

# Scandinavian Object Shift as the Cause of Downstep\*

Mayumi Hosono

## Abstract

I discuss Object Shift OS (Holmberg 1986) from the point of view of the intonational properties of Swedish (Bruce 1977, 1999, 2005, 2007). On the basis of experimental data, I show that F0 of the sentential elements that follow a focus-accented main verb is lower than F0 of the main verb in the OS construction of almost all the Swedish dialects investigated. Based on the literature (Gussenhoven 2004, Odden 2007), I propose a new hypothesis of OS: an object pronoun moves to cause downstep. With this hypothesis as well as the experimental result that pitch rises on an Aux(iliary verb) in complex tense forms and on a subject in embedded clauses, neither of which can be followed by an object pronoun, I provide an account of Holmberg's Generalization as follows: when main verb movement takes place, an object pronoun moves and causes downstep to prevent a focal High contour from arising after a focus-accented main verb; in the environments in which downstep cannot occur, e.g. in complex tense forms and embedded clauses in which pitch must rise towards a focus-accented main verb in situ, OS does not occur either. I suggest that OS is a linguistic phenomenon produced by the interaction between syntax, information structure, and intonation, and argue that OS is a purely phonological movement.

---

\* Many thanks to Christer Platzack, Gösta Bruce, Anders Holmberg, Merle Horne, Gunlög Josefsson, and Halldór Á. Sigurðsson for helpful advice and valuable comments and suggestions for this work. Several parts of this paper were presented at the 36th Meeting of the North East Linguistic Society (NELS), University of Massachusetts, Amherst (October 2005), and the Research Seminar of Linguistics and Phonetics, Lund University (November 2009). I would like to thank the audience for many helpful comments. Also thanks to the informants who participated in recordings conducted at Lund University from October to December 2009. Special thanks to Anders Holmberg for helping me improving my English. Any errors are my own.

## 1. Introduction

In most of the Scandinavian languages a weak, unstressed object pronoun moves crossing a sentential adverb like the negation, unlike a full NP object (*Object Shift OS*, Holmberg 1986)<sup>1</sup>:

- (1) Jag kysste inte [<sub>VP</sub> kysste Marit]. (Swe.)  
 I kissed not Marit  
 ‘I didn’t kiss Marit.’
- (2) a. Jag kysste henne inte [<sub>VP</sub> kysste henne]. (Swe.)  
 I kissed her not  
 ‘I didn’t kiss her.’
- b. Jon sparket den ikke [<sub>VP</sub> sparket den]. (Nor.)  
 Jon kicked it not  
 ‘Jon didn’t kick it.’
- c. Peter mødte ham ikke [<sub>VP</sub> mødte ham]. (Dan.)  
 Peter met him not  
 ‘Peter didn’t meet him.’
- d. Jón keypti hann ekki [<sub>VP</sub> keypti hann]. (Ice.)  
 Jón bought it not  
 ‘Jón didn’t buy it.’

The full NP object, *Marit*, does not move (1), but all of the weak object pronouns, *henne* of Swedish (2a), *den* of Norwegian (2b), *ham* of Danish (2c), and *hann* of Icelandic (2d), move crossing the negation.

---

<sup>1</sup> In this paper the terminology OS is exclusively used to refer to weak pronoun shift and/or cliticization. I refer to full NP shift in Icelandic in section 2.

OS is obligatory in simple tense forms in most of the Scandinavian languages but optional in some of the Scandinavian varieties (3a). An object pronoun cannot move when main verb movement does not take place, i.e. in complex tense forms that contain a finite Aux (3b) and in embedded clauses in which a main verb does not move (3c). This fact is called Holmberg's Generalization (Holmberg 1986): OS can occur only when main verb movement takes place.

- |        |   |   |
|--------|---|---|
| (3) a. | Jag såg <i>den</i> inte.<br>I saw it not<br>'I didn't see it.'                      | (*)Jag såg inte <i>den</i> .<br>I saw not it          |
| b.     | Jag har inte sett <i>den</i> .<br>I have not seen it<br>'I haven't seen it.'        | *Jag har <i>den</i> inte sett.<br>I have it not seen  |
| c.     | ... att jag inte såg <i>den</i><br>that I not saw it<br>'... that I didn't see it.' | *... att jag <i>den</i> inte såg<br>that I it not saw |

Despite much research (see below), a decisive account of Holmberg's Generalization has not been provided yet.

It is well known that each of the Scandinavian languages has a specific intonational system. Swedish and Norwegian have a pitch accent system associated with two kinds of word tone, accent 1 and accent 2 (Bruce 1977, 1999, 2005, 2007, Bruce and Gårding 1978, Gårding 1998, for Swedish; Kristoffersen 2000, 2007 for Norwegian). Danish has *stød*, a creaky voice that contributes to lowering pitch of the words corresponding to accent 1 words of Swedish and Norwegian (Grønnum 1998, Basbøll 2005). Though Icelandic has

no word tone (Árnason 1999), Icelandic phonology is closer to Swedish and Norwegian than Danish from a historical point of view (Lahiri, et al. 1999). Nevertheless, thorough discussions of OS from the intonational viewpoint have not been made so far.<sup>2</sup> In this paper I propose a new hypothesis of OS based on the intonational properties of OS in Swedish and support my hypothesis with experimental data. I present an account of Holmberg's Generalization on the basis of this hypothesis.

This paper is organized as follows. In section 2 I mention previous accounts of OS, pointing out the problems arising from them. In section 3 I summarize the Swedish intonational system established by Bruce (1977, 1999, 2005, 2007). In section 4 I introduce an experiment conducted to observe the intonational properties of the constructions relevant to OS. I show that F0 of the sentential elements that follow a focused-accented main verb is lower than F0 of the main verb in the OS construction of almost all the Swedish dialects investigated. In section 5, on the basis of the literature (Gussenhoven 2004, Odden 2007), I propose a new hypothesis of OS: an object pronoun moves to cause downstep.<sup>3</sup> With this hypothesis and also the experimental result that pitch does not lower on an Aux in complex tense forms and on a subject in embedded clauses, I present an account of Holmberg's Generalization as follows: when main verb movement takes place, an object pronoun moves and causes downstep to prevent a focal High contour from arising after a focus-accented main verb; in the environments in which downstep cannot occur,

---

<sup>2</sup> Hellan (2005) is exceptional in pointing out a possible correlation of OS with the intonational properties of the Scandinavian languages.

<sup>3</sup> Downstep is a phenomenon in which a high tone becomes lower than the preceding high tone when a low tone element intervenes between them. I make a more detailed explanation in section 5.

e.g. in complex tense forms and embedded clauses in which pitch must rise towards a focus-accented main verb in situ, OS does not occur either. In section 6 I conclude this paper, arguing that OS is a purely phonological movement.

## 2. Previous accounts of Object Shift

Many accounts of OS have been proposed (Diesing 1992, 1997; Holmberg and Platzack 1995; Holmberg 1999; Chomsky 2001; Sells 2001; Vikner 2001; Erteschik-Shir 2001, 2005a,b; Josefsson 2003; Vogel 2004; Fox and Pesetsky 2005; Broekhuis 2008; among others). Most syntactic and semantic accounts are (explicitly or tacitly) based on the Mapping Hypothesis (Diesing 1992). This hypothesis claims that an object that is focused and/or new information remains inside VP whereas an object that is specific and/or old information moves out of VP.

Holmberg (1999) argues that OS is a PF-movement that takes place in what he calls Stylistic Syntax, where phonological features as well as discourse features such as [+/-Foc] are introduced. Based on the Mapping Hypothesis, he argues that OS applies to the sentential elements that are assigned [-Foc].

Chomsky (2001) presents an account of OS within the phase theory.<sup>4</sup> According to Chomsky, only when the difference in interpretation is reflected on the semantic interface, is the EPP that triggers movement<sup>5</sup> assigned to a phase head.<sup>6</sup> On the assumption that a full NP such as *Marit* in (1) is assigned the interpretation of focus and/or new information in its original position whereas an

---

<sup>4</sup> See Chomsky (2001) for the detailed derivational mechanism of the phase theory.

<sup>5</sup> Or second merge.

<sup>6</sup> Here,  $v^*$ , the functional head of a verbal category.

object pronoun such as *henne* in (2a) is assigned the interpretation of non-focus and/or old information in its moved position, it is claimed that the former remains inside VP (4a) whereas the latter moves from inside VP to [Spec,v\*P] due to the EPP assigned to v\* (4b).

(4) a. ... [<sub>v\*P</sub> *inte* [<sub>v\*P</sub> v\* [<sub>VP</sub> *kysste* *Marit*]]]

b. ... [<sub>v\*P</sub> *inte* [<sub>v\*P</sub> *henne* [<sub>v\*P</sub> v\* [<sub>VP</sub> *kysste* *henne*]]]

A main verb evacuating from VP, movement of an object pronoun to [Spec,v\*P] is string-vacuous as illustrated above: it does not affect the order of the preceding negation, *inte*, and the following object pronoun, *henne*. Movement of an object pronoun to the position between a main verb and the negation where it is actually pronounced is claimed to be a PF-movement.

The arguments based on the Mapping Hypothesis, however, make the wrong prediction: an object pronoun should not move when it forms part of new information, contrary to fact (Engdahl 1997, Sells 2001, Hosono 2006).

(5) a. *Sentence-focus*:

What's up? – [John always kisses me (in the presence of others!)]<sub>Foc.</sub>

- i) <sup>OK</sup>Jan kysser mig alltid.  
Jan kisses me always
- ii) <sup>OK</sup>Jan kysser alltid mig.

b. *Predicate-focus*:

What did John always do? – He always [<sub>VP</sub> kissed me]<sub>Foc.</sub>

- i) <sup>OK</sup>Han kysste mig alltid.  
he kissed me always
- ii) ?Han kysste alltid mig.

The answer to an out-of-the-blue question (e.g. ‘what happened?’) is a typical case of sentence-focus (Lambrecht 1994) (5a). The answer sentence contains new information only. In (5b) the subject *John* that appears in the question is already presupposed in the answer. The answer sentence has a topic-comment structure in which VP that gives some comment to a topic subject carries the focus of a sentence (predicate-focus, Lambrecht 1994). In both of these cases an object pronoun is included in the focus domain of the answer sentence and forms part of new information. Even in such contexts the object pronoun, *mig*, moves crossing the sentential adverb, *alltid*. The fact that OS applies not only when an object pronoun is defocused and/or is old information but also when it forms part of focus indicates that the trigger of OS cannot be attributed to the semantic effects that are imposed on an object pronoun itself.

The Scandinavian languages have a construction called pro-VP, which consists of a verb meaning ‘do’ and an object pronoun that takes either a VP or a sentence as its antecedent:

- (6) a. Agnes ville [<sub>VP</sub> köpa boken]<sub>i</sub>, men hon gjorde det<sub>i</sub> inte. (Swe.)  
 Agnes wanted buy the-book but she did that not  
 ‘Agnes wanted to buy the book, but she didn’t.’
- b. [Köpte Agnes boken?]<sub>i</sub> – Det<sub>i</sub> tror jag inte.  
 bought Agnes the-book that think I not  
 ‘Did Agnes buy the book? – I don’t think so.’  
 (Andréasson 2009:4,(5-6))

In this construction an object pronoun can either move, stay in situ, or be topicalized. According to Fretheim and Nilsen (1987), meaning differs between the case in which an object pronoun either remains in situ or is topicalized and

the case in which an object pronoun moves crossing the negation:

- (7) Du slo ti'n i ansiktet, gjorde du ikke (det)? (Nor.)  
 you slapped him in the fact did you not that  
 'You in fact slapped him, didn't you do that?'  
 a. Nei, jeg gjorde ikke det/Nei, det gjorde jeg ikke.  
 no, I did not that/No, that did I not  
 'No, I didn't do so.'  
 b. Nei, jeg gjorde det ikke.  
 no I did that not  
 'No, I didn't do it.'  
 (Fretheim and Nilsen 1987:211,(4))

The object pronoun, *det*, takes a VP 'slap him' as its antecedent in all the cases above. According to Fretheim and Nilsen, (7a) is a denial of the proposition presented in the preceding sentence, which is illustrated by the translation 'do so'. (7b) means that the speaker intentionally stopped the plan to slap the guy due to, e.g. change of his mind, which is illustrated by the translation 'do it'. The difference in meaning is determined not by what an object pronoun takes as its antecedent, but by whether an object pronoun makes a combination with the preceding main verb. This is another case in which the trigger of OS cannot be attributed to the semantic effects that are imposed on an object pronoun itself.

Not only an object pronoun but also a full NP moves in Icelandic. Since Holmberg (1986) it has been argued that Icelandic full NP shift is subject to Holmberg's Generalization. Hence, an account that can unify OS and Icelandic full NP shift has been sought (e.g. Collins and Thráinsson 1996, Diesing 1997, Chomsky 2001; but see Bobaljik and Jonas 1996). According to the literature



(e.g. Diesing 1997, Vikner 2001, Thráinsson 2007), a shifted full NP is always interpreted as specific and/or old information, whereas a non-shifted full NP is interpreted as new information/focused in unmarked cases. This indicates that Icelandic full NP shift, where movement of an NP always produces the interpretation different from the one in the original position, should be dealt with as a different type of movement than OS, where the semantic effects imposed on an object pronoun itself are not decisive for its movement.

### **3. The Swedish intonational system (Bruce 1977, 1999, 2005, 2007)**

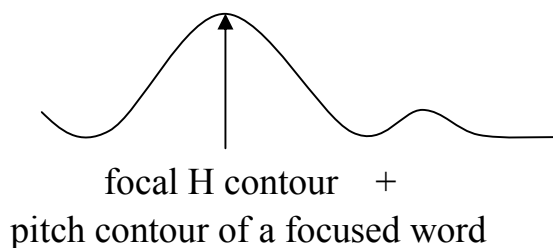
Bruce (1977) establishes a basic theory of the Swedish intonational system. Most of the Swedish dialects maintain a distinction between two word accents, accent 1 and accent 2, each of which is associated with the tonal pattern of High-Low HL. For accent 1, HL is aligned in an early timing. Accent 1 is expressed as HL\*, which indicates that accent is associated with L. For accent 2, HL is aligned in a late timing. Accent 2 is expressed as H\*L, which shows that accent is associated with H. Depending on various combinations of such a timing difference with CV segmental structures, the Swedish dialects are mainly classified into four types: SOUTH (e.g. Malmö), CENTRAL (e.g. Dalarna), EAST (e.g. Stockholm), and WEST (e.g. Göteborg) (see also Bruce and Gårding 1978). In addition, NORTH is included in the EAST type. Finland Swedish (e.g. Helsinki) and the dialect spoken in the far north area do not have a distinction of word accents.<sup>7</sup>

---

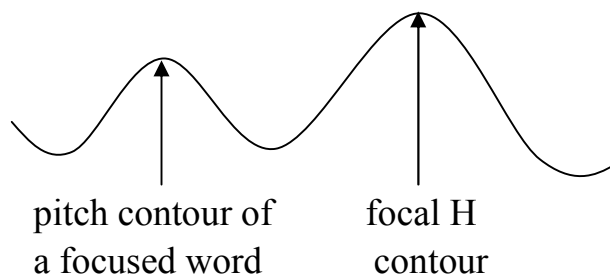
<sup>7</sup> Bruce (2005) presents LHL as a new basic pattern, with which attempts are made to solve the problem of the leading H of HL\* of accent 1 in, e.g. sentence-initial position, and to restrict CV segments that can be associated with tone.

Another feature of Swedish intonational properties is that the focus of a sentence is realized by a H tone following a HL contour: a focal H contour. When focus is carried by an accent 1 word, the focal H contour is realized as HL\*H. When focus is carried by an accent 2 word, the focal H contour is realized as H\*LH (Bruce 1999). In SOUTH and CENTRAL a focal H contour overlaps the pitch contour of a focus-accented word, which produces a single-peaked pitch picture as illustrated in (8a). NORTH and Finland Swedish are included in this group (Bruce 2007). In EAST and WEST, on the other hand, a focal H contour is added after the pitch contour of a focus-accented word, which produces a double-peaked pitch picture like (8b).

(8) a. SOUTH and CENTRAL:



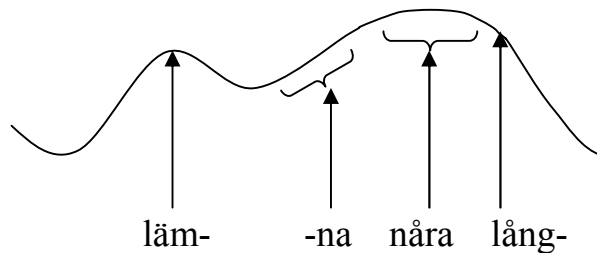
b. EAST and WEST:



The context most relevant to OS is verb-focus: a main verb is always accented in the environment of OS (Holmberg 2005). Thus, a typical pitch picture of the

verb-focus construction of a double-peaked dialect, e.g. EAST, is illustrated as (9) (Bruce 1977:42). Focus accent is located on the first syllable of a main verb, *läm-* of *lämna* (an accent 2 word). Pitch begins to rise on the second syllable of the main verb, *-na* of *lämna*, and a focal H contour starts from it; the tonal rise realizes the focus of the sentence. The focal H contour continues until fall starts on the next stressed syllable, *lång-* of *långa* (an accent 2 word). Containing an unstressed element, *nåra*, the focal H contour draws a ‘high plateau’ pitch picture.

- (9) Man vill LÄMNA nåra långa nunnor.  
 man wants leave some long nuns  
 ‘One wants to leave some tall nuns.’



#### 4. The intonational properties of the constructions relevant to Object Shift

I conducted an experiment to observe the intonational properties of the constructions relevant to OS. As we saw above, the focus of a sentence is realized by a LH pitch contour in Swedish (i.e. HL\*H for accent 1 words and H\*LH for accent 2 words, Bruce 1977, 1999). Holmberg (2005) points out that a main verb is always accented in the OS construction. These observations imply that pitch falls on a syllable of a focus-accented main verb whether it has accent

1 or accent 2. The negation *inte*, a typical diagnosis of the presence or absence of OS, has accent 2. The first syllable of the negation, *in-* of *inte*, is realized as a H tone. A shifted object pronoun intervenes between a main verb and the negation. Based on these facts and observations, a hypothesis was made concerning the environment in which OS occurs:

- (10) An object pronoun is cliticized to a L tone element, i.e. a main verb of simple tense forms, and forms part of a LH contour, specifically part of a focal H contour.

A prediction is made from this hypothesis concerning the environment in which OS does not occur:

- (11) Pitch does not lower on the element that an object pronoun cannot follow, i.e. a finite Aux in complex tense forms and a subject in embedded clauses.

The test sentence types that were actually used are simple tense forms (12a), complex tense forms (12b), and embedded clauses (12c). Verb Topicalization (12d), a contrastive verb-focus construction in which a past participle moves to sentence-initial position and OS also occurs, was added due to the theoretical significance related to this construction (Holmberg 1999, Chomsky 2001).<sup>8</sup>

---

<sup>8</sup> Also in Verb Topicalization of an infinitival form OS can apply (Christer Platzack, p.c.):

i) Kyssa försökte han henne inte, bara krama.  
 kiss-INF tried he her not only hug-INF  
 'He didn't try to KISS her, but only tried to HUG her.'

- (12) a. Simple tense forms with or without OS:  
 E.g. Jag köpte den inte. / Jag köpte inte den.  
 I bought it not I bought not it  
 ‘I didn’t buy it.’
- b. Complex tense forms:  
 E.g. Jag har inte sett den.  
 I have not seen it  
 ‘I haven’t seen it.’
- c. Embedded clauses:  
 E.g. Jag sa att jag inte kysste honom.  
 I said that I not kissed him  
 ‘I said that I didn’t kiss him.’
- d. Verb Topicalization (Holmberg 1999):  
 E.g. Kysst har jag honom inte.  
 kissed have I him not  
 ‘I didn’t KISS him.’

Test sentences were made by using a monosyllabic pronoun (e.g. *den* ‘it’) and a disyllabic pronoun (e.g. *honom* ‘him’). On the basis of the literature on information structure (Lambrecht 1994, Vilkuna 1995, Kiss 1998), appropriate contexts were built with a question and the answer, the latter of which corresponds to each relevant construction. Holmberg (2005) points out that a main verb is focus-accented, in the unmarked case, regardless of whether OS applies or not. Hence, polarity-focus, verb-focus which is typically represented by *yes-no* questions, was built for simple tense forms with or without OS (13a) and complex tense forms (13b). The context in which a clausal argument is

focused was built for embedded clauses (13c). Contrastive verb-focus was built for Verb Topicalization (13d).<sup>9</sup>

- (13) a. Did you buy the book? – No, I didn't buy it.  
 Köpte du boken? – Nej, jag köpte den inte/jag köpte inte den  
 bought you the-book no I bought it not I bought not it
- b. Have you seen the movie? – No, I haven't seen it.  
 Har du sett filmen? – Nej, jag har inte sett den.  
 have you seen the-movie no I have not seen it
- c. What did you say? – I said that I didn't kiss her.  
 Vad sa du? – Jag sa att jag inte kysste henne.  
 what said you I said that I not kissed her
- d. Have you kissed Mary?  
 – No, I haven't KISSED her, but HOLD her by the hand.  
 Har du kysst Anna?  
 have you kissed Anna  
 – Kysst har jag henne inte. Men jag har hållit henne i handen.  
 kissed have I her not but I have held her in the hand

Data were collected from six SOUTH speakers (three female and three male), two EAST male speakers, three WEST male speakers, and one NORTH female speaker. The age of the informants ranges from the 20es to the 40es. Informants were asked to read each question-answer pair in an appropriately rapid speech, in such a way as they speak in real-life conversation. Test sentences were

---

<sup>9</sup> To see the intonational properties of a focused object pronoun, contrastive argument-focus such as below was added, which I omit here for convenience sake.

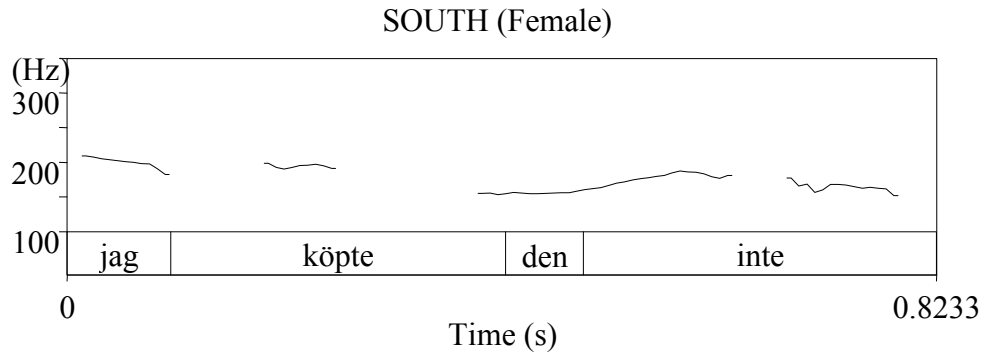
i) Did you kiss Anna? – No, I didn't kiss [<sub>Foc</sub> her]. But I kissed [<sub>Foc</sub> Lena].  
 Kysste du Anna? – Nej, jag kysste inte henne. Men jag kysste Lena.  
 kissed you Anna No I kissed not her but I kissed Lena

slightly modified between female speakers and male speakers to lead informants to more real imagination and natural reading. The material actually used is given in Appendix. Five recordings were made for each sentence pair. A software, PRAAT, was used for recording, and the total number of collected data amounts to more than 400.

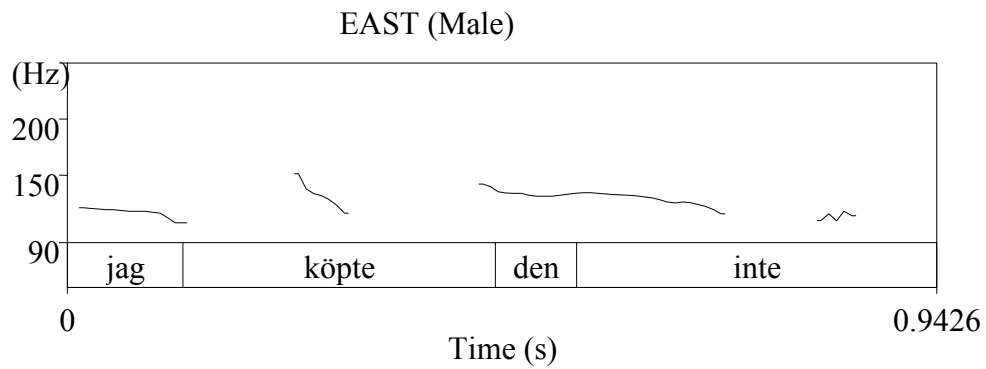
The results are as follows. First, the pitch picture of the OS construction with a monosyllabic pronoun that was typically observed in all the dialects investigated is illustrated in (14a-b). Focus accent is located on the first syllable of a main verb, *köp-* of *köpte*. Pitch falls on the first syllable of the main verb and maintains the lowered pitch level on a shifted object pronoun, *den*, in most cases. Pitch slightly rises again on the first syllable of the negation, *in-* of *inte*, which is pronounced in liaison with the preceding nasal, *-n*, of the moved object pronoun. Finally, pitch falls in sentence-final position. NORTH, one of the single-peaked dialects, tends to show a different picture (14c). Pitch does not lower after the first syllable of a focus-accented main verb. Pitch rises continuously and the peak comes on a shifted object pronoun. A moved object pronoun and a main verb jointly compose a single focal H contour.

- (14) Jag köpte den inte.  
 I bought it not  
 'I didn't buy it.'

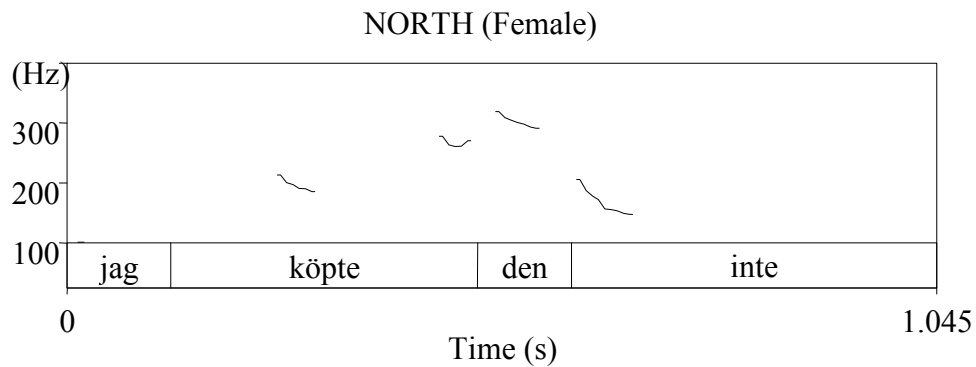
a.



b.



c.



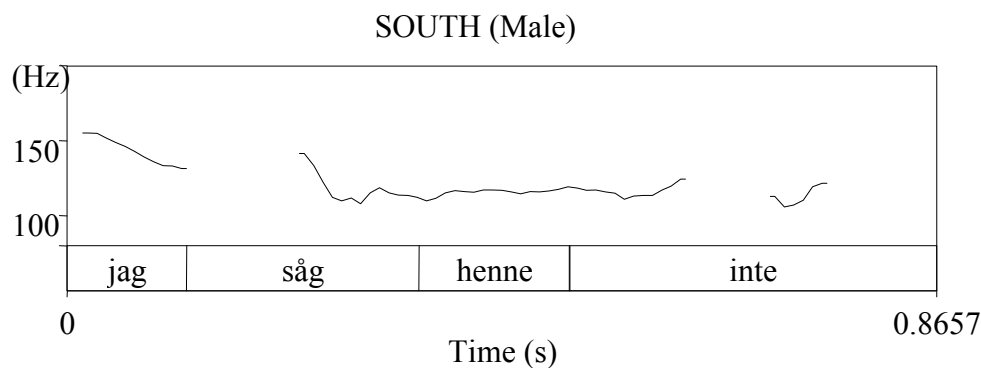
The tendency that pitch lowers after a focus-accented main verb is also observed



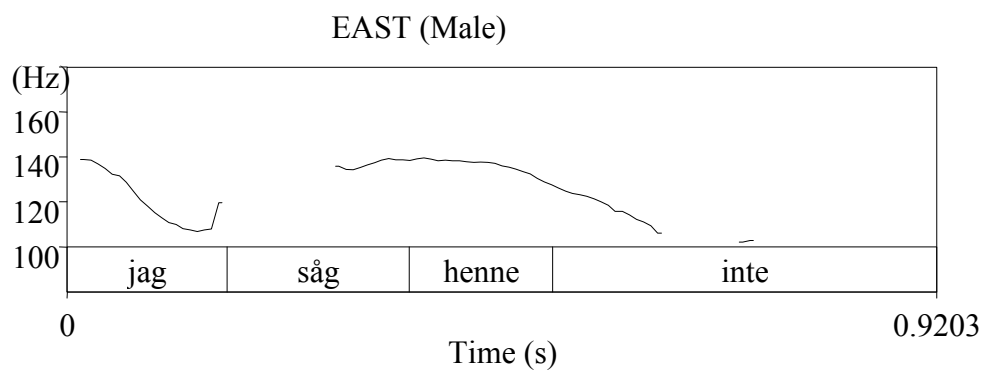
in the OS construction with a disyllabic pronoun (15a). After pitch falls on the main syllable of a focus-accented verb, pitch slightly rises again on the first syllable of the negation and falls in sentence-final position. In EAST (15b) pitch does not lower on the main syllable of a main verb. A main verb and a shifted object pronoun jointly compose a focal H contour, with the main syllable of the main verb making the starting point of the focal H contour. The entire picture is single-peaked unlike a double-peaked picture of verb-focus construction illustrated in (9).

- (15) Jag såg henne inte.  
 I saw her not  
 'I didn't see her.'

a.



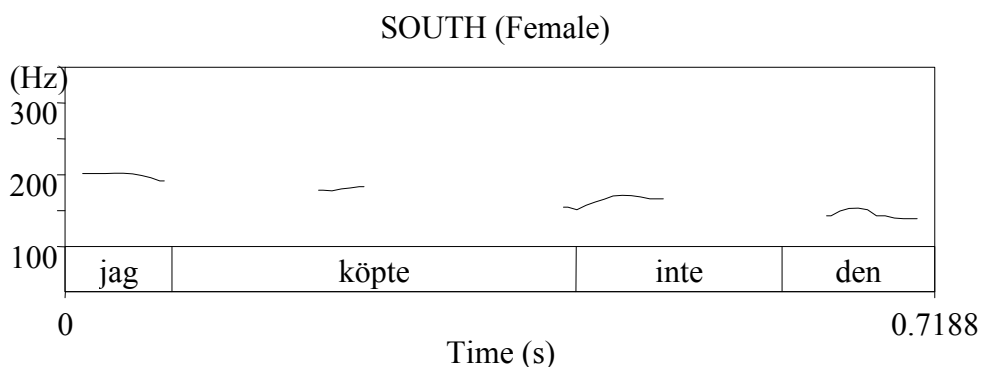
b.



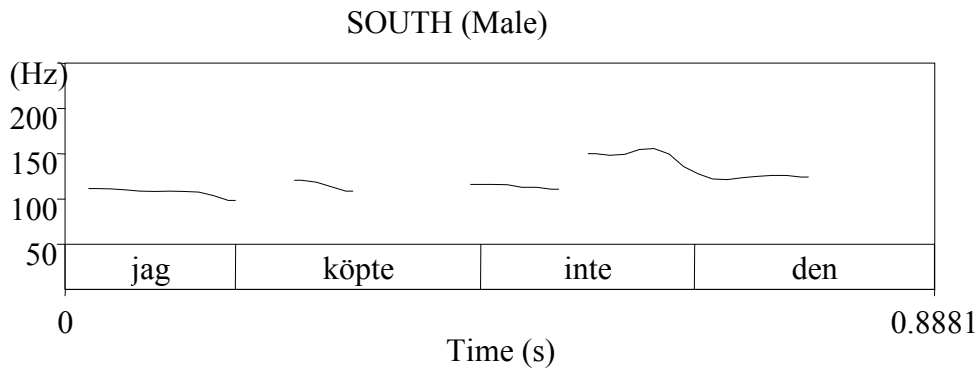
Second, most of the informants find some semantic emphasis on an unshifted object pronoun of the non-OS construction in the context of polarity-focus. Some speakers read it without stress; others read it with a slight prominence. In the non-OS construction in which speakers read a monosyllabic pronoun without any stress pitch falls after a focus-accented main verb in all the dialects investigated as represented by (16a). This contrasts with the non-OS construction in which speakers read a monosyllabic pronoun with a slight prominence (16b). Pitch does not lower, and almost the same pitch level is maintained up to a sentence-final object pronoun. In the non-OS construction with a disyllabic pronoun pitch tends to fall after a focus-accented main verb regardless of the presence or absence of stress on an object pronoun in SOUTH (17a). Pitch tends either to rise or at least not to fall from the main syllable of a focus-accented main verb to the first syllable of the negation regardless of the presence or absence of stress on an object pronoun in EAST and WEST (17b).

- (16) Jag köpte inte den.  
 I bought not it  
 'I didn't buy it.'

a.

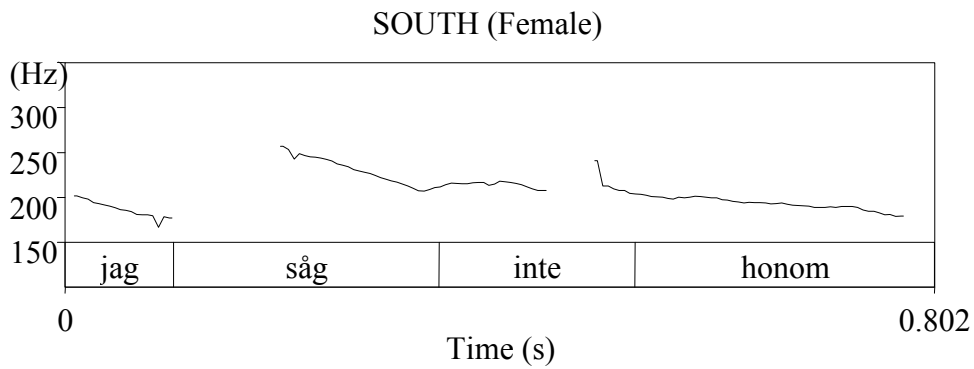


b.

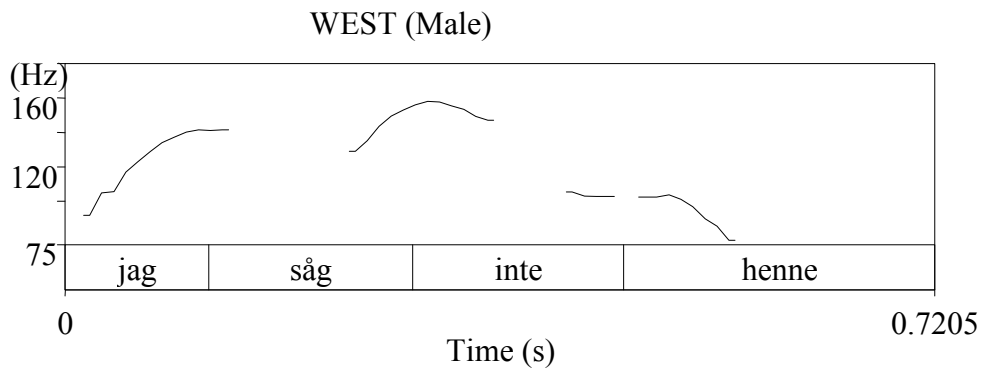


- (17) Jag såg inte honom/henne.  
 I saw not him/her  
 'I didn't see him/her.'

a.

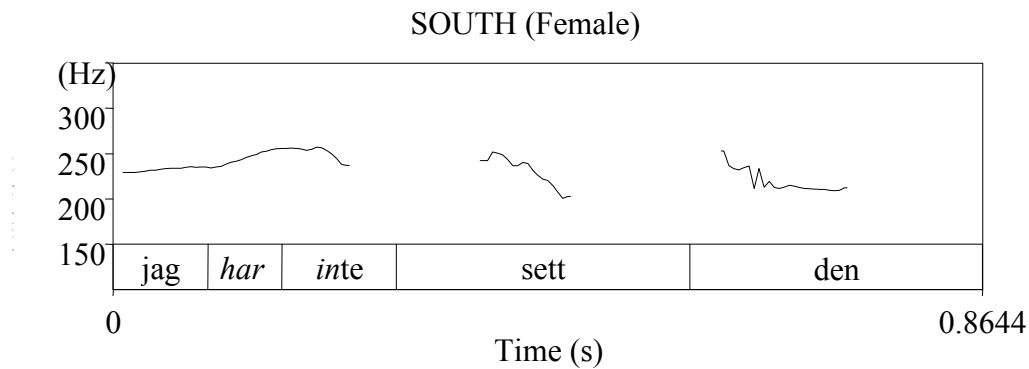


b.



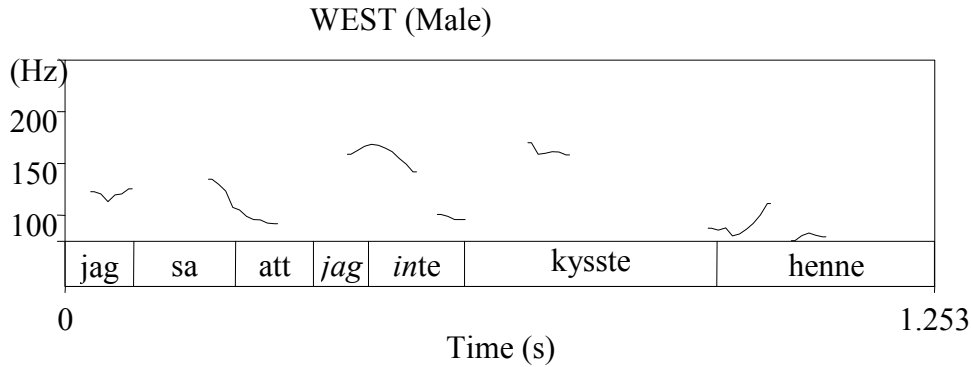
Third, in complex tense forms (18) pitch continuously rises from a subject, through an Aux, to the first syllable of the negation, *in-* of *inte*. It is remarkable that this result is almost without exception for all speakers of all the dialects investigated.

- (18) Jag har inte sett den.  
 I have not seen it  
 ‘I haven’t seen it.’



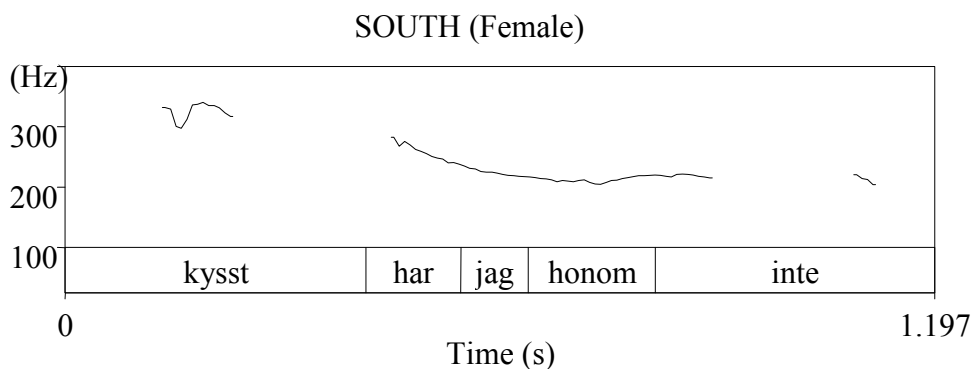
Fourth, in embedded clauses (19) pitch rises from a complementizer, through a subject, to the first syllable of the negation, *in-* of *inte*. In the same way as in complex tense forms, it is remarkable that this result is almost without exception for all speakers of all the dialects investigated.

- (19) Jag sa att jag inte kysste henne.  
 I said that I not kissed her  
 ‘I said that I didn’t kiss her.’



Finally, for Verb Topicalization (20) all the dialects investigated show a single-peaked contour in which the pitch peak comes on a past participle. After pitch fall, pitch maintains a low level until the end of a sentence.

- (20) Kysst har jag honom inte.  
 kissed have I him not  
 ‘I didn’t KISS him.’



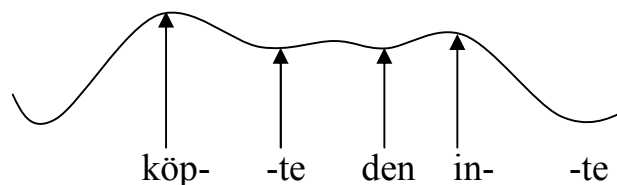
Summarizing the main results, pitch tends to lower in the positions following a focus-accented main verb in simple tense forms with OS. Pitch lowers in some cases, but rises in others, after a focus-accented main verb in

simple tense forms without OS. Pitch rises on an Aux in complex tense forms and on a subject in embedded clauses, neither of which can be followed by an object pronoun. In Verb Topicalization the pitch peak comes on a sentence-initial past participle, after which pitch maintains a lower level. Recall the hypothesis (10) concerning the environment in which OS occurs. The results of the OS construction show that although an object pronoun is cliticized to a main verb on which pitch lowers in most cases, it does not form part of a focal H contour. The results also show that a moved object pronoun forms part of a focal H contour in some cases as illustrated by single-peaked focal contours such as (14c) and (15b), but pitch does not lower immediately before a moved pronoun. Therefore, though the prediction (11) made from this hypothesis is attested by the results of complex tense forms and embedded clauses, the hypothesis itself must be refined.

### 5. Object Shift as the cause of downstep

The following is an illustration of the pitch picture of the OS construction (14a-b) observed in all the dialects investigated:

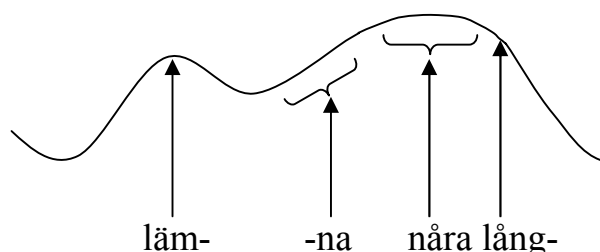
(21) Jag köpte den inte.



Compare the pitch properties of the OS construction above with those of the

verb-focus construction typically observed in EAST:

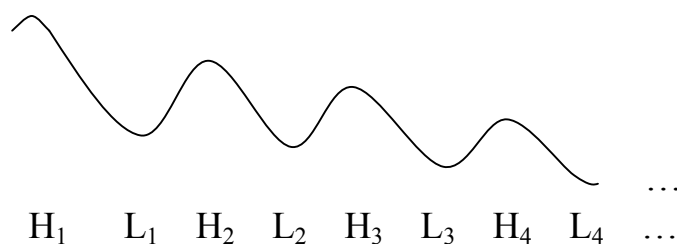
(22) Man vill LÄMNA våra långa nunnor. (=9)



What is remarkable is that F0 of the first syllable of the negation, *in-* of *inte*, the next stressed syllable, is lower than F0 of the first syllable of the main verb, *köp-* of *köpte*, in almost all cases of the OS construction. The picture like (21) is expectable for SOUTH, a single-peaked dialect, but cannot be expected for EAST and WEST, double-peaked dialects. From these data, I argue that the OS construction is exceptional in that F0 of the sentential elements that follow a focus-accented main verb does not rise not only in single-peaked SOUTH but also in double-peaked EAST and WEST in most cases.

According to the literature (e.g. Gussenhoven 2004), a H tone becomes lower than the preceding H if an L intervenes between them, a phenomenon called *downstep*. After downstep has occurred, a following H tone does not become higher than the preceding H; it reaches at most the same level as the preceding one. Thus, in (23) after  $L_1$  intervenes between  $H_1$  and  $H_2$ ,  $H_2$  does not reach the same pitch level as  $H_1$ ; after  $L_2$  intervenes between  $H_2$  and  $H_3$ ,  $H_3$  does not become higher than  $H_2$ ; and so forth.

## (23) Downstep:



Downstep is a universal phenomenon observed in various languages in the world (Odden 2007). According to Odden (2007), the sounds that are more likely to affect lowering of F0 are in the following order: voiced obstruents (e.g. voiced plosives like [d]) > sonorants (e.g. nasals like [m]) > voiceless unaspirated sounds (e.g. [s]), and so forth. These sounds typically appear as a segment of object pronouns in the Scandinavian languages. The sound [h], which is another typical sound that makes a segment of Scandinavian object pronouns (e.g. *henne* ‘her’), is most unlikely to cause downstep (Odden 2007). When the object pronoun that starts with [h] is cliticized, however, the [h] sound is dropped and the following vowel is, though not obligatorily, pronounced in liaison with the preceding consonant. Thus, in (24) [h] of *henne* is dropped and the vowel [e] of the first syllable is pronounced in liaison with -g of *såg*.<sup>10</sup>

- (24) a. Jag såg henne inte.  
           I saw her not  
           ‘I didn’t see her.’

<sup>10</sup> The way of pronunciation in which a voiced obstruent [g] of *såg* does not appear is also acceptable (Christer Platzack, p.c.):

i) jag så(g) (h)-en- -ne+in- -te  
    [ja so: e nen(/nin) te]

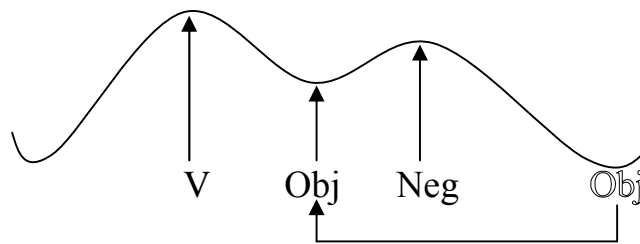


- b. jag så- -g+(h)-en- -ne+in- -te  
 [ja sɑ: ge nɛn(/nin) te]

Then, I propose a new hypothesis of OS:

(25) Scandinavian Object Shift:

An object pronoun moves to cause downstep.



A question arises whether movement of object pronouns is actually the cause of downstep: it could be argued that after an object pronoun moves to a surface position for some reason, downstep happens to occur in the entire sentence. It is then predicted that downstep could occur in the non-OS construction to the same extent as in the OS construction. However, in the non-OS construction with a disyllabic pronoun of EAST and WEST pitch tends either to rise or at least not to fall from the main syllable of a focus-accented main verb to the first syllable of the negation regardless of the presence or absence of stress on an object pronoun, as illustrated in (17b). This indicates that downstep is actually caused by movement of object pronouns.

Another question arises how the cases in which a shifted object pronoun makes a focal H contour with a main verb, (14c) of NORTH and (15b) of EAST, are accounted for. In these cases pitch does not lower on a moved object pronoun. According to Odden (2007:103), the element that originally has a L

tone and plays a role in causing downstep can appear as a H tone in front of another H tone element (*H-insertion*) and causes downstep of the following H tone, as illustrated by the second L in the following case:  $\circ \circ \circ$  (L-L-H-L)  $\rightarrow$   $\circ \circ \circ$  (L-H-H (downstepped) -L). Hence, it will not be surprising even if an object pronoun that plays a role in causing downstep appears as a H tone element. In fact, F0 of the first syllable of the negation is lower than F0 of a focus-accented main verb in both cases.

A further question is why downstep must be caused by movement of pronominal objects in simple tense forms. According to Gussenhoven (2004:213), the stressed syllable of an accent 2 word that forms the final part of a focal H contour gives the impression that the word itself is focused, as the last high pitch comes on that stressed syllable. The negation *inte* is an accent 2 word. Thus, if the first syllable of the negation, *in-* of *inte*, were contained in a focal H contour as its final part, it might sound as if the negation itself were focus-accented. However, the main focus accent of a sentence is located on the main verb in unmarked cases (Holmberg 2005). Hence, an object pronoun moves and causes downstep to eliminate a focus-accenting effect on the negation on one hand and to maintain the focus of a sentence on the main verb on the other. This argument is extended to Verb Topicalization (20), in which pitch does not rise again after pitch falls on a sentence-initial past participle. Since a contrastively focused past participle is the sole possible location of focus in such a sentence, an additional focus of a sentence that could be realized by a focal H contour must not occur: a sentence can have only one focus (Lambrecht 1994). Hence, an object pronoun moves and causes downstep to prevent a pitch rise for a possible focal H contour that could produce a focusing effect on the negation. These arguments amount to saying that an object pronoun moves and

causes downstep to prevent a focal H contour from arising after a focus-accented main verb.

Several predictions are made from the hypothesis. EAST and WEST are double-peaked, whereas SOUTH and CENTRAL are single-peaked. The basic pitch pattern of the latter two is quite similar to that of the OS construction. Downstep occurs not only in the OS construction but also in the non-OS construction in SOUTH (and possibly CENTRAL too), as illustrated by (14a) and (16a). Hence, it is predicted that OS is more likely to be optional in SOUTH and CENTRAL than in EAST and WEST. In fact, one of the informants from SOUTH uttered either the OS construction or the non-OS construction of simple tense forms unconsciously and at random within 5 recordings.

Another prediction is that an object pronoun does not move in the environments in which downstep cannot occur. This is exactly the cases of complex tense forms and embedded clauses. The focus of a sentence is carried by a past participle main verb in complex tense forms; the focus of an embedded clause is carried by a finite main verb. Pitch must rise towards the pitch peak on the main verb. Hence, downstep cannot occur on the sentential/clausal elements preceding the main verb. The results of the experiment show, almost without exception, that pitch of the sentential elements which an object pronoun cannot follow rises: F0 of the first syllable of the negation, *in-* of *inte*, is higher than F0 of an Aux, *har*, in complex tense forms (18), and F0 of the first syllable of the negation is higher than F0 of a subject, *jag*, in embedded clauses (19). Then, the account of Holmberg's Generalization is here provided as follows: when main verb movement takes place, an object pronoun moves and causes downstep to prevent a focal H contour from arising after a focus-accented main verb; in the environments in which downstep cannot occur, e.g. in complex tense forms and

embedded clauses in which pitch must rise towards a focus-accented main verb in situ, OS does not occur either.<sup>11,12</sup>

## 6. Conclusion: Object Shift as a purely phonological movement

In this paper I discussed OS from the point of view of the intonational properties of Swedish. On the basis of experimental data, I showed that F0 of the sentential elements that follow a focus-accented main verb is lower than F0 of the main verb in the OS construction of almost all the Swedish dialects investigated. I proposed a new hypothesis of OS: an object pronoun moves to cause downstep. With this hypothesis as well as the experimental result that pitch rises on an Aux in complex tense forms and on a subject in embedded clauses, I provided an account of Holmberg's Generalization as follows: when main verb movement takes place, an object pronoun moves and causes downstep to prevent a focal H

---

<sup>11</sup> Christer Platzack (p.c.) presents a question whether downstep occurs in the contexts that do not contain a sentential adverb. A case is Long Object Shift, in which an object pronoun moves crossing a subject:

- i) Slog sej Sara?  
 hurt self Sara  
 'Did Sara hurt herself?'  
 (Holmberg 1986:205,(138e))

Though the proposal here predicts that downstep actually occurs in these contexts, I leave this issue for future research.

<sup>12</sup> An issue that I did not deal with in this paper is verb particle construction. OS does not apply beyond verb particles in Swedish (ia), but applies in the other Scandinavian languages (ib).

- i) a. Jeg skrev (\*det) opp (<sup>OK</sup>det).                    (Swe.)  
 I wrote it up it  
 'I wrote it down.'  
 b. Jeg skrev (<sup>OK</sup>det) opp (\*det).                    (Nor.)  
 I wrote it up it  
 'I wrote it down.'  
 (Holmberg 1999:2,(3b-c))

I have begun to study the intonational properties of verb particle construction. I leave the report for future.

contour from arising after a focus-accented main verb; in the environments in which downstep cannot occur, e.g. in complex tense forms and embedded clauses in which pitch must rise towards a focus-accented main verb in situ, OS does not occur either.

This paper suggests that OS is a linguistic phenomenon produced by the interaction between syntax, information structure, and intonation. Holmberg (1986) points out the correlation between the syntactic position of a main verb and that of an object pronoun. What must be added to it is the information structure of the sentence, and the way this is expressed in the Scandinavian languages, i.e. by intonation. None of these three components can be left out in a principled account of OS. Seen from another point of view, OS is a syntactic tool to compensate for a somewhat rigid property of intonation that expresses information structure, i.e. the property that the focus of a sentence is realized by a focal H contour. Hence, OS is a movement that is phonologically motivated to a significant extent, and should be interpreted not as a syntactic movement but as a purely phonological movement. That OS is a PF-movement is claimed by Holmberg (1999) and Chomsky (2001), as we saw in section 2. This paper is ultimately compatible with their view, whereas it rejects the arguments based on the Mapping Hypothesis and claims that weak pronoun shift in the Scandinavian languages must be separated from any kind of full NP shift.<sup>13</sup>

---

<sup>13</sup> Concerning the pro-VP construction introduced in section 2, Fretheim and Nilsen (1987) argue that the meaning of ‘do so’ is expressed by the presence of an intonational boundary between an object pronoun and the rest (ia), whereas the meaning of ‘do it’ is expressed by the absence of an intonational boundary between an object pronoun and the preceding verb (ib). In the former an object pronoun that composes an independent intonational phrase is always assigned some phonological prominence.

i) a. (jeg (gjorde ikke)) || (det) / (det) || (gjorde jeg ikke) (=7a)

b. (jeg (gjorde det)) (ikke) (=7b)

See Fretheim and Nilsen for a detailed discussion of the pro-VP construction from syntactic,

## References

- Andréasson, Maia. 2009. Pronominal object shift – not just a matter of shifting or not. *Working Papers in Scandinavian Syntax* 84:1-20.
- Árnason, Kristján. 1999. Icelandic and Faroese. In *Word Prosodic Systems in the Languages of Europe*, ed. by Harry van der Hulst, 567-591. Berlin: Mouton de Gruyter.
- Basbøll, Hans. 2005. *The Phonology of Danish*. Oxford: Oxford University Press.
- Bobaljik, Jonathan D. and Dianne Jonas. 1996. Subject Positions and the Role of TP. *Linguistic Inquiry* 27:195-236.
- Broekhuis, Hans. 2008. *Derivations and Evaluations: Object Shift in the Germanic Languages*. Berlin: Mouton de Gruyter.
- Bruce, Gösta. 1977. Swedish Word Accents in Sentence Perspective. *Travaux de L'Institut de Linguistique de Lund XII*. CWK GLEERUP.
- Bruce, Gösta. 1999. Word tone in Scandinavian languages. In *Word Prosodic Systems in the Languages of Europe*, ed. by Harry van der Hulst, 605-633. Berlin: Mouton de Gruyter.
- Bruce, Gösta. 2005. Intonational Prominence in Varieties of Swedish Revisited. In *Prosodic Typology: The Phonology of Intonation and Phrasing*, ed. by Sun-Ah Jun, 410-429. Oxford University Press.
- Bruce, Gösta. 2007. Components of a prosodic typology of Swedish intonation. In *Tones and Tunes Volume 1: Typological Studies in Word and Sentence Prosody*, ed. by Tomas Riad and Carlos Gussenhoven, 113-146. Berlin: Mouton de Gruyter.

- Bruce, Gösta and Eva Gårding. 1978. A Prosodic Typology for Swedish Dialects. In *Nordic Prosody*, ed. by Eva Gårding, Gösta Bruce, and Robert Bannert, 219-228. Department of Linguistics, Lund University.
- Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1-52. Cambridge, MA: MIT Press.
- Collins, Chris and Höskuldur Thráinsson. 1996. VP-Internal Structure and Object Shift in Icelandic. *Linguistic Inquiry* 27:391-444.
- Diesing, Molly. 1992. *Indefinites*. Cambridge, MA: MIT Press.
- Diesing, Molly. 1997. Yiddish VP Order and the Typology of Object Movement in Germanic. *Natural Language and Linguistic Theory* 15:369-427.
- Engdahl, Elisabet. 1997. Object Shift and information structure in Scandinavian. Handout, Comparative Germanic Syntax Workshop, Amsterdam.
- Erteschik-Shir, Nomi. 2001. P-syntactic motivation for movement: imperfect alignment in Object Shift. *Working Papers in Scandinavian Syntax* 68:49-73. Department of Scandinavian Languages, Lund University.
- Erteschik-Shir, Nomi. 2005a. Sound Patterns of Syntax: Object Shift. *Theoretical Linguistics* 31:47-93.
- Erteschik-Shir, Nomi. 2005b. What is Syntax? *Theoretical Linguistics* 31:263-274.
- Fox, Danny, and David Pesetsky. 2005. Cyclic Linearization of Syntactic Structure. Published in *Theoretical Linguistics* 31.
- Fretheim, Thorstein, and Randi Alice Nilsen. 1987. Intonational properties of Norwegian pro-VP sentences. In *Papers from the Tenth Scandinavian Conference of Linguistics Volume 1*, ed. by Victoria Rosén, 211-226. Department of Linguistics and Phonetics, University of Bergen.
- Gårding, Eva. 1998. Intonation in Swedish. In *Intonation Systems: A Survey of*

- Twenty Languages*, ed. by Daniel Hirst and Albert Di Cristo, 112-130. Cambridge: Cambridge University Press.
- Grønnum, Nina. 1998. Intonation in Danish. In *Intonation Systems: A Survey of Twenty Languages*, ed. by Daniel Hirst and Albert Di Cristo, 131-151. Cambridge: Cambridge University Press.
- Gussenhoven, Carlos. 2004. *The Phonology of Tone and Intonation*. Cambridge: Cambridge University Press.
- Hellan, Lars. 2005. Comments on Erteschik-Shir's article. *Theoretical Linguistics* 31:137-145.
- Holmberg, Anders. 1986. Word order and syntactic features in the Scandinavian languages and English. PhD dissertation, University of Stockholm.
- Holmberg, Anders. 1999. Remarks on Holmberg's Generalization. *Studia Linguistica* 53:1-39.
- Holmberg, Anders. 2005. Linearization in two ways. Published in *Theoretical Linguistics* 31.
- Holmberg, Anders, and Christer Platzack. 1995. *The Role of Inflection in Scandinavian Syntax*. Oxford: Oxford University Press.
- Hosono, Mayumi. 2006. An investigation of Object Shift based on information structure. Published in *The NELS 36 Proceedings*.
- Josefsson, Gunlög. 2003. Four myths about Object Shift in Swedish – and the Truth.... In *Grammar in Focus: Festschrift for Christer Platzack 18 November 2003 Volume 1*, ed. by Lars-Olof Delsing, Cecilia Falk, Gunlög Josefsson, and Halldór Á. Sigurðsson, 199-207. Department of Scandinavian Languages, Lund University.
- Kiss, Katalin É. 1998. Identification Focus Versus Information Focus. *Language* Vol.74, No.2:245-273.



- Kristoffersen, Gjert. 2000. *The Phonology of Norwegian*. Oxford: Oxford University Press.
- Kristoffersen, Gjert. 2007. Dialect variation in East Norwegian tone. In *Tones and Tunes Volume 1: Typological Studies in Word and Sentence Prosody*, ed. by Tomas Riad and Carlos Gussenhoven, 91-111. Berlin: Mouton de Gruyter.
- Lahiri, Aditi, Tomas Riad, and Haike Jacobs. 1999. Diacronic prosody. In *Word Prosodic Systems in the Languages of Europe*, ed. by Harry van der Hulst, 335-422. Berlin: Mouton de Gruyter.
- Lambrecht, Knud. 1994. *Information Structure and Sentence Form: Topic, Focus, and the Mental Representations of Discourse Referents*. Cambridge: Cambridge University Press.
- Odden, David. 2007. The unnatural tonology of Zina Kotoko. In *Tones and Tunes Volume 1 : Typological Studies in Word and Sentence Prosody*, ed. By Tomas Riad and Carlos Gussenhoven, 63-89. Berlin : Mouton de Gruyter.
- Sells, Peter. 2001. *Structure, Alignment and Optimality in Swedish*. Stanford, Calif.: CSLI Publications.
- Thráinsson, Höskuldur. 2007. *The Syntax of Icelandic*. Cambridge: Cambridge University Press.
- Vikner, Sten. 2001. The Interpretation of Object Shift and Optimality Theory. In *Competition in Syntax*, ed. by Gereon Müller and Wolfgang Sternefeld, 321-340. Berlin: Mouton de Gruyter.
- Vilkuna, Maria. 1995. Discourse Configurationality in Finnish. In *Discourse Configurational Languages*, ed. by Katalin É. Kiss, 244-268. Oxford: Oxford University Press.
- Vogel, Ralf. 2004. Weak Function Word Shift. ms, University of Potsdam.

## Appendix

### Test Sentences for Female Informants

- A. Köpte du boken? – Nej, jag köpte den inte.  
(Did you buy the book? – No, I didn't buy it.)
- A'. Köpte du boken? – Nej, jag köpte inte den.  
(Did you buy the book? – No, I didn't buy it.)
- B. Har du sett filmen? – Nej, jag har inte sett den.  
(Have you seen the movie? – No, I haven't seen it.)

From C~F:

Please imagine that Jan is the boyfriend of the first speaker and she asks a female friend:

- C. Såg du Jan? – Nej, jag såg honom inte.  
(Did you see Jan? – No, I didn't see him.)
- C'. Såg du Jan? – Nej, jag såg inte honom.  
(Did you see Jan? – No, I didn't see him.)
- D. Kysste du Jan?  
– Nej, jag kysste inte honom. Men jag kysste Johan.  
(Did you kiss Jan? – No, I didn't kiss him. But I kissed Johan.)

E. Har du kysst Jan?

– Kysst har jag honom inte. Men jag har hållit honom i handen.

(Have you kissed Jan? – I didn't KISS him. But I have held him by the hand.)

F. (Imagine the following conversation continues right after E above.)

Vad sa du? – Jag sa att jag inte kysste honom.

(What did you say? – I said that I didn't kiss him.)

#### Test Sentences for Male Informants

A. Köpte du boken? – Nej, jag köpte den inte.

(Did you buy the book? – No, I didn't buy it.)

A'. Köpte du boken? – Nej, jag köpte inte den.

(Did you buy the book? – No, I didn't buy it.)

B. Har du sett filmen? – Nej, jag har inte sett den.

(Have you seen the movie? – No, I haven't seen it.)

From C~F :

Please imagine that Anna is the girlfriend of the first speaker and he asks a male friend:

- C. Såg du Anna? – Nej, jag såg henne inte.  
(Did you see Anna? – No, I didn't see her.)
- C'. Såg du Anna? – Nej, jag såg inte henne.  
(Did you see Anna? – No, I didn't see her.)
- D. Kysste du Anna?  
– Nej, jag kysste inte henne. Men jag kysste Lena.  
(Did you kiss Anna? – No, I didn't kiss her. But I kissed Lena.)
- E. Har du kysst Anna?  
– Kysst har jag henne inte. Men jag har hållit henne i handen.  
(Have you kissed Anna? – I didn't KISS her. But I have held her by the hand.)
- F. (Imagine the following conversation continues right after E above.)  
  
Vad sa du? – Jag sa att jag inte kysste henne.  
(What did you say? – I said that I didn't kiss her.)