

Verbal Particles and Results in Swedish and English

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1. Introduction

Germanic verbal particles such as *up* and *away* can be used to express results, as illustrated by the English example *John threw away the books* and the Swedish example in (1):

- (1) *Jörgen sparkade sönder stolen.*
J. kicked broken chair.the
'Jörgen kicked the chair broken.'

This paper examines the interaction between word order and resultative predication in Swedish and English. The paper is structured as follows. Section 2 discusses resultative predication. Section 3 introduces some new data concerning verbal particles and results in Swedish and English. Sections 4 and 5 present the structural representation of Swedish and English verbal particles. Finally, section 6 formalizes the analysis of resultative particles in Lexical-Functional Grammar (LFG; Kaplan and Bresnan 1982; Dalrymple et al. 1995; Bresnan 2001).

2. Resultatives

A prototypical resultative example is given in (2):

- (2) *The girl shot the snake dead.*

Swedish also has a resultative construction, much like the English one. Two Swedish resultative examples are given in (3):¹

- (3) a. ... *hon skulle måla allting vitt.*
she would paint everything white
'...she was going to paint everything white.' (PAR)
b. *Gertrud biter läpparna blodiga.*
G. bites lips.the bloody
'Gertrud bites her lips bloody.' (PAR)

1. The examples marked PAR are taken from the PAROLE corpus, available on-line at <http://spraakbanken.gu.se/lb/parole/>.

Throughout this paper, I do not make a distinction between resultative locations and resultative states.

Secondary resultative predication has been claimed to be governed by the ‘Direct Object Restriction’ (DOR; Simpson 1983; Levin and Rappaport Hovav 1995), which states that a resultative phrase may be predicated only of a direct object, not a subject or an oblique complement.

Recent work has shown that there are counterexamples to the DOR (Wechsler 1997; see also Verspoor 1997; Rappaport Hovav and Levin 2001). It is possible for resultative predicates to be predicated of the subject, as shown by Wechsler’s examples in (4):

- (4) a. *The wise men followed the star out of Bethlehem.*
 b. *The sailors managed to catch a breeze and ride it clear of the rocks.*

These examples show that subject-predicated resultatives do exist, although they are rare.

3. Verbal particles and results

Let us now turn to verbal particles. As has been noted by many researchers, Swedish and English verb-particle constructions differ in word order:

- (5) **English:** *John threw (out) the garbage (out).*
 (6) **Swedish:** *John kastade (ut) soporna (*ut).*
 J. threw out garbage.the out

Based on examples like (5–6), it has been claimed that English particles can appear on either side of the direct object (Emonds, 1972; Jackendoff, 1973; Fraser, 1976; Svenonius, 1994; den Dikken, 1995, and others), whereas Swedish particles obligatorily precede the direct object (Taraldsen, 1983; Holmberg, 1986; Svenonius, 1994, and others). However, Toivonen (1999, 2001) argues that Swedish particles can precede the object only when the particle denotes an object-predicated result. If the particle denotes a subject-predicated result, it must follow the direct object. This is evidenced by the examples in (7):

- (7) a. *De vise männen följde (*tillbaka) stjärnan (tillbaka).*
 the wise men followed back star.the back
 ‘The wise men followed the star back.’
 b. *Peter tog ner hissen. (object-predicated)*
 P. took down elevator.the
 ‘Peter took down the elevator.’

- c. *Peter tog hissen ner.* (subject-predicated)
 P. took elevator.the down
 ‘Peter took the elevator down.’
- d. #*Susanna tog hem stigen.* (object-predicated)
 S. took home path.the
 ‘Susanna took home the path.’
- e. *Susanna tog stigen hem.* (subject-predicated)
 S. took path.the home
 ‘Susanna took the path home.’

Example (7a) is a paraphrase of one of Wechsler’s examples. An object-predicated reading is not possible, and the particle *tillbaka* must follow the direct object. In (7b–e), the interpretation of the sentence is dependent on the word order: if the particle precedes the object, object-predication is enforced, otherwise, the particle is interpreted as being predicated of the subject. (7d–e) are both possible, although (7d) has the odd reading under which someone named *Susanna* physically moves a path from one location to another (the particle is object-predicated).

Surprisingly, English is very similar to Swedish with respect to particle ordering, although the positioning of English particles has been claimed to be governed by optionality.² Consider the following English examples:

- (8) a. *The wise men followed the star back.* (subject-predicated)
 b. **The wise men followed back the star.*
 c. *Linda took home the bus.* (object-predicated)
 d. *Linda took the bus home.* (subject- or object-predicated)

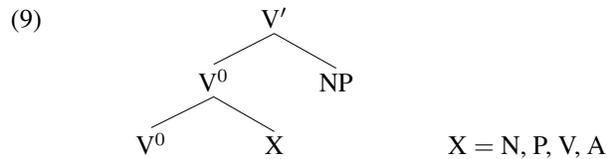
English and Swedish are similar in that pre-object particles can be predicated of the direct object only. However, the languages differ with respect to the post-object particle: In Swedish, the post-object particle must be predicated of the subject, whereas it can be predicated of either the subject or the object in English.

I will argue that the difference in interpretation between Swedish and English illustrated in (7–8) is related to a structural difference between the two languages. In the following two sections, I provide further data from both languages and present what I take to be the structural representation of particles in each language.

2. Prosodic and discourse factors are disregarded here, and so are differences between pronominal and non-pronominal objects; see Gries (1999, 2002) for discussion.

4. Swedish verbal particles

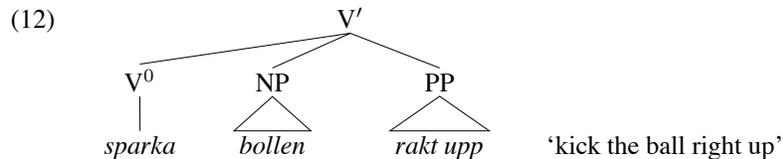
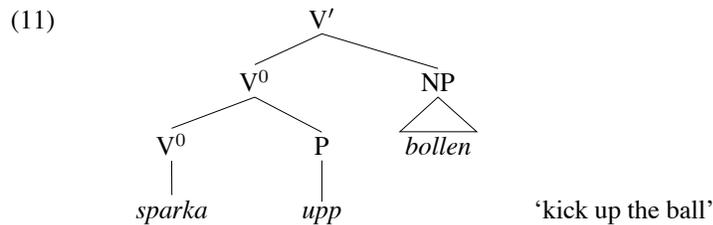
I assume that Swedish pre-object particles are non-projecting words that adjoin syntactically to V^0 , as shown in (9):³



Many verbal particles are prepositional, but there are also nominal, adjectival and verbal particles (Ejerhed 1978; Teleman et al. 1999; Toivonen 2001, and others).⁴ In my notation, an X is a word that does not project a phrase, an X^0 is a word that does project a phrase, and an $X^{(0)}$ is a phrase that optionally projects a phrase. The structure in (9) is allowed by the following phrase structure rules for Swedish:

- (10) a. $V^0 \rightarrow V^0 X$ (where $X=P, V, A, \text{ or } N$)
 b. $V' \rightarrow V^0 NP NP XP$

(11–12) illustrate the possible structural realizations of the particle *upp* ‘up’, which is optionally projecting ($P^{(0)}$):



3. Or it attaches under V^0 , as is the case when the tensed verb is outside of the VP in V2 clauses.

4. See also Booij 1990; Stiebels and Wunderlich 1994; Lüdeling 2001; Zeller 2001, who discuss Dutch and German, which are similar to Swedish in that they allow different syntactic categories to function as particles.

Swedish also has words that never project. The word *ihjäl* ‘to death’ is an example:

- (13) *Olle sparkade ihjäl ormen (*ihjäl).*
 O. kicked to.death snake.the to.death
 ‘Olle kicked the snake to death.’

Since *ihjäl* cannot project a phrase, it necessarily attaches to the verbal head, and thus cannot follow the object. There are of course also words which always project a phrase. An example is *blodig* ‘bloody’:

- (14) *Olle sparkade (*blodig) ormen (blodig).*
 O. kicked bloody snake.the bloody
 ‘Olle kicked the snake bloody.’

Since *blodig* necessarily projects a phrase, it cannot attach to the verbal head. It thus must follow the direct object.

4.1. Empirical motivation

This section provides data that motivates the analysis of Swedish verbal particles as non-projecting words adjoined to V^0 . Much of the data here (as well as additional data) are discussed in more detail in Toivonen (2001, 2002), and in works cited there.

As mentioned above, Swedish verbal particles usually immediately follow the verbal position within the VP.⁵ The normal word order is illustrated in (15):

- (15) a. *Sanna kastade inte [VP (verb) ut böckerna].*
 S. threw not out books.the
 ‘Sanna didn’t throw out the books.’
 b. *Sanna ville inte [VP kasta ut böckerna].*
 S. wanted not throw out books.the
 ‘Sanna didn’t want to throw out the books.’

In (15a), the verb is in second position and outside the VP. Nevertheless, the particle is attached to V^0 within the VP, and it appears before the direct object.

Optionally projecting words may have a modifier or complement. When they do, they must follow the object. This is exemplified with the optionally projecting words *dit* ‘there’ and *i* ‘in’ in (16):

5. An exception is when a particle is subject-predicated, as we have seen. In that case, it projects a phrase (section 6).

- (16) a. *Sanna kastade böckerna [ända dit].*
 S. threw books.the all.the.way there
 ‘Sanna threw the books all the way over there.’
- b. *Sanna kastade böckerna [i korgen].*
 S. threw books.the in basket.the
 ‘Sanna threw the books in the basket.’
- c. **Sanna kastade [ända dit/i korgen] böckerna.*
 S. threw all.the.way there/in basket.the books.the

Although *dit* and *i* can normally appear before the direct object, they must follow the object when they have a modifier or complement.

Whether a word projects or not must be lexically specified.⁶ This is evidenced by the fact that there are words which are very similar in meaning, and still differ with respect to where they appear. For example, the words *dit* and *där* both mean ‘there’. The word *dit* normally has a directional interpretation, whereas *där* does not. However, both are possible to use with verbs of placement, as we see in (17):

- (17) a. *Maria lade dit boken.*
 M. laid there book.the
 ‘Maria put the book there.’
- b. *Maria lade boken där.*
 M. put book.the there
 ‘Maria put the book there.’

Sentences (17a) and (17b) have the same meaning, yet the word order differs depending on whether *dit* or *där* is used. This is because *där* projects a phrase, whereas *dit* does not.

An alternative to defining the particles phrase structurally would be to classify them according to their meaning or function in the clause: ‘if a word has function/meaning X, it precedes the object’. This solution will not work, since the pre-object particles do not correspond to a single function or meaning. They can be resultative predicates (as we have seen above) or aspect markers, as shown in (18):

- (18) a. *Mannen pratade på*
 man.the talked on
 ‘The man talked on.’

6. See Zeller (2001); Stiebels and Wunderlich (1994) for a similar conclusion for German.

- b. *Petra drack upp vattnet.*
 P. drank up water.the
 ‘Petra drank up water.the

In addition to resultative and aspectual particles, there are also many particles that combine with the verb to form idiomatic verb-particle expressions.

When the verb is in V^0 , it forms a constituent with the particle to the exclusion of the direct object. Consider the topicalization examples in (19):

- (19) a. *Tappar humöret gör han bara om han inte får mat.*
 loses temper.the does he only if he not gets food
 ‘Lose his temper he only does if he doesn’t get food.’ (PAR)
- b. *Sköt gjorde hon alla fienderna.*
 shot she did all enemies.the
 ‘Shoot she did all the enemies.’
- c. *%Sköt ner gjorde hon [_{VP} alla fienderna].*
 shot down did she all enemies.the
 ‘Shoot down she did all the enemies.’
- d. **Sköt gjorde hon [_{VP} ner alla fienderna].*
 shot did she down all enemies.the

Examples (19a–b) shows that a verb can be topicalized with or without its complement. (19c–d) shows that a verb can be topicalized with but not without its particle.

Verb-particle combinations can also be coordinated with plain verbs as well as with other verb-particle combinations:

- (20) a. *... den kvinna som björnen slagit ner och dödat i dungen vid stranden.*
 the woman that bear.the beaten down and killed in the grove.the by beach.the
 ‘... the woman that the bear had beaten down and killed in the grove by the beach.’ (PAR)
- b. *Genomsnittstiden för att visa upp och auktionera ut ett objekt är en minut.*
 average.time.the for to show up and auction out an object is one minute.
 ‘The average time it takes to show and auction out an object is one minute. (PAR)

In sum, there is evidence that the particle forms a constituent with the verb to the exclusion of the object. It is important to note here that it is clear that

the verb and the particle are not morphologically combined. Consider the V2 example in (21):

- (21) *Jonas sparkade inte upp bollen.*
 J. kicked not up ball.the
 ‘Jonas didn’t kick up the ball.’

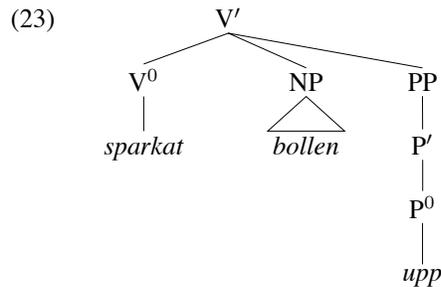
In (21), the verb is outside the VP. In this case, the particle is still attached to V^0 , but VP modifiers and negation words can appear between the verb and the particle.

4.2. Economy

A word like *upp* is optionally projecting. We have yet to explain what rules out an example like (22):

- (22) **Pelle har sparkat bollen upp.*
 P. has kicked ball.the up

Example (22) should be permitted with the structure in (23):



I assume that (23) is ruled out because of Economy: Non-projecting structures are more economical than projecting structures.

The specific version of Economy that I assume is given in (24):⁷

- (24) *Economy of Expression* (Toivonen, 2001, 69)
 All syntactic phrase structure nodes are optional and are not used unless required by X' -constraints or completeness.

Economy only holds over c-structures with identical f-structures, semantic interpretation, and lexical forms. (Toivonen, 2001, 68)

Economy ensures that an optionally projecting word only projects when projection is forced for independent reasons.

7. For other definitions of Economy, see Bresnan 2001; Grimshaw 1994, 2001; Chomsky 1991, 1994, 1995; Collins 1997; Bošković 1997, and others.

5. English particles

Recall that two word orders are possible in English:

- (25) a. *John threw out the garbage.*
 b. *John threw the garbage out.*

The Swedish version of (25b) would be ruled out by Economy. Economy is meant to be a general principle, so (25b) is a problem for the account developed so far.

The fact that Economy can rule out post-object particles in Swedish but not in English is explained by another difference between the two languages: The pre-object particle is morphologically attached to the verb in English but not in Swedish. There is plenty of evidence for this. As noted previously by McCawley (1988); Johnson (1991); Svenonius (1994); den Dikken (1995), and others, the verb and the pre-object particle can never be separated in English. Some of McCawley's examples are given in (26–27):

- (26) a. *John picked up the money and picked out a coin.*
 b. **John picked up the money and out a coin.*
- (27) a. **John picked, and Mary hoisted, up some heavy weights.*
 b. *John picked up, and Mary hoisted up, some heavy weights.*

The ungrammatical examples in (26–27) are grammatical in Swedish. Additional Swedish examples are given in (28):

- (28) a. *Han ville kasta in kläderna och ut skorna.*
 he wanted throw in clothes.the and out shoes.the
 'He wanted to throw the clothes in and the shoes out.'
- b. *Tokyo och Washington har således ett gemensamt*
 T. and W. have thus a common
intresse av att få upp dollarn och ner yenen.
 interest of to get up dollar.the and down yen.the
 'Tokyo and Washington thus have a common interest in getting the dollar up and the yen down.' (PAR)

We have made the following observations: (1) In Swedish, the pre-object particle and the verb form a constituent to the exclusion of the direct object. (2) There is a closer connection between the pre-object particle and the verb in English than in Swedish. (3) The verb and the pre-object particle are never separated in English. I conclude from this that the verb and the particle are *lexically* combined in English, and *syntactically* combined in Swedish.

Consider again the ‘optionality’ in (25). Since the verb and the particle are lexically combined in (25a) but not in (25b), the two sentences contain different lexical items and therefore do not compete under Economy.

6. Analyzing the data in LFG

In section 3, we identified a difference in interpretation in the verb-particle constructions in Swedish and English, and in sections 4–5, we identified a structural difference between the verb-particle combinations in the two languages. These generalizations will now be formalized in LFG, a framework which conveniently separates the level of c(onstituent)-structure from the level of f(unctional)-structure.

For both languages, I assume the simple lexical rule in (29):⁸

- (29) **Resultative rule – transitives:**
 ‘*verb_a*’ →
 ‘*verb_b*’ (↑ PRED)= ‘...<(↑ SUBJ)(↑ OBJ)(↑ XCOMP)>’
 (↑ XCOMP SUBJ)=(↑ CGF)

Pre-object particles are permitted by the following rule, which is a syntactic rule in Swedish and a morphological rule in English:⁹

- (30) $V^0 \rightarrow V^0 \quad X$
 ↑=↓ (↑ XCOMP)=↓
 (↑ XCOMP SUBJ)=(↑ OBJ)

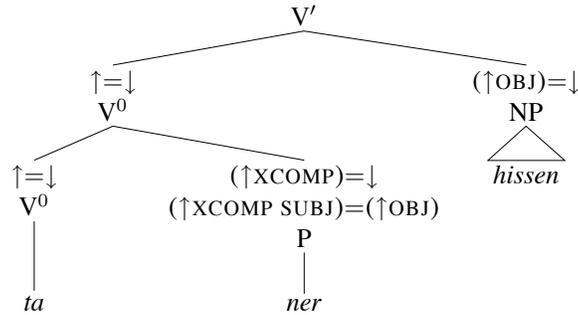
Note that the resultative rule in (29) allows the secondary predicate to be predicated of any core grammatical function, whereas the rule in (30) limits the secondary predicate to object predication. As a consequence, the pre-object particle must be predicated of the object (in both languages), whereas the post-object particle can be predicated of either the subject or the object.

Let us go through some examples to see how the rules in (29–30) get the desired results for Swedish and English. First consider an example like *ta ner hissen* ‘take down the elevator’:

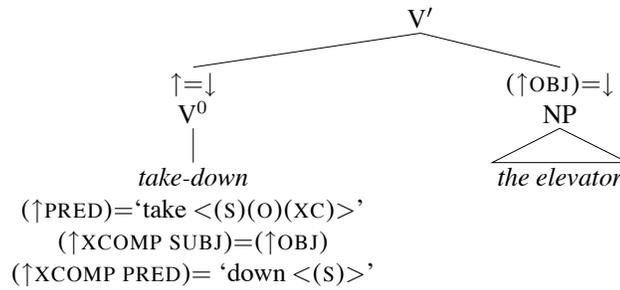
8. CGF stands for ‘core grammatical function’. The XCOMP function is a secondary predicate function.

9. The X in (30) can also be annotated ↑=↓ for the aspect markers.

(31) **Swedish:**

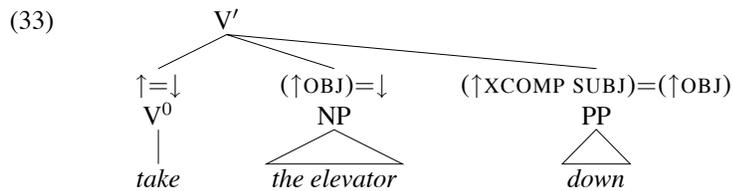


(32) **English:**



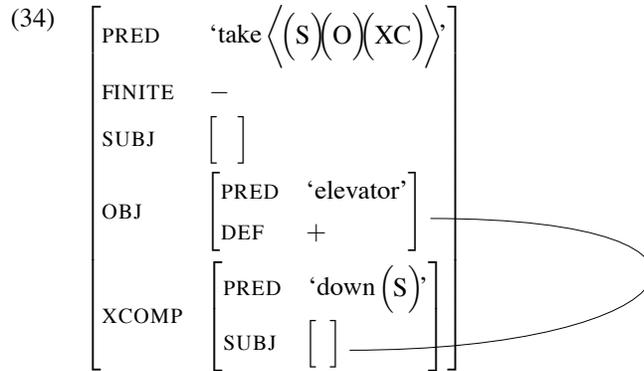
The structure is different in (31) and (32), but the word order and the interpretation is the same: The particle is necessarily predicated of the object.

Now consider (33), which is acceptable in English but not in Swedish:

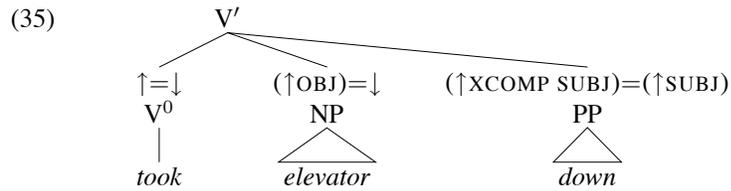


Economy rules out (33) in Swedish, since *ner* is optionally projecting.

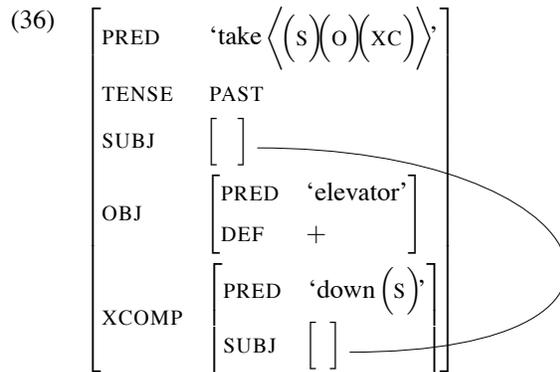
The structures in (31, 32) and (33) all have the same f-structure representation:



Finally, let us look at the possibility of subject-predication:



The c-structure in (35) is acceptable in both Swedish and English and yields the f-structure in (36):



Economy does not favor (31) over (35), since their f-structure representations are different.

7. Summary

This paper has shown that verbal particles are obligatorily object-predicated when they precede the object:

(37) Sarah took home the bus.

This is true in both English and Swedish. However, English and Swedish differ with respect to the interpretation of post-object particles:

(38) Sarah took the bus home.

In English, they are either subject- or object-predicated, whereas in Swedish, they are obligatorily subject-predicated (unless they are modified). Because of Economy, Swedish particles precede the object whenever possible; which is when the word is non-projecting and object-predicated. In English, pre-object particles are lexically attached to the verb, and Economy does not apply. In other words, the c-structural difference between Swedish and English accounts for the difference in interpretation of (38).

References

- Booij, Geert, 1990. The boundary between morphology and syntax: Separable complex verbs in dutch. In Geert Booij and Jaap van Marle, editors, *Yearbook of Morphology*, volume 3, pp. 45–63. Dordrecht, The Netherlands: Foris Publications.
- Bošković, Željko, 1997. *The Syntax of Nonfinite Complementation. An economy approach*. Cambridge, MA: MIT Press.
- Bresnan, Joan, 2001. *Lexical-Functional Syntax*. Oxford, UK: Blackwell Publishers.
- Chomsky, Noam, 1991. Some notes on economy of derivation and representation. In Robert Freidin, editor, *Principles and Parameters in Comparative Grammar*, pp. 417–454. Cambridge, MA: MIT Press.
- Chomsky, Noam, 1994. Bare phrase structure. In *MIT Occasional Papers in Linguistics* 5. Reprinted in Webelhuth 1995.
- Chomsky, Noam, 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Collins, Chris, 1997. *Local Economy*. Cambridge, MA: MIT Press.
- Dalrymple, Mary, Ronald M. Kaplan, John T. Maxwell III and Annie Zaenen, editors, 1995. *Formal Issues in Lexical-Functional Grammar*. Stanford, CA: CSLI Publications.
- Dehé, Nicole, Silke Urban, Andrew McIntyre and Ray Jackendoff, editors, 2002. *Explorations in Verb-Particle Constructions*. Berlin, Germany: Mouton de Gruyter.
- den Dikken, Marcel, 1995. *Particles. On the Syntax of Verb-Particle, Triadic, and Causative Construction*. Oxford, UK: Oxford University Press.
- Ejehed, Eva, 1978. Verb-partikel-konstruktionen i svenska: Syntaktiska och semantiska problem. *Svenskans beskrivning*, 11:49–64.
- Emonds, Joseph, 1972. Evidence that indirect object movement is a structure-preserving rule. *Foundations of Language*, 8:546–561.
- Fraser, Bruce, 1976. *The Verb-Particle Combination in English*. New York, NY: Academic Press.
- Gries, Stefan, 1999. Particle movement: A cognitive and functional approach. *Cognitive Linguistics*, 10(2):105–145.
- Gries, Stefan, 2002. The influence of processing on syntactic variation: Particle placement in english. In Dehé et al. (2002).
- Grimshaw, Jane, 1994. Minimal projection, heads and optimality. Unpublished manuscript, Rutgers University.

- Grimshaw, Jane, 2001. Economy of structure. Paper presented at The University of Leipzig, November 2001.
- Holmberg, Anders, 1986. *Word Order and Syntactic Features in the Scandinavian Languages and English*. Ph.D. thesis, Stockholm University, Stockholm, Sweden.
- Jackendoff, Ray, 1973. The base rules for prepositional phrases. In Stephen Anderson and Paul Kiparsky, editors, *A Festschrift for Morris Halle*, pp. 345–356. New York, NY: Holt, Rinehart and Winston.
- Johnson, Kyle, 1991. Object positions. *Natural Language and Linguistic Theory*, 9:577–636.
- Kaplan, Ronald M. and Joan Bresnan, 1982. Lexical-functional grammar: A formal system for grammatical representation. In Joan Bresnan, editor, *The Mental Representation of Grammatical Relations*, pp. 173–281. Cambridge, MA: MIT Press.
- Levin, Beth and Malka Rappaport Hovav, 1995. *Unaccusativity. At the syntax-lexical semantics interface*. Cambridge, MA: MIT Press.
- Lüdeling, Anke, 2001. *On Particle Verbs and Similar Constructions in German*. Stanford, CA: CSLI Publications.
- McCawley, James, 1988. *The Syntactic Phenomena of English*. Chicago, IL: University of Chicago Press.
- Rappaport Hovav, Malka and Beth Levin, 2001. An event structure account of english resultatives. *Language*, 77(4):766–797.
- Simpson, Jane, 1983. Resultatives. In Lori Levin, Malka Rappaport and Annie Zaenen, editors, *Papers in Lexical-Functional Grammar*, pp. 143–157. Bloomington, IN: Indiana University Club.
- Stiebels, Barbara and Dieter Wunderlich, 1994. Morphology feeds syntax. *Linguistics*, 36:1–39.
- Svenonius, Peter, 1994. *Dependent Nexus. Subordinate predication structures in English and the Scandinavian languages*. Ph.D. thesis, University of California at Santa Cruz, Santa Cruz, CA.
- Taraldsen, Knut Tarald, 1983. *Parametric Variation in Phrase Structure*. Ph.D. thesis, University of Tromsø, Tromsø, Norway.
- Teleman, Ulf, Staffan Hellberg and Erik Andersson, 1999. *Svenska Akademiens Grammatik*. Sweden: Norstedts.
- Toivonen, Ida, 1999. Swedish place expressions. In Pius Tamanji, Masako Hiroitani and Nancy Hall, editors, *Proceedings of the North East Linguistic Society 29*, pp. 367–379.
- Toivonen, Ida, 2001. *The Phrase Structure of Non-Projecting Words*. Ph.D. thesis, Stanford University, Stanford, CA.
- Toivonen, Ida, 2002. Swedish particles and syntactic projection. In Dehé et al. (2002).
- Verspoor, Cornelia Maria, 1997. *Contextually-Dependent Lexical Semantics*. Ph.D. thesis, University of Edinburgh, Edinburgh, UK.
- Webelhuth, Gert, editor, 1995. *Government and Binding Theory and the Minimalist Program*. Oxford, UK: Blackwell.
- Wechsler, Stephen, 1997. Resultative predicates and control. In *Texas Linguistics Forum 38*, pp. 307–321.
- Zeller, Jochen, 2001. *Particle Verbs and Local Domains*. The Netherlands: John Benjamins Publishing Company.