

Scandinavian Object Shift as the cause of downstep

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Abstract

I discuss Scandinavian Object Shift, one of the most controversial issues in generative syntax (Chomsky 2001), from the intonational perspectives of the Scandinavian languages, mainly Stockholm Swedish (Bruce 1977). I show that the F0 on the sentential element(s) that follow a main verb is lower than the F0 on the main verb in the Object Shift construction. I propose a new hypothesis on Object Shift: an object pronoun moves to cause downstep. I provide an account of Holmberg's Generalization (Holmberg, 1986) as follows: when main verb movement takes place, an object pronoun moves and causes downstep to eliminate a focal effect on the sentential element(s) located after a main verb. In the environments where downstep does not occur, e.g. in complex tense forms where the pitch must rise towards a focused sentential element, OS does not occur either. I suggest an important theoretical consequence of this work: contrary to the traditional model of the "interpretive" phonology in generative grammar, phonology does affect syntax.

1. Introduction

One of the most controversial issues in generative syntax is *Scandinavian Object Shift* (OS) (Holmberg, 1986)¹. In the Scandinavian languages, a full NP object follows a sentential adverb like the negation in the unmarked case (1a). However, a weak, unstressed object pronoun can move and precede a sentential adverb (1b).

- (1) a. Jag kysste inte Marit. [Swe.]
I kissed not Marit
'I didn't kiss Marit.'
- b. Jag målade den inte.
I painted it not
'I didn't paint it.'

There is a condition under which an object pronoun can move. A main verb moves to the second position in simple tense forms (2a). An object pronoun can move too. OS is obligatory in some of the Scandinavian varieties but optional in others. In complex tense forms (2b), however, a (past participle) main verb does not move due to the presence of the Aux(iliary verb). An object pronoun cannot

¹ In this work, the terminology *Object Shift* is used to refer to weak pronoun shift and/or cliticisation only. In the following discussion, I deal with only the unmarked cases.

move and follow the Aux directly. This fact is called *Holmberg's Generalization* (Holmberg, 1986): OS can occur only when main verb movement takes place.

- (2) a. Jag målade <^{OK}den> inte målade <^{OK}den>. [Swe.]
 I painted it not it
 'I didn't paint it.'
- b. Jag har <*den> inte målat <^{OK}den>.
 I have it not painted it
 'I haven't painted it.'

Despite much literature on OS (especially Chomsky, 2001, among others), no decisive account of Holmberg's Generalization has been provided yet.

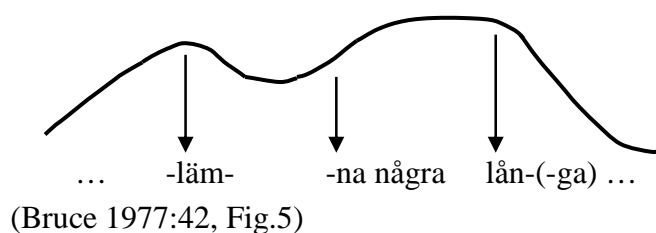
In this paper, I aim to shed a new light on the issues on Scandinavian OS by discussing the intonational properties of the Scandinavian languages, mainly Stockholm Swedish. On the basis of experimental data of the constructions relevant to OS, I propose a new hypothesis on OS and provide an account of Holmberg's Generalization. Section 2 introduces the Stockholm Swedish model (Bruce, 1977), and Section 3 the experiment conducted to observe the intonational properties of the constructions relevant to OS. In section 4, I give a prediction regarding the pitch contours of the OS construction, and then present experimental data. I show that against the prediction, the F0 on the sentential element(s) that follow a main verb is lower than the F0 on the main verb in the OS construction. In section 5, I propose a new hypothesis on OS: an object pronoun moves to cause downstep. Holmberg's Generalization is accounted for as follows: when main verb movement takes place, an object pronoun moves and causes downstep to eliminate a focal effect on the sentential element(s) located after a main verb. In the environments where downstep does not occur, e.g. in complex tense forms where the pitch must rise towards a focused sentential element, OS does not occur either. In section 6, I present an important theoretical consequence of this work: contrary to the traditional "interpretive" model of phonology in generative grammar, phonology does affect syntax.

2. The Stockholm Swedish Model (Bruce 1977)

Most of the Swedish dialects maintain a distinction in word accents: accent 1 and accent 2. In Stockholm Swedish, an accent is associated with L for accent 1, which is represented as HL*. For accent 2, an accent is associated with H, which is represented as H*L.

In Swedish, the focus of a sentence is realized by a focal H tone, i.e. a focal H contour (Bruce, 1977). It is added to the H pitch gesture of a primary stressed syllable of a focused word in Stockholm Swedish. It may contain some unstressed syllable(s) or even word(s). When the next stressed syllable is the primary stressed syllable of an accent 2 word, the focal H contains that syllable too and the pitch peak comes on it. This is illustrated in (3). *Lämna* “leave” and *långa* “long” are accent 2 words. *Några* “some” between them is unaccented. The main verb is contrastively focused in this case². A focal accent is located on the first syllable *läm-* of the main verb, where pitch falls. The focal H starts from its second syllable *-na*. It contains an unaccented sentential element *några* and the first syllable of the adjective *lån-*, the latter of which has the pitch peak. Then the pitch falls and keeps a low level until sentence-final position.

- (3) Man vill LÄMNA några långa nunnor. [Swe.]
 man wants leave some long nuns
 ‘One wants to leave some tall nuns.’



3. Experiment

I introduce the experiment to observe the intonational properties of the constructions relevant to OS. A target test sentence contains either a monosyllabic (e.g. *den* “it”) or disyllabic (e.g. *honom* “him”) object pronoun³. On the basis of the literature on information structure (Lambrecht, 1994; Vilkuna, 1995), appropriate contexts were built with a question and the answer, the latter of which corresponds to each relevant construction: e.g. polarity-focus: *målade du väggen?* (painted you the-wall ‘did you paint the wall?’) – *nej, jag målade den inte* (no I painted it not ‘no, I didn’t paint it’)⁴.

2 Hereafter, in the notations of examples, I use capital letters for sentential elements that are interpreted as “contrastive focus”, and lower case letters for those that are “focused” in the unmarked case.

3 In this paper, I only present the results of monosyllabic object pronouns due to the space limit.

4 The contexts of the data presented in this paper are all polarity-focus.

The data have been collected from three female and five male speakers for Stockholm Swedish. They were asked to read each question-answer pair in an appropriately rapid speech as if they were speaking in a real-life conversation. The test sentences were presented to the informants as a five-page booklet, in which the same sentences appeared in a different random order on each page: each sentence was recorded five times. The informants were asked to read all test sentences even if they felt some of them were odd, and to report their native speaker judgments in a separate questionnaire. The age of the informants ranges from the 20s to the 60s. The total number of collected tokens of question-answer pairs amounts to more than 480⁵.

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

4.1. The prediction regarding the Object Shift construction

I present a pitch contour of the OS construction predicted from the Stockholm Swedish Model introduced in Section 2. According to the literature on information structure (e.g. Lambrecht, 1994), a sentence must have one and only one information focus; there are no sentences that do not have a focus. The literature (e.g. Vilkuna, 1995) also confirm that cross-linguistically, the focus of a sentence is carried by a (main) verb both in (contrastive) verb-focus and polarity-focus. Hence, quite a natural assumption is that the main verb carries the focus of the OS construction, i.e. the focus of the answer sentence in the context of ‘did you paint the wall? – no, I didn’t paint it’.

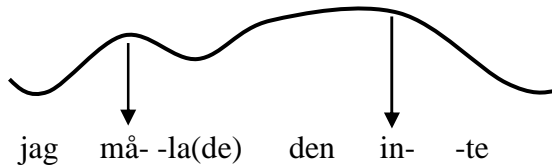
The prediction is that a focal H contour would occur after an accent 2 main verb in Stockholm Swedish. This is illustrated in (4). After the pitch falls on the first syllable *må-* of the main verb, the focal H contour should start from its second syllable *-la(de)*⁶. It should contain a shifted weak pronominal object. The negation is an accent 2 word; thus, the next accentable syllable is its first sylla-

5 The same method of experiment applies to all the Scandinavian languages/dialects investigated in my entire project ‘Object Shift in the Scandinavian Languages’: Swedish (East, West, North, South, Finland-Swedish, Dalecarlian, and Övdalian); Norwegian (East and West); Danish (East and South); Icelandic; and Faroese. The total number of data of test sentences amounts to more than 2500.

6 The final syllable *-de* of the main verb is dropped in almost all cases. Thus hereafter, I notate it by attaching it in the brackets to the second syllable as in *-la(de)*.

ble *in-*. The focal H should contain that syllable, on which the pitch peak should also be located⁷.

- (4) Jag målade den inte. [Swe.]
 I painted it not
 ‘I didn’t paint it.’



4.2. The results of the experiment

Actual pitch contours of the constructions relevant to OS in Stockholm Swedish are presented below. First, the most typical pitch contour observed in simple tense forms is illustrated in Figure 1. Contrary to the prediction described above, the pitch does not rise after the primary stressed syllable *må-* of the main verb and continues to be low on a shifted object pronoun. The pitch does not rise on (the first syllable of) the negation either. Figure 1 shows that a predicted focal H contour typically does not occur after a main verb in simple tense forms.

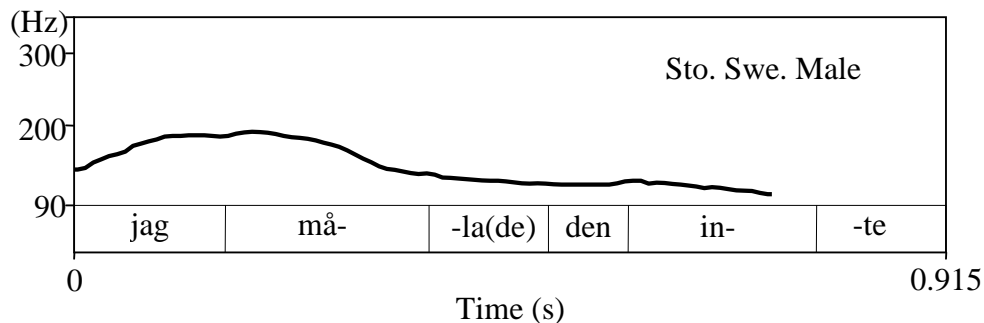


Figure 1: Pitch contour of simple tense forms: pattern 1.

Another pitch contour observed in several cases is presented in Figure 2⁸. The pitch rises from the second syllable *-la(de)* of the main verb and the pitch peak

7 Some of the audience at the conference suggested that it should not be predicted from the beginning that the focal H occurs in the OS construction: the main verb would only keep the (inherent) word accent due to its given status. However, a focal H should occur in any sentence for the information-structural reason stated above. The focal H in fact occurs even in an all-new sentence that does not contain an “obviously focused” element such as contrastive focus (Bruce 2007). I show below that a focal H can actually occur in the OS construction.

comes on the shifted object pronoun. After the pitch falls, it does not rise again on the first syllable *in-* of the negation. This data shows that a focal H contour can actually occur after the main verb in the OS construction. However, the pitch level on (the first syllable of) the negation located after the pitch peak on the shifted object pronoun is lower than the pitch level on (the primary stressed syllable of) the main verb.

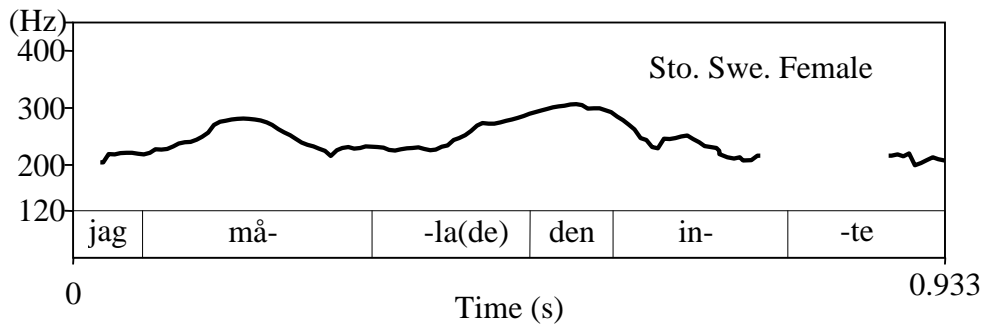


Figure 2: *Pitch contour of simple tense forms: pattern 2.*

These data show that contrary to the prediction, the F0 on the negation is always lower than the F0 on the main verb in simple tense forms, regardless of whether a focal H contour occurs or not.

Next, the pitch contour of complex tense forms is presented in Figure 3. The pitch peak comes on the first syllable *in-* of the negation in most cases⁹.

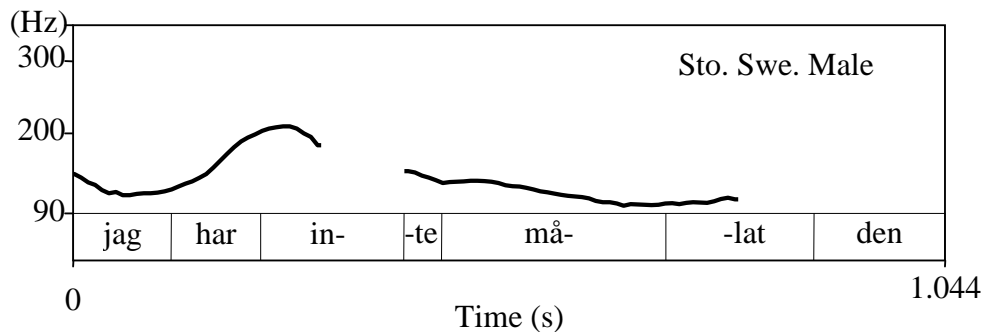


Figure 3: *Pitch contour of complex tense forms.*

The point here is that the pitch peak comes on a sentential element that is located “after” the element that cannot be directly followed by an object pronoun. Specifically in complex tense forms, the pitch peak (typically) comes on the ne-

8 This pitch contour is also found in some of the other Swedish varieties investigated.

9 The pitch peak can also come on the primary stressed syllable of a past participle main verb in some cases.

gation located after the Aux, which an object pronoun cannot follow directly. Compare with simple tense forms where the pitch peak comes on a main verb located “before” a shifted object pronoun.

5. Discussion and proposal

In the OS construction of simple tense forms illustrated in Figure 1, the F0 on the negation, which follows the shifted object pronoun, is lower than the F0 on the main verb. These data show that downstep occurs in the OS construction.

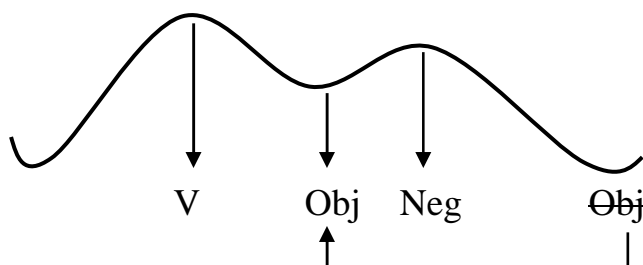
Downstep is caused by an L that intervenes two Hs in the typical case (Gussenhoven 2004). As we have seen, the pitch typically lowers on a shifted object pronoun located between a main verb and the negation. It is plausible that a (shifted) weak pronominal object inherently has an L¹⁰. As illustrated in Figure 2, a focal H contour can occur in the OS construction in some cases, and the pitch rises on a shifted object pronoun in it – in fact, the pitch peak comes on it. According to Odden (2007:103), the element that originally has an L can appear as a H in front of another H (*H-insertion*) and causes the downstep of that following H. This is illustrated by the second L in the following case: ◦ ◦ • ◦ (L-L-H-L) → ◦ ◦ ◦ (L-H-¹H (downstepped) -L).

In complex tense forms illustrated in Figure 3, on the other hand, the pitch peak comes on a sentential element located somewhere “after” the Aux *har*: downstep does not occur immediately after the Aux. An object pronoun cannot move and follow the Aux directly. This data shows that in the construction where downstep does not occur, OS does not occur either.

On the basis of all these arguments, I propose a new hypothesis on Scandinavian OS:

(5) Scandinavian Object Shift:

An object pronoun moves to cause downstep.



10 This claim is confirmed by the fact that the pitch always lowers, e.g. on reflexive pronouns.

The question is why downstep must be caused by movement of an object pronoun. According to the literature (e.g. Gussenhoven, 2004), the stressed syllable of an accent 2 word that composes the final part of a focal H contour creates an impression that that word itself is focused, since the last high pitch occurs on that stressed syllable. The negation *inte* is an accent 2 word. If (the first syllable *in-* of) the negation were contained in a focal H contour as its final part, it might sound as if the negation itself were focused. However, the focus of a sentence is carried by a main verb in the OS construction, as stated in Subsection 4.1. Hence, an object pronoun moves, causes downstep, and eliminates a focal effect on the negation. We also saw the case in which a focal H contour actually occurs in simple tense forms, as illustrated in Figure 2. Here too, the shifted object pronoun makes the F0 on the negation lower than the F0 on the main verb, by being a H and even the pitch peak.

In complex tense forms where OS does not occur (see Figure 3), however, the focus of a sentence is carried by a sentential element that follows the Aux, and the pitch peak is located on that sentential element. An object pronoun must not move and cause downstep immediately after the Aux, since the pitch must rise towards the pitch peak on the sentential element that is located after the Aux and carries the focus of the sentence.

Thus, the account of Holmberg's Generalization is provided as follows: When main verb movement takes place, an object pronoun moves and causes downstep to eliminate a focal effect on the sentential element(s) located after a main verb. In the environments where downstep does not occur, e.g. in complex tense forms where the pitch must rise towards a focused sentential element, OS does not occur either.

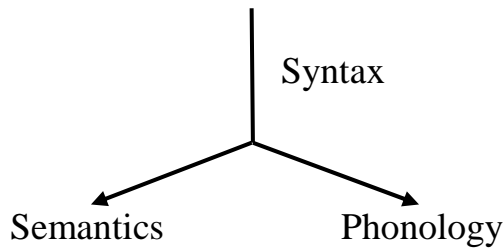
6. Conclusion and Theoretical Consequence

In this paper, I have discussed Scandinavian OS from the point of view of the intonational properties of the Scandinavian languages, mainly Stockholm Swedish. I have showed i) with experimental data of simple tense forms, that the F0 on the sentential element(s) that follow a main verb is lower than the F0 on the main verb in the OS construction, and ii) with experimental data of complex tense forms, that the pitch peak comes on a sentential element located somewhere after the Aux that cannot be directly followed by an object pronoun. I have proposed a new hypothesis on OS, 'an object pronoun moves to cause downstep', and provided an account of Holmberg's Generalization as follows: when main verb movement takes place, an object pronoun moves and causes downstep to eliminate a focal effect on the sentential element(s) located after a

main verb. In the environments where downstep does not occur, e.g. in complex tense forms where the pitch must rise towards a focused sentential element, OS does not occur either.

A very important theoretical consequence arises from the work here. We have the long-term tradition of the “interpretive” model of (semantics and) phonology in generative grammar:

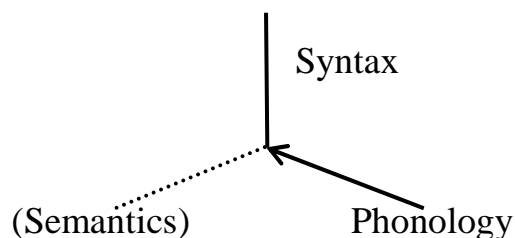
(6)



This model illustrates the idea that “syntax mediates semantics and phonology”. That is, some syntactic structure is first constructed in the syntactic component. That syntactic structure is sent to the semantic component and assigned an interpretation, on the one hand. It is also sent to the phonological component and assigned some sound properties, on the other hand.

However, the presence and absence of OS, i.e. the *syntactic* behaviour of an object pronoun, can be accounted for in a principled way in terms of *intonational* properties. Therefore, contrary to the traditional “interpretive” phonology, **PHONOLOGY DOES AFFECT SYNTAX**:

(7)



Acknowledgements

Many thanks to Gilbert Ambrazaitis, Elisabet Engdahl, Vincent van Heuven, Anders Holmberg, Merle Horne, Sara Myrberg, Christer Platzack, Tomas Riad, Johan Rooryck, and Eva Strangert for helpful advice and invaluable comments and suggestions. I also would like to thank the audience at the Nordic Prosody XI for their many helpful comments. I take all responsibility for the interpretation of recorded data and any errors. This work is supported by the SFB 632 “Information structure”, Potsdam University, Germany. I dedicate this work to the memory of Gösta Bruce. Without his great interest in and support for this work during my stay in Lund, autumn 2009, it could not appear.

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