Review of *Non-Projecting Words*, by Ida Toivonen (2003, Kluwer)

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1 Overview This book is based on the author's 2001 Stanford University dissertation, but with the sort of thorough revision and improvement that befits a thesis-to-book transformation. In it, Toivonen has produced an exceptionally lucid document, one which I do not hesitate to recommend to students and colleagues alike; this is that rare volume which makes an important contribution to linguistic theory while being clearly enough presented to be highly accessible. The book furthermore strikes an exemplary balance between description and analysis; it is rich in clearly organized and insightfully presented data, but does not shy away from precise formalization.

The book concerns itself primarily with the Swedish verb-particle construction, one which is similar in many ways to the English verb-particle construction seen in such examples as *Jan ate up the cookies*. The chosen framework for the analysis is LFG, but Toivonen is at pains throughout to express her generalizations in theory-neutral terms and the work is generally quite free of technical jargon, so that the book is highly accessible to readers not familiar with LFG. The book usefully presents an ample amount of data, drawing extensively on a collected corpus of written Swedish, and Toivonen does not hesitate to construct minimal pairs and other illustrative examples where they are relevant.

In the next section I scrutinize Toivonen's analysis of the Swedish verb-particle construction more critically, in the third section I compare the Swedish construction to its English counterpart, and in the fourth section I examine the central theoretical innovation, that of non-projecting words.

*Thanks to Stan Dubinsky for inviting me to write this review article.

2 Toivonen's analysis of Swedish The Swedish verb-particle construction is reminiscent of the English one, with the important difference that if an object is present, it normally follows the particle. Thus, against the two options in English (1), Swedish has only the one option as indicated in (2) (cf. T's pp. 19–21).

(1) a. Simon threw in the garbage.
b. Simon threw the garbage in.

(2) a. Simon kastade in soporna.
Simon threw in the.garbage
'Simon threw in the garbage'
b. *Simon kastade soporna in.
Simon threw the.garbage in

Compare a construction in which a verb takes a direct object as well as a directional PP; in both languages, the object precedes the PP (barring the intonationally and informationally marked Heavy NP Shift phenomenon). Notice that Swedish distinguishes the particle *in* (as in (2)) from the preposition *i* (as in (4)).

(3) a. Simon threw the garbage in the trashcan.
b. *Simon threw in the trashcan the garbage.
c. *Simon threw in the garbage the trashcan.

(4) a. Simon kastade soporna i sopkorgen.
Simon threw the.garbage in the.trashcan
'Simon threw the garbage in the trashcan'
b. *Simon kastade i sopkorgen soporna.
Simon threw in the.trashcan the.garbage
c. *Simon kastade i soporna sopkorgen.
Simon threw in the.garbage the.trashcan

Toivonen's analysis of the verb-particle construction hinges on a central theoretical premise, namely that syntactic projection is a property of lexical items: lexical items can be lexically specified as non-projecting, optionally projecting, or obligatorily projecting (cf. pp. 1–10), in a way that has ramifications for the syntax. She takes note of similar proposals in previous work, such as those of Sag (1987) and Baltin (1989), and identifies differences between them and her proposal.[1]

[1]To my knowledge this idea was first developed in Muysken (1983) and Muysken and van Riemsdijk (1986), works which Toivonen mentions but does not discuss.

Toivonen proposes that a lexical item which obligatorily projects has a traditional triple-level $\overline{\text{X}}$ structure when found in a larger syntactic configuration, with XP and $\overline{\text{X}}$ projections, regardless of whether there are specifiers, complements, or modifiers, as schematized in (5a). A non-projecting lexical item appears in syntactic configurations without this dominating structure, and as a result cannot have specifiers, complements, or phrasal modifiers; Toivonen represents non-projecting items with a circumflex over the category symbol, as suggested in (5b).

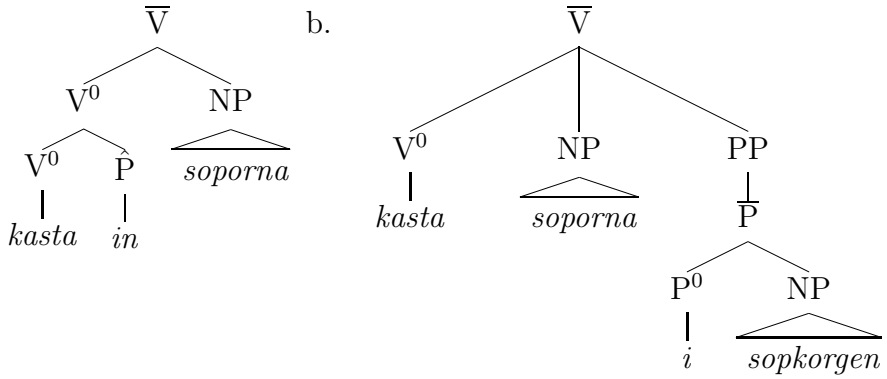
(5) a. 

b. $\hat{\text{X}}$

General principles of economy favor the structure in (5b) over that in (5a), Toivonen suggests, so that if a lexical item optionally projects, it will project only if there are specifiers, complements, or phrasal modifiers, which by general principles of $\overline{\text{X}}$-theory require the higher projections (cf. pp. 61–66). She assumes that adjuncts match their host phrase in bar-level (p. 64), so that phrases may adjoin only at the XP level, and heads may adjoin only at the X^0 level, but that $\hat{\text{X}}$ counts as X^0 for the purposes of adjunction.

Toivonen further proposes that language-specific phrase-structure rules may distinguish between projecting and non-projecting categories. A Swedish-specific rule (p. 84) allows the expansion of V^0 as $[_{\text{V}^0}\ \text{V}^0\ \hat{\text{X}}]$, subject to a condition (p. 115; stated below in (18) in §§3.2) that $\hat{\text{X}}$ denotes an end state or result. This gives rise to the characteristic order of the particle construction in Swedish, where the particle precedes a direct object, as illustrated here for the verb phrase *kasta in soporna*, 'throw in the garbage' (cf. (2a)); for comparison, Toivonen's structure for *kasta soporna i sopkorgen* 'throw the garbage in the trashcan' (cf. (4a)) is also given (abstracting away from verb movement).

(6) a. b.



Arguments are presented against a morphological analysis of the particle (pp. 36–41) and against identifying particles as clitics (pp. 41–44), for example the fact that the particles bear independent stress and are not moved with the verb under verb-movement. Thus, Toivonen proposes a typology of words (pp. 45–52), in which phonological clitichood is fully independent of syntactic projection, and suggests that all four possible combinations are attested (e.g. French clitic pronouns are phonologically dependent and non-projecting, English reduced auxiliaries are dependent and projecting, Swedish particles are independent and non-projecting, and very many words, including main verbs in both English and Swedish would be projecting and independent).

As already noted, the most striking difference between English and Swedish verb-particle constructions is that the particle always precedes the object in Swedish, and lacks the additional option provided by English.

(7) a. Ollie kicked away the ball.
b. Ollie kicked the ball away.

(8) a. Olle sparkade bort ballen.
Olle kicked away the.ball
'Olle kicked away the ball'
b. *Olle sparkade ballen bort.
Olle kicked the.ball away

An interesting question then arises regarding modified particles, which in English pattern with a full PP and hence cannot precede an object.

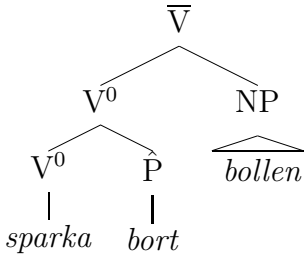
(9) a. Ollie kicked the ball further away.
b. *Ollie kicked further away the ball.

The question, of course, is: Is a modified particle in Swedish like a particle, in obligatorily preceding the object, or is it like a PP, in obligatorily following? The answer is that it is like a PP (cf. p. 21).

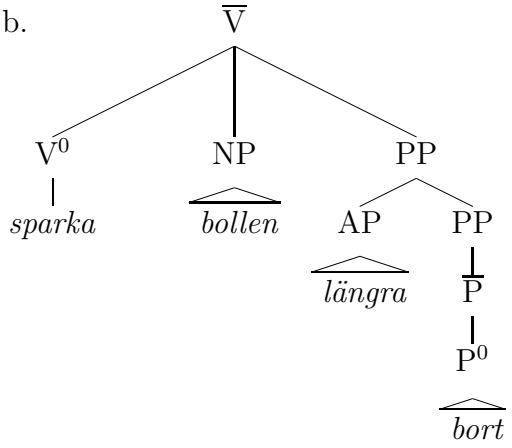
(10) a. Olle sparkade bollen längre bort.
Olle kicked the.ball further away
'Olle kicked the ball further away'
b. *Olle sparkade längre bort bollen.
Olle kicked further away the.ball

The structures look something like the following (again abstracting away from verb movement).

(11) a.



b.



If the structure contains unmodified *bort* 'away,' then P fails to project, and Swedish-specific rules lead to it being adjoined to V^0, as depicted in (11a); if there is a phrasal modifier for *bort*, then it must attach to a PP projection, and the PP must be linearized to the right of the direct object, like other complement PPs, as depicted in (11b).

The analysis can be compared to one in which head-movement (or its equivalent, tacitly available in Toivonen's assumptions about verb placement in V2 structures) moves an unprojected particle from a base position to the right of the direct object, to right-adjoin to the verb.[2] A head-movement account would predict that the relationship of the particle in (11a) and the head of the PP in (11b) are constrained by the structural configuration that makes head-movement licit, i.e. c-command of the base position of P^0 by V^0, with no intervening heads. In this way it would provide a constraint on the kind of language-specific placement rule that Toivonen proposes for the Swedish particle. On the other hand, a valid question for such an analysis would be, what prevents head movement in the presence of a phrasal adjunct to PP, or in the presence of a complement to P? Toivonen's account is not faced with this question as she does not posit a derivation for (11a). I return

[2]An analysis I proposed for English in Svenonius 1992, but later rejected in Svenonius 1994.

to this matter in the last section of this review article.

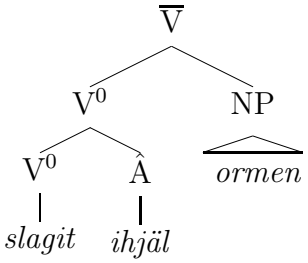
Much as in English, Swedish particle constructions can be spatial-directional, as in the above examples with *in* 'in' and *bort* 'away,' or resultative, as in (12a), or idiomatic, as in (12b) (note that just as in English, you can *throw out* something without literally *throwing* it, and without it literally going *out*), or aspectual, as in (12c).

(12) a. Han knöt fast den.
he tied tight it
'He tied it tight.'
b. Vi kastade ut soporna.
we threw out the.garbage
'We threw out the garbage'
c. Hon åt upp smöret.
she ate up the.butter
'She ate up the butter'

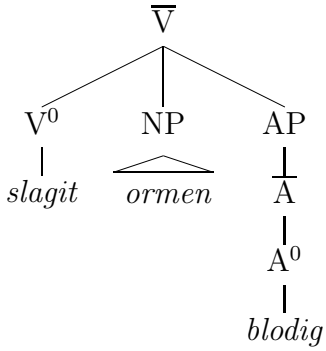
Note as indicated in (12a) that the object follows the particle even when pronominal. Note also that in English, an adjective like *fast* 'tight' would not show the distribution of a particle.[3] To illustrate the lexical nature of particlehood, Toivonen offers the pair in (13), diagrammed in (14) (pp. 2–3).

(13) a. Erik har slagit ihjäl ormen.
Erik has beaten to.death the.snake
'Erik has beaten the snake to death'
b. Erik har slagit ormen blodig.
Erik has beaten the.snake bloody
'Erik has beaten the snake bloody'

(14) a.



b.



On her account, a word like *ihjäl* 'to death,' which is lexically specified as non-projecting (Â), cannot appear in a phrasal position, and cannot host a

[3]Though there are scattered idiomatic exceptions, e.g. *set free a prisoner*.

phrasal modifier (p. 22).

(15) a. *Han slog en karl (helt) ihjäl.
he beat a man completely to.death
b. Han slog (*helt) ihjäl en karl.
he beat completely to.death a man
'He beat a man to death'

A word like *blodig* 'bloody,' on the other hand, must be specified as obligatorily projecting (A^0), in order to explain why it does not appear in the particle position. Finally, a word like *bort* 'away' projects only if necessary (notated by omitting both circumflex and zero-superscript, as in A, or P).

3 Comparison with English Toivonen suggests in the last chapter before the conclusion that the English verb-particle construction is significantly different from the Swedish one, proposing a kind of morphological analysis for English V-P sequences, when adjacent.[4] The chief obstacle to extending her analysis of Swedish to English is the ready availability in English of the alternative order, even when the particle is bare; by Toivonen's economy principles, a bare particle should always fail to project, when that is possible, and then phrase-structure rules should place it deterministically. Toivonen's analysis of English circumvents the problem by letting a different module optionally create compounds out of verb-particles, on the assumption that the economy principles operate in a different module, and hence will not directly compare a construction with a compounded particle-verb to a construction with a non-compounded particle-verb.

The analysis of English is clearly not Toivonen's focus, and might even be characterized as an afterthought; therefore I will not go into detailed criticism of it. However, it is useful to compare the Swedish construction with the English one in some more detail, in order to highlight their similarities and differences, and to evaluate the question whether a more unified analysis should be sought.

3.1 The inventory of particles In comparing the verb-particle constructions of the two languages, it is clear that Swedish has more words that can serve as particles than does English. Swedish has counterparts to all the words which appear regularly in the English particle-shift pattern (*up, down, in, out, on, off, away, back*, and a few others, but also many non-spatial words (like *ihjäl* 'to death' and *fast* 'tight,' illustrated above).

Toivonen argues that particles can be of any lexical category (pp. 85–

[4]See Farrell (2005) for development of such an analysis, Svenonius (2005) for criticism.

90). If putative verbal and nominal examples are set aside (more on them below), then it is probably safe to say that particles are a closed class in both English and Swedish, and that the possibility of non-projection is a marked option. For instance, the adjective *torra* 'dry' and the locative word *uppåt* 'upwards' are not particles and cannot adjoin to the verb, even when used with a resultative meaning.

(16) a. Birgitta strök Runars kinder torra.
Birgitta stroked Runar's cheeks dry
'Birgitta wiped Runar's cheeks dry'
b. *Birgitta strök torra Runars kinder.
Birgitta stroked dry Runar's cheeks

(17) a. Markus kastade bollen uppåt.
Markus threw the.ball upwards
'Markus threw the ball upwards'
b. *Markus kastade uppåt bollen.
Markus threw upwards the.ball

This pattern suggests that the difference in particle inventory between English and Swedish is simply a matter of lexical variation, with more words in Swedish being specified as particles.

However, Toivonen's suggestions regarding nouns and verbs as particles raise the possibility that particles are an open class in Swedish.[5] She gives as an example a construction with the causative verb *la* 'let' plus an infinitive (p. 86, *la bygga* 'have built'). If that is a true example of a particle, then virtually all verbs can be particles in Swedish, as the *la*-causative is highly productive. That would seem to undermine Toivonen's contention that non-projection is a lexical property.

She also mentions some nominal examples, such as *hålla tal* 'hold speech' and *köra bil* 'drive car.' The problem is that, as Borthen (2003) demonstrates for Norwegian, the use of bare N objects in something like a generic or event-classifying sense is fully productive, so Toivonen's classification of these nouns as particles raises the possibility that all Ns must be allowed to be particles in Swedish. I think it is quite significant that she provides so few examples in which there is another object beside the putative N particle (e.g. one cannot say **köra bil en Volvo* 'drive car a Volvo'); this suggests that many of the Ns in question are bare N objects, and (I would argue) not particles at all.

Thus, I conclude that the difference in the inventory of particles between

[5]One of her examples of a verbal particle is participial (p. 17, *göra gällande*, 'make valid'), thus arguably adjectival. Since it seems to be idiomatic, I set it aside as belonging to the class just discussed.

English and Swedish is a lexical matter. This is compatible with Toivonen's analysis, in that the property of projecting is a lexical property, but it means that the two languages are relatively similar in this respect, which argues for a unified analysis.

3.2 The meaning of the construction In general, as noted above, Swedish verb-particle constructions either express directed motion (as in *sparka bort* 'kick away') or resultativity (as in *slå ihjäl*, 'beat to death'). Toivonen states a condition (p. 115) which she calls "Condition P."[6]

(18) **Condition P**: The particle position can be filled with a place expression or an adjective only when that place expression or adjective denotes the *end state* of the entity denoted by the object (transitive clauses) or subject (intransitive clauses) and when this end state is the *direct result* of the activity denoted by the verb.

The same sort of resultative meaning has long been noted as a characteristic of the English verb-particle construction (Bolinger 1971). Toivonen does not discuss in detail how idiomatic examples fit into this picture, but in general the idiomatic examples can also be argued to be resultative, with the particle expressing an abstract result, idiomatically, as with *slå upp*, literally "hit up," with a meaning similar to that of English *look up*.

Similarly, resultative particles either express telos, like completive *upp* and semelfactive *til*, analyzed in Toivonen's chapter 5, or else the absence of telos, like continuative *på* 'on,' which expresses ongoing activity in a way parallel to the English *on* in *The band played on*.

However, Toivonen mentions some idiomatic examples which would not be translated into English particle constructions, for example the following (cf. pp. 144–145).

(19) a. *hålla av*, literally "hold off" meaning 'like'
b. *tycka om* literally "think about" meaning 'like'

These examples are not resultative, as they imply no change of state or location in an object. Occasionally there are also non-idiomatic examples that do not translate into English verb-particles, such as (20a) or (20b).

[6]The restriction of this condition to place expressions and adjectives is, I believe, unnecessary, if it is recognized that the verbal complements to causative *la* are not particles, and nor are the bare N complements to various other verbs; see my remarks in §§3.1 above concerning independent reasons to think that V and N particles are not as widespread as Toivonen suggests.

(20) a. *säga åt* 'say to' (p. 154)
b. *hoppa i* 'jump in' (p. 113)

The first object of 'say to' is a recipient, not a theme of movement or incremental change, and the noun phrase which (optionally) follows 'jump in' would be a location, not a theme of movement or change (cf. Svenonius 2004). Thus the counterparts to these examples would not be considered particle constructions in English; for example the P element would not have the two characteristic placement possibilities.

(21) a. I said to Thora to smile.
b. *I said Thora to to smile.

(22) a. I jumped in the water.
b. *I jumped the water in.

Of course, Swedish does not have the two possibilities to begin with, so Swedish-internal diagnostics must be applied, such as passivization, Heavy NP Shift, cleft formation, and so on, tests which can distinguish a PP complement from a particle-plus-object sequence. See Svenonius (2003b) for arguments that such diagnostics indicate that such non-resultative sequences have a different syntax from verb-particle constructions.

A near-minimal pair is *hit* 'here (directional)' and *här* 'here (locative),' where the former is obligatorily non-projecting, and the latter obligatorily projecting (p. 23).

(23) a. Jag lägger {hit/*här} boken.
I lay here/here the.book
'I put the book here'
b. Jag lägger boken {här/*hit}.
I lay the.book here/here
'I lay the book here'

Toivonen suggests that the meanings of the two options are nearly equivalent, implying that the specification of an element as non-projecting is essentially arbitrary. However, I believe it is no accident that the version that appears as a particle (*hit, dit*) is precisely the directional one, since the particle construction is essentially resultative, as already noted. This means that *hit, dit* give the result location of the object at the culmination of the event, while *här, där* give the location of the event itself, a location which includes the subject. Thus, you can say to someone in the next room *Lägg boken där*, 'Lay the book there,' meaning in that room, but not *Lägg dit boken*, which would imply a specific place for the book that did not include the location

of the speaker.[7]

I conclude that the meanings of the construction itself can be characterized as resultative to the same extent as that of the English construction.

3.3 Constituency tests Toivonen notes (p. 96) that the verb-particle sequence can be fronted, independently of the object, something which is not possible in English (English translations here are approximate, but grammatical, deviating from Toivonen's translations).

(24) a. %Sköt ner gjorde hon alla fienderna.
shot down did she all the.enemies
'What she did to all the enemies was to shoot them down'
b. %Åt upp gjorde hon hela kakan.
ate up did she whole the.cake
'What she did to the whole cake was to eat it'

This would appear to suggest a rather different syntactic structure from English, given the extreme ungrammaticality of word-for-word translations in these cases. However, it is conceivable that the difference has more to do with other properties of Swedish, in which VP-fronting is much freer than in English. Nilsen (2005) gives the following example of remnant VP-fronting in Norwegian.

(25) Lagt på bordet har jeg dem aldri.
laid on the.table have I them never
'Laid them on the table, I never have' (Norwegian)

Such examples raise questions about the nature of object shift, which I will ignore here (see Holmberg 1999). But they also suggest that a VP containing a trace can be fronted in Mainland Scandinavian, if some other mechanism (object shift, in (25)) moves other material out. I suggest that that is what has happened in (24): Heavy NP Shift has moved the objects out, and VP-fronting has fronted the remnant verb phrase (*do*-support inserts the tensed form of the verb *göra* systematically in Swedish, when a finite VP is fronted).

3.4 Incorporation Swedish particles obligatorily prefix to the verbal root in all non-verbal contexts, including passive participles (but not perfect participles, which are introduced by *ha* 'have'); examples here from Toivonen's p. 38.

[7]Thanks to Björn Lundquist for discussion on this point.

(26) a. Karin lånade ut böckerna.
Karin lent out the.books
'Karin lent out the books'

b. Böckerna blev utlånade.
the.books became out.lent
'The books were lent out' (eventive passive)

c. Böckerna var utlånade.
the.books were out.lent
'The books were lent out' (adjectival)

d. Utlåningen av böcker har ökat.
out.lending of books has increased
'The lending out of books has increased'

As seen in the translations, the particle does not prefix in English. Clearly, this represents a real difference between Swedish and English, but it is less clear how much it bears on the syntactic analysis of the verb-particle construction.

3.5 Summary of the differences To summarize this section, it seems to me that the differences between English and Swedish particle constructions can by and large be attributed to independent parameters, for example the exact inventory of the particles, VP-fronting rules, and the possibility of particle shift, without motivating a fundamentally different representation for the two structures. For this reason, I would expect the ultimate analysis to more fully unify English and Swedish than Toivonen's account appears to do at present.

4 Non-projecting Words In this section I briefly examine the central theoretical innovation defended in the thesis, the basic contrast between projecting and non-projecting nodes.

Other work in phrase structure theory has tended to move away from non-branching projection, for example Baltin (1989) and Chomsky (1995). Indeed, the logic of Toivonen's own economy principles would seem to militate against non-branching projection; for Toivonen, the phrase structure rules themselves do not require every single-word phrase to project, it is simply a lexical property that most single words do project. It is reasonable to ask why so many words would have such a property, or even why such a lexical property should exist at all.

An alternative, in keeping with recent work on phrase structure, might be to suppose that the difference that Toivonen has explicated has less to do with $\overline{\text{X}}$ geometry and more to do with functional structure, not in the LFG

sense but in the sense used in more mainstream work. What I am suggesting is that Toivonen's non-projecting heads might be heads that lack a higher layer of functional structure, and that her projecting heads might be those which have that higher layer. This is essentially the approach to particle syntax advocated by Zeller (2001).

The idea that particles with degree modifiers have an extra layer of structure is particularly easy to swallow, for example a word like *right* might be a Deg head which takes P as a complement. Other modifiers, such as *längre* 'further' in Toivonen's example with *längre bort* 'further away,' might also require the Deg projection to be present, even if they are adjuncts or specifiers rather than heads.

As for why the non-projecting particles cannot have complements, the answer might conceivably be related to the various evidence which has been amassed lately that heads outside VP license VP-internal arguments (e.g. v, in Chomsky 2000 or Asp_{E} in Borer 2005). The idea would be that in order to license an internal argument, P requires a higher layer of structure, call it p (cf. van Riemsdijk 1990, Svenonius 2003a).

An interesting consequence of this line of thinking is that it provides an immediate answer for the question posed in §2 above for a putative head-movement account, namely why should the various things that are incompatible with particle–object order block particle shift? The answer, now, could be that particle shift, being head movement, is blocked by any non-affixal head, and the various heads Deg, p, and so on are not affixal in the relevant sense. This would make the situation quite similar to certain types of N-incorporation, where material in DP tends to block N movement to V, so that only bare N's incorporate and do not strand modifiers or determiners (Li 1990, Baker 1996).

Toivonen's proposal is that projection is a lexical property. I am suggesting an alternative, interpreting projection in terms of extended projections rather than traditional three-level $\overline{\text{X}}$ structure; for example, Toivonen suggests that *ihjäl* 'to death' is an $\hat{\text{A}}$, which cannot project AP, while I am suggesting that it is an A which is not dominated by the canonical functional projection for that category, Deg. Whether this reinterpretation of Toivonen's idea can ultimately be more successful than her original version is something that would have to be tested against a wide range of constructions in different languages, something which I cannot do here. Promising examples of the general line of thinking would be Cardinaletti and Starke (1999) or Déchaine and Wiltschko (2002) on pronominal structure cross-linguistically or Wurmbrand (2001) on the different sizes of complements of restructuring verbs (a natural extension of an idea going back to Bresnan's 1972 analysis of the distinction between *want*, taking an $\overline{\text{S}}$ complement, and

believe, taking a bare S complement).

5 Conclusion This book makes an important contribution. As the first book-length treatment of the syntax of the Swedish particle construction, it allows a serious comparison with better-described counterparts like German, Dutch, English, and Norwegian. The organization and characterization of the material is so clear that it invites such comparison, and will surely inspire further research and analysis in this area. Furthermore, the book makes a case for an interesting theoretical proposal, that projection is a lexical property. As a final note, the finish and typesetting meet a very high standard, and there are few typographical errors.

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