, i.e., the antecedent of the reflexive, is not given, as in (30). (Existential constructions were, however, not included in the present study.)

(30) a. Det ställde sig inte nån framför mig.
it placed REFL not someone in.front.of me
'No one placed themselves in front of me.'

b. Det ställde sig plötsligt en kille med
it placed REFL suddenly a bloke with
långt hår framför mig.
lonf hair in.front.of me
'All of a sudden, a bloke with long hair placed himself in front of me.'

Closer studies of the relative weight of the factors form, prosody and information are still needed in order to fully understand the status of object shift in Swedish.

In many cases, there is more variability in argument placement in Swedish than in the other North Germanic languages. However, with regard to particle constructions, the opposite holds: in the Swedish data, particles always follow subjects, and precede objects. Larsson & Lundquist (2022) show that the strict ordering of particles and objects is established in the Late Modern Swedish period (around 1700). They suggest that it is a consequence of a reanalysis of the verbal particle from phrase to a head; the particle head is spelled out together with the other heads in the verbal spine, and will therefore always precede an object (unless the object has been topicalized).

[7] conclusion

The systematically elicited production data in NWD provide new ways to study variation in the North Germanic languages as a useful complement to studies based on corpus and judgment data. The Swedish data in NWD reveal considerable intra- and inter-speaker variation in argument placement, but no regional patterns. To some extent the new data corroborate previous studies. There is, for instance, more variability in subject shift in Swedish than in the other North Germanic languages, and the preference for object shift is not as clear in Swedish as in the other languages. Long object shift is possible in Swedish, but does not occur in the NWD data from the other languages. The NWD can also nuance the picture in some respects. It seems clear from the present study that information structure cannot be the only determinant of subject placement or object shift in Swedish. With regard to both long and regular object shift, the form of the object relate to different patterns: (long) object shift is highly preferred with reflexives, whereas first person unbound pronouns shift less often, and only rarely undergo long object shift. Third person pronouns show an even more variable behavior: it remains to be clarified whether there is an ongoing change in Swedish. Moreover, the role of prosody should be studied in future research. The data available in NWD make that possible.

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