

THE SEMANTICS OF NOUN PHRASE MOVEMENT<sup>1)</sup>

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Much work in transformational syntax has been tacitly founded upon the hypothesis that the meaning of a sentence is completely determinable from its deepest syntactic representation and the meanings of the lexical items present in this representation. However, in view of facts such as those presented by Jackendoff (1972) and Partee (1971) it seems safe to conclude that this hypothesis has been refuted. The neat separation of semantics and syntax proposed by Katz & Postal (1964) and Chomsky (1965) has proved to be too simplistic. Cases where the application of a certain transformation is dependent on semantic information, or, to put it in another way, where two transformationally related constructions are non-synonymous, has led to the formulation of more sophisticated ideas about the interaction of syntax and semantics, the two major ones being Lakoff's mechanism of global rules (Lakoff 1969 and 1970), whereby the dependence of a transformation on semantic information may be directly expressed, and Jackendoff's theory of semantic interpretation (Jackendoff 1972), where certain aspects of the meaning of a sentence are not determinable on the level of deep structure, but only on certain levels of derived structure.

It is thus clear that, in some sense, certain transformations "change meaning" (or rather, that certain aspects of the meaning of sentences are determined on the basis of the application or non-application of certain transformations). Transformations of this kind may be said to perform two operations simultaneously, they map a phrase marker into another phrase marker and they map a semantic representation into another semantic representation. In this paper I will suggest that there is a close correspondence between the change effected by the syntactic operation and the change effected by the semantic operation for a class of noun phrase movement transformations in Swedish. If such results can be established for other classes of transformations as well, we might uncover a principled way of predicting the meaning changes available for transformations belonging to a certain class.

1. Noun Phrase Movement in Swedish

In Swedish, transformations which exclusively move noun phrases always create derived subjects or objects.<sup>2)</sup>

Of these, PRESENTATION MOVEMENT, relating sentences like (1a) and (1b), PASSIVE, relating sentences like (2a) and (2b), and DATIVE MOVEMENT, relating sentences like (3a) and (3b), seem to be meaning-preserving.

- (1) a. En man sitter på stolen (A man sits on the chair)  
b. Det sitter en man på stolen (It sits a man on the chair = There is a man sitting on the chair)<sup>3)</sup>
- (2) a. John krossade spegeln (John broke the mirror)  
b. Spegeln krossades av John (The mirror was broken by John)
- (3) a. Han gav boken till henne (He gave the book to her)  
b. Han gav henne boken (He gave her the book)

In contrast to these transformations, the rules of RAISING, TOUGH MOVEMENT and NP-PP SHIFT are associated with differences in meaning. These will be analyzed in the rest of this paper.

It should be pointed out that the properties meaning-preserving and not meaning-preserving refer to effects directly associated with a certain transformation. Thus secondary effects, such as the reordering of quantifiers (as in (4)) or the interpretation of a subject-oriented adverb (as in (5)) has no bearing on the question of whether a transformation is meaning-preserving or not. These secondary effects are independent of the various transformations producing them.

- (4) a. Many men read few books  
b. Few books are read by many men
- (5) a. John intentionally has seduced Marsha  
b. Marsha intentionally has been seduced by John

2. Raising

RAISING is the process whereby a complement subject is made into a constituent of the matrix clause.<sup>4)</sup> With verbs like verka (seem), tyckas (appear) and förefalla (appear) the complement subject is made into matrix subject:

- (6) Det verkar som om han vore sjuk  $\Rightarrow$  Han verkar vara sjuk  
(It seems as if he were sick) (He seems (to) be sick)

With verbs of saying and thinking the complement subject is made into matrix indirect object, provided that it is coreferential to the matrix subject.

- (7) Han<sub>i</sub> säger att han<sub>i</sub> är sjuk  $\Rightarrow$  Han<sub>i</sub> säger sig<sub>i</sub> vara sjuk  
(He says that he is sick) (He says himself (to) be sick)  
Han<sub>i</sub> säger att han<sub>j</sub> är sjuk  $\Rightarrow$  <sup>+</sup>Han<sub>i</sub> säger honom<sub>j</sub> vara sjuk  
(He says him (to) be sick)

With the perceptual verbs se (see), höra (hear) and känna (feel) the complement subject is again made into matrix indirect object, though there is no coreference constraint involved in this case:

- (8) Pelle såg att Maja badade  $\Rightarrow$  Pelle såg Maja bada  
(Pelle saw that Maja took a bath) (Pelle saw Maja take a bath)

There seems to be no meaning difference associated with RAISING when applied to sentences with verbs of saying and thinking. As for RAISING with verka and tyckas, there is a subtle meaning difference between sentences like (9a) and (9b).

- (9) a. Han verkar vara sjuk  
b. Det verkar som om han är sjuk

The difference has to do with the evidence upon which the judgment that he is sick is based. If someone uses (9b), the evidence may be indirect, in that the man in question hasn't worked for several days, that he hasn't visited the places he usually visits, etc. However,

(9a) suggests that the judgment is based on direct observation of the man, interpreting his gloomy appearance as a sign of sickness. The two meanings may be quasi-formalized as in (10),<sup>5)</sup> where "SPEAKER" denotes the person uttering the sentence, " $X_1$ " the complement subject in (9b) (and matrix subject in (9a)), and where the meaning of verka is analyzed as a causal relation between an observation of the speaker and a belief of his.

- (10) a. CAUSE (OBSERVE (SPEAKER,  $X_1$ ), BELIEVE (SPEAKER, SICK ( $X_1$ )))  
(= 9a)  
b.  $\exists X$  (CAUSE (OBSERVE (SPEAKER, X), BELIEVE (SPEAKER, SICK ( $X_1$ ))))  
(= 9b)

The crucial part of the formulas is the object of OBSERVE. The indirect evidence character of (9b) is expressed by means of a bound variable, denoting some observation, not necessarily tied to  $X_1$ , while the direct evidence character of (9a) is expressed by letting the object of OBSERVE be the individual constant  $X_1$ .

The perceptual verbs se, höra and känna may occur with the following three types of complements:

- (11) a. NP \_\_\_ [ att S ]  
b. NP \_\_\_ [ hur S ]  
c. NP \_\_\_ NP VP

This is exemplified in (12).

- (12) a. Han såg att hon rodnade (He saw that she flushed)  
b. Han såg hur hon rodnade (He saw how she flushed)  
c. Han såg henne rodna (He saw her flush)  
  
d. Han hörde att hon skrek (He heard that she screamed)  
e. Han hörde hur hon skrek (He heard how she screamed)  
f. Han hörde henne skrika (He heard her scream)  
g. Han kände att hon darrade (He felt that she trembled)  
h. Han kände hur hon darrade (He felt how she trembled)  
i. Han kände henne darra (He felt her tremble)

The word hur (how) is ordinarily the interrogative proform for manner adverbials. In this context, however, it has no manner interpretation, but serves only as a complementizer. With se and höra the interrogative proform for time adverbials när (when) may be used in a similar way:

- (13) a. Jag såg när han gjorde det (I saw when he did it)  
b. Jag hörde när du kom (I heard when you came)

There seems to be little difference in meaning between (12b) and (13a) and between (12e) and (13b).

The hur-construction differs from the other two constructions in that the complement predicate must be a main verb:

- (14) a. Jag såg hur han tröttnade (I saw how he got-tired)  
b. <sup>+</sup>Jag såg hur han var trött (I saw how he was tired)  
c. Jag hörde hur han sjöng (I heard how he sang)  
d. <sup>+</sup>Jag hörde hur han var hes (I heard how he was hoarse)  
e. Jag kände hur jag frös (I felt how I froze)  
f. <sup>+</sup>Jag kände hur jag var frusen (I felt how I was frozen)

- (15) a. Jag såg att han var nykter (I saw that he was sober)  
b. Jag såg honom nykter (I saw him sober)  
c. Jag hörde att pianot var stämt (I heard that the piano was tuned)  
d. Har du någon gång hört det pianot stämt? (Have you ever heard that piano tuned?)  
e. Jag kände att jag var trött (I felt that I was tired)  
f. Jag kände mig trött (I felt myself tired = I felt tired)

With känna, there are additional restrictions.  $NP_1$  känna  $NP_2$  ADJ is possible only if  $NP_1$  and  $NP_2$  are coreferential:

- (16) a. Jag kände mig trött (I felt myself tired = I felt tired)  
b. <sup>+</sup>Jag kände henne trött (I felt her tired)

Moreover, NP<sub>1</sub> känna NP<sub>2</sub> V is possible only if NP<sub>1</sub> and NP<sub>2</sub> are not coreferential:

- (17) a. Han kände henne darra (He felt her tremble)  
b. <sup>+</sup>Han kände sig darra (He felt himself tremble)

All the constructions in (11) have slightly different meanings. The differences are summarized in (18) (AC = att-construction, HC = hur-construction, OIC = object-with-infinitive construction):

- (18) (i) Only AC allows the time reference of the complement to be distinct from the time reference of the matrix

- (ii) OIC requires that the experiencer (the referent of the subject of se, höra and känna) directly perceived the referent of the complement subject.

(18(i)) may be illustrated by the following sentences:

- (19) a. Han såg att den hade legat i (He saw that it had been in  
vattnet the water)  
b. <sup>+</sup>Han såg hur den hade legat i  
vattnet  
c. <sup>+</sup>Han såg den ha legat i vattnet  
d. Han kände att den hade legat  
i vattnet  
e. <sup>+</sup>Han kände hur den hade legat  
i vattnet  
f. <sup>+</sup>Han kände den ha legat i  
vattnet  
g. Han hörde att hon hade för- (He heard that she had  
stört rösten destroyed her voice)  
h. <sup>+</sup>Han hörde hur hon hade för-  
stört rösten  
i. <sup>+</sup>Han hörde henne ha förstört  
rösten

Generally, OIC is much worse than HC in such cases.

(18(ii)) may be illustrated by the following sentences:

- (20) a. Jag såg att tanken plågade honom (I saw that the thought  
tormented him)  
b. Jag såg hur tanken plågade honom  
c. <sup>+</sup>Jag såg tanken plåga honom  
d. Jag kände att tiden flög iväg (I felt that time flew away)  
e. Jag kände hur tiden flög iväg  
f. <sup>+</sup>Jag kände tiden flyga iväg  
g. Jag hörde att hans envishet gick (I heard that his stubborn-  
dem på nerverna ness got on their nerves)  
h. Jag hörde hur hans envishet gick  
dem på nerverna  
i. <sup>+</sup>Jag hörde hans envishet gå dem på  
nerverna

(20c), (20f) and (20i) are ill-formed <sup>6)</sup>, since thoughts are not visible, time is impossible to touch, and stubbornness is not audible. In these cases, HC is not as good as AC.

The sentences in (20) illustrate the general point that AC (and to a lesser extent HC) need not imply direct perception of the situation described by the complement. That this situation is the case might be inferred from the perception of some of its characteristic features or effects.

We might then propose the following semantic representations, where "X<sub>e</sub>" is the experiencer, "X<sub>p</sub>" the referent of the complement subject, "t" and "t'" variables over time intervals, and where the meaning of perceptual verbs is represented as "to come to know something by perceiving something":

(21) a. AC:

$\exists X \exists t \exists t'$  (BY (COME ABOUT (KNOW ( $X_e$ ,  $P(X_p, t')$ ))),  
PERCEIVE ( $X_e$ ,  $X$ ,  $t$ )))

(= There is some  $X$  such that  $X_e$  came to know  $X_p$  was involved in  
 $P$  at  $t_2$  by  $X_e$ 's perceiving of  $X$  at  $t_1$ )

b. HC:

$\exists X \exists t$  (BY (COME ABOUT (KNOW ( $X_e$ ,  $P(X_p, t)$ ))),  
PERCEIVE ( $X_e$ ,  $X$ ,  $t$ )))

(= There is some  $X$  such that  $X_e$  came to know that  $X_p$  was  
involved in  $P$  at  $t_1$  by  $X_e$ 's perceiving of  $X$  at  $t_1$ )

c. OIC:

$\exists t$  (BY (COME ABOUT (KNOW ( $X_e$ ,  $P(X_p, t)$ ), PERCEIVE ( $X_e$ ,  $X_p$ ,  $t$ )))

(=  $X_e$  came to know that  $X_p$  was involved in  $P$  at  $t_1$  by  
 $X_e$ 's perceiving of  $X_p$  at  $t_1$ )

By including two time variables in (21a), but only one in (21b) and (21c), the possibility of distinct time references in AC, but not in HC or in OIC, is expressed. Moreover, by identifying the object of PERCEIVE with  $X_p$  in (21c), but not in (21a) and (21b), the distinction between direct and indirect perception is captured.



3. Tough Movement

TOUGH MOVEMENT moves complement objects into matrix subject position with a class of "manner adjectives" such as lätt (easy), svår (difficult), möjlig (possible), fruktansvärd (terrible) etc. <sup>7)</sup> Thus, TOUGH MOVEMENT relates sentences like (22a) and (22b).

- (22) a. Det var svårt att öppna dörren (It was difficult to open the door)
- b. Dörren var svår att öppna (The door was difficult to open)

There is a meaning difference associated with TOUGH MOVEMENT, which can be seen from sentences like the following:

- (23) a. Det var skönt att ligga i sängen; även om sängen inte var speciellt skön att ligga i (It was nice to lie in the bed, though the bed was not particularly nice to lie in)
- b. Det var svårt att följa argumentet, även fast argumentet i sig inte var speciellt svårt att följa (It was difficult to follow the argument, even though the argument in itself wasn't particularly difficult to follow)

If the transformationally related constructions were synonymous, the sentences in (23) should be contradictory, which they aren't.

The difference seems to be that NP<sub>1</sub> ADJ att V suggests that ADJ (V NP<sub>1</sub>) is due to some property of NP<sub>1</sub>, while det ADJ att V NP<sub>1</sub> only means that ADJ (V NP<sub>1</sub>) was the case. This would explain the sentences in (23). Though it might be hard to follow an argument, this isn't necessarily due to some property of the argument, but may be a consequence of the way the argument is presented. And while it might be nice to lie in a bed, it isn't necessarily the case that the bed is comfortable. The person may be so exhausted that any bed will do.

This difference may be represented as in (24), where the variable "X" represents the implicit reason for the difficulty, the variable "Y" the experiencer of the difficulty (unspecified in (22)), and where "X<sub>1</sub>" is the referent of the complement object in (22a) (and the matrix subject in (22b)).

- (24) a.  $\exists X \exists Y$  (MAKE (X, DIFFICULT (OPEN (Y, X<sub>1</sub>), Y))) (22a)
- b.  $\exists Y$  (MAKE (X<sub>1</sub>, DIFFICULT (OPEN (Y, X<sub>1</sub>), Y))) (22b)

4. NP-PP shift

NP-PP SHIFT<sup>8)</sup> relates pair of sentences like the following:

- (25) a. Han lastade hö på vagnen (He loaded hay on the wagon)  
b. Han lastade vagnen med hö (He loaded the wagon with hay)
- (26) a. Han fyllde vatten i bassängen (He filled water into the basin)  
Han fyllde bassängen med vatten (He filled the basin with water)

Through NP-PP SHIFT a noun phrase in a locative complement is moved to the position directly after the verb, while the original direct object is embedded within a prepositional phrase (normally with med (with) as head).

As Anderson (1971) has pointed out, there is a clear meaning difference between the a-sentences in (25) and (26) and the corresponding b-sentences. The former have a partitive interpretation, while the latter have a holistic interpretation (the terms are Anderson's). In (26b), for example, it is understood that the whole basin was filled with water, while no such inference is possible with (26a).

We might represent this difference in the following way, where " $X_a$ " is the referent of the subject, " $X_t$ " the referent of the direct object in (26a), " $X_1$ " the referent of the noun phrase in the locative complement, and where the meaning of fylla ... i is represented as "cause to become containing":

- (27) a.  $\exists X$  (CAUSE ( $X_a$ , BECOME (CONTAIN ( $X$ ,  $X_t$ )))) (26a)  
 $X \in X_1$   
(=There is some part of  $X_1$  such that  $X_a$  caused it to become the case that it contained  $X_t$ )
- b. CAUSE ( $X_a$ , BECOME (CONTAIN ( $X_1$ ,  $X_t$ ))) (26b)  
(= $X_a$  caused it to become the case that  $X_1$  contained  $X_t$ )

5. Generalizing the Differences

If we inspect the semantic representations in (10), (21), (24) and (27) we note a striking similarity. In each case, the semantic representation of the derived construction can be obtained by substituting the referent of the moved noun phrase for some unspecified entity in the semantic representation of the basic construction. Thus, in (10) we postulated an unspecified entity corresponding to the evidence for believing that the situation described by the complement was the case, and the change in the semantic representation associated with RAISING was the substituting of the referent of the moved noun phrase for this unspecified entity. The same holds for the other cases, where we postulated an unspecified entity corresponding to the perceived object (21), to the reason for the manner in which a certain action was carried out (24), and to a part of the container of a certain stuff (27).

We might then formulate the following principle:

- (28) If T is noun phrase movement transformation and T has applied to a noun phrase  $NP_1$  in the course of the derivation of a sentence  $S_1$ , the derived semantic representation of  $S_1$  can be formed by substituting the referent of  $NP_1$  for some variable in the basic semantic representation of  $S_1$ .

This principle, however, is not quite correct as it stands. In (24a), for example, there are two variables. Yet,  $X_1$  is substituted for X, never for Y. That this should be the case does not follow from principle (28). It seems that we need some additional principle.

Noting that the relevant variables in the semantic representations proposed generally are semantic arguments of the verbs or adjectives which govern the transformations, but not syntactic arguments (there is no "slot" in subcategorization frame of the verbs and adjectives which these variables may fill), we might change the locution "for some variable" in (28) to the one in (29).

- (29) for some variable, which semantically is an argument to the verb or adjective governing the application of T, but corresponds to no syntactic entity for which this verb or adjective is syntactically subcategorized. 9)

The general effect of the semantic operation of substitution associated with the syntactic operation of noun phrase movement is that the meaning is made more specific, in that the referent of the moved phrase comes to play one more semantic rôle. This effect is comparable to the one which the addition of optional adverbials have on the same representation of a sentence. Sentence (29) expresses an action, which clearly must be located in time and space. However, the exact location is left unspecified. In (30), it is made explicit, and the semantic representation of (30) is consequently more specific than the semantic representation of (29).

- (29)        John caught the thief  
(30)        Yesterday, John caught the thief in Reno

The difference between this example and the ones analyzed here is that the specification is carried out by means of an element already present in the less specific semantic representation. The moved noun phrase thus come to play two different rôles in the semantic representation, beside the two rôles (or more) it plays in the syntactic representation of the sentence, the syntactic derivation (as deep complement subject and surface matrix object, for example).

The formulation in (28) rests on two assumptions: that the constructions described really are transformationally related in the way I have described, and that the representation of the meaning differences are at least approximately correct. Both of these assumptions may be questioned. Thus, Anderson (1971) has argued that there is no such transformation as NP-PP SHIFT and that the constructions supposedly related by this transformation both are base-derived, Chomsky (1973) has argued that there is no rule which makes complement subjects into matrix objects, and a reanalysis of the TOUGH MOVEMENT cases as some sort of complement object deletion (The door was tough to open being derived from [The door was tough for  $\Delta$  [ $\Delta$  open the door]]) has occasionally been hinted at.<sup>10)</sup> Likewise, it may be argued that the variables postulated in the semantic representations cannot be independently motivated.<sup>11)</sup> But, as far as I see, these (possible) objections concern only the formulation of the correspondence that I have tried to isolate. In one way or another, the constructions

supposedly related by RAISING, TOUGH MOVEMENT and NP-PP SHIFT must be related in a grammar of Swedish, if not terms of transformations, maybe in terms of subcategorization frames available for natural semantic classes of verbs or adjectives. Likewise the semantic relation of specification in terms of the positionally alternating noun phrase might be formulated in another way, but this does not affect the claim that there is such a relation.

Thus, the syntactic relation and the semantic relation which are associated through principle (28) (with the revision in (29)) may not have received their adequate formulations <sup>12)</sup>, but it seems clear that those relations form part of the grammar of Swedish and that there is a significant connection between them.

Footnotes

- 1) This paper is a considerably revised version of a paper given at the KVAL Sea-borne Seminar on 'Homeosemi', October 1972 (Anward 1974). I would like to thank Kerstin Severinsson, Carl Wilhelm Welin and Sven Öhman for valuable discussions on this topic, particularly what regards the meaning of the perceptual verb constructions. Of course, they should not be blamed for anything I choose to claim.
- 2) Noun phrase movement transformations in Swedish will be discussed in some detail in my forthcoming dissertation.
- 3) The Swedish examples are accompanied by more or less literal English translations. When these become too un-English I also provide a more adapted translation.
- 4) A description of RAISING can be found in Kiparsky & Kiparsky (1970) and in Postal (in press). RAISING in Swedish has been extensively described in Ureland (1972, 1973a and 1973b).
- 5) The semantic representations in this paper are set up for the sole purpose of formulating the meaning differences associated with various transformations. They should not be regarded as anything but crude approximations to more adequate representations.
- 6) These sentences may of course be used metaphorically.
- 7) This rule was baptized in Postal (1971). For a detailed description, see Berman (1974 p.256-307).
- 8) This rule is discussed in Anderson (1971).
- 9) If it could be shown that the predicates governing PASSIVE, PRESENTATION MOVEMENT and DATIVE MOVEMENT do not require a variable of the kind specified in (29) in their semantic representations, we would have some principled motivation for the fact that these rules are meaning-preserving.
- 10) This proposal was mentioned in Partee (1971). For some discussion, see Postal & Ross (1971), Akmajian (1972) and Berman (1974).
- 11) In particular, the variables "X" in (10) and (24) are not too well-motivated. Interestingly, the meaning differences seem to be much weaker in these cases than in the other ones.
- 12) I suspect that a model of grammar, where syntactic operations simultaneously effect syntactic, semantic and phonological changes, would allow a much more adequate formulations of these relations and their connection. For a presentation of such a model, see Öhman (1974). Another model of this kind is Montague grammar (see Hamblin (1973) for an introduction).

References

- Akmajian A. 1972. Getting Tough. Linguistic Inquiry III, 373-376.
- Anderson S. 1971. On the Role of Deep Structure in Semantic Interpretation. Foundations of Language 7, 387-396.
- Anward J. 1974. Om semantisk snarlikhet mellan syntaktiska släktingar, in Karlgren (ed): Homeosemi, 11-42. Skriptor. Stockholm.
- Berman A. 1974. Adjectives and Adjective Complement Constructions in English. Formal Linguistics, Report No NSF-29 to the National Science Foundation. Harvard University, Cambridge, Mass.
- Chomsky N. 1965. Aspects of the Theory of Syntax. MIT Press, Cambridge, Mass.
- " 1973. Conditions on Transformations, in Anderson & Kiparsky (eds): A Festschrift for Morris Halle, 232-286. Holt, Rinehart & Winston. New York.
- Hall Partee B. 1971. On the Requirement that Transformations Preserve Meaning in Fillmore & Langendoen (eds): Studies in Linguistic Semantics, 1-21. Holt, Rinehart & Winston. New York.
- Hamblin C L. 1973. Questions in Montague English. Foundations of Language 10, 41-54.
- Jackendoff R S. 1972. Semantic Interpretation in Generative Grammar. MIT Press. Cambridge, Mass.
- Katz J, Postal P. 1964. An integrated Theory of Linguistic Descriptions. MIT Press. Cambridge, Mass.
- Kiparsky C, Kiparsky P. 1970. Fact, in Bierwisch & Heidolph (eds): Progress in Linguistics, Mouton. The Hague.
- Lakoff G. 1969. On Derivational Constraints, in Papers from the Fifth Regional Meeting of the Chicago Linguistic Society, 117-139. Chicago.
- " 1970. Global Rules. Language 46, 627-639.
- Postal P. 1971. Crossover Phenomena. Holt, Rinehart & Winston. New York.
- " forthcoming, On Raising. MIT Press. Cambridge, Mass.
- Postal P, Ross J R. 1971. Tough Movement Si, Tough Deletion No!. Linguistic Inquiry II, 544-546.
- Öhman S. 1974. Modelling Linguistic Interaction in terms of Lexical Operators: Preliminary Considerations, to be published in Dahlstedt (ed): Proceedings of the Second International Conference of Nordic and General Linguistics, Umeå, June 1973. Umeå.

- Ureland S. 1972. A Transformational Description of the Accusative-with-Infinitive Construction in Swedish, in Elert, Fries & Jonsson (eds): Svenskans Beskrivning 6. The Departments of Linguistics, Phonetics and Nordic Languages, University of Umeå, p. 220-252.
- " 1973a. Historical Change of Syntactic Domain in Swedish, in Hummelstedt (ed): Svenskans Beskrivning 7. Folkmålsstudier XXIII, 32-56. Turku.
- " 1973b. Verbal Complementation in Swedish and Other Germanic Languages. Skriptor. Stockholm.