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On noun-verb compounding in Swedish

Ingmarie Mellenius

Introduction

Within research on morphology, considerable effort over the last decades has gone into studying compounds, especially the more structural aspects of compounding: just as phrases have heads, words have been described as having heads, and the internal structure of a compound has been represented by the same type of tree diagrams with labelled nodes as are used to describe phrases (Selkirk 1982, Lieber 1983).

In languages like Swedish or English the overwhelming majority of actual compounds, and the majority of new coinages, are of the Noun-Noun type, in which there is no obvious, pre-determined way of analysing the semantic relationship between the modifying noun and the head noun.

In the case of synthetic compounds, i.e. compounds with a deverbal noun as head, on the other hand, the modifying element has been described as fulfilling an argument function, or as having a thematic role in relation to the verbal head, and the meaning of the compound is considered to be much more precise, and not as open to different interpretations. The differing semantic analyses for the two kinds of compounds are generally explained by stating that there is a crucial difference between the two word classes that function as the root morphemes of the heads in the respective constructions; a difference which can be expressed in different ways, e.g. by saying that whereas verbs are case-assigning items, nouns do not assign case.

The compound type that is the subject of this paper, Noun-Verb compounds, is considered to be very limited; it has even been claimed that constructions with a verb as head should be excluded from the universal set of word formation rules¹.

¹Wunderlich 1986, cited in Kiefer 1992b.

Although not held in very high esteem, N-V compounds do exist in Swedish², and in this paper, some properties of Swedish Noun-Verb compounds are investigated. Words in this construction type have been studied most thoroughly by Åke Åkermalm, in a thesis from 1955 where he examines this construction in Old Swedish, and in an article from 1954 where he discusses noun-verb compounds on the basis of about 1,200 different verbs of this kind that he had collected, unsystematically, from Swedish newspapers between 1942 and 1952. In this article, Åkermalm traces the history of this word-formation pattern in the Swedish language: for Old Swedish he has found about 200 verbs of this type. Examples of words that date from this period are:³

(1)	kors+fästa	cross+attach	‘crucify’
	pant+sätta	pawn+put	‘pawn’
	våld+ta	violence+take	‘rape’

In the following centuries new words were formed according to this pattern only to a very limited extent. An investigation of compound verbs from 1888 (Hainer) reports no increase in the productivity of this verb type, which at this point was estimated to contain about 120 words.

At the beginning of this century, however, the production of novel noun-verb compounds seems to increase rapidly. An article from 1905 (Östergren) notes how common they are becoming, and they are studied by Wellander in 1915 in their capacity as a productive word formation pattern in *written* language. Wellander is of the opinion that N-V compounds come in a packet with their corresponding compounds with a deverbal noun as head (see below). In his article, Wellander often uses the term *totalföreställning* ‘total idea’ to capture the semantic unity that is better rendered, according to him, by a deverbal compound or its corresponding N-V compound than by a syntactic phrase.

Åkermalm, writing in 1954, was of the opinion that noun-verb compounding had grown steadily in popularity since the turn of the century, and that this increase was due to the contemporary growth of daily press.

²Åkermalm 1955 offers an interesting historical survey of the notion that noun-verb compounds should be impossible in the Germanic languages. This idea dates back to Grimm 1826, and was based on scanty and misconstrued data.

³All through this paper, verbatim translations into English are given without quotes, and a more colloquial translation is given within single quotes. The word-internal boundaries of compound words in Swedish will be marked by “+”. The cross-hatch is avoided, since the modifying noun is a root, and/or a noun in a particular liaison form, and not an independent word. (The particular status of the modifier is outside the scope of this article.)

According to Åkermalm, many, indeed most, N-V compounds are derivations (2a) or back-formations (2b) from already existing synthetic compounds.

- | | | | | |
|-----|---|------------------------------------|-------------|---|
| (2) | a | sabel+hugga
sabel+hugg | sabre+stab | ‘to stab with a sabre’, from
‘a stab with a sabre’ |
| | b | brand+försäkra
brand+försäkring | fire+insure | ‘insure against fire’, from
‘fire insurance’ |

However, there also exist N-V compounds that are *not* formed on the basis of existing compounds, i.e. completely novel formations. Åkermalm found that these occurred to a higher extent, relatively speaking, in headlines, presumably because the need for compressing the language is felt more urgently here, and in causeries, where the authors try to use an inventive, personal language.

Blåberg 1988 gives an account of around 4,000 compounds that he excerpted from Swedish newspaper text. This corpus consists of every compound found in section one of one issue of a national daily paper, and one issue of a business weekly. Only 63 of those compounds are of the N-V type.

Recently, N-V compounds have been treated by Josefsson 1993. Some of the hypotheses advanced by Gunlög Josefsson (henceforth GJ) are tested here against a sample of 710 compounds of this type that I have located in Hedelin’s unpublished pronouncing dictionary for Swedish, which in its present state (1994) comprises around 119,000 words.

For reasons not explained in her article, GJ uses the expressions ‘N-V compounds’ and ‘noun incorporation into verbs’ as synonyms. The term ‘N-V compounds’ is neutral as to how this kind of compounds are constructed. ‘Noun incorporation into verbs’ is an expression which implies how N-V compounds are created⁴. Since it is obvious that many of these compounds are produced by derivation or by back-formation, placing them all under the heading ‘incorporation’ is not justified. The more neutral term is therefore to be preferred.

Limitations on N-V compounding

Other Germanic languages

A thorough investigation of N-V compounding in the Germanic languages is beyond the ambitions or the purposes of this chapter, but would indeed be an

⁴Baker 1988 describes the status of the noun in N-V constructions in incorporating languages as one of having referential value. This is not the case for English compounds with deverbal or verb heads.

interesting area for comparison of closely related languages. However, I have collected some authoritative views on Dutch, German and English.

Dutch compounding has been studied most extensively by Booij. He writes, in an article from 1992: “Like other Germanic languages, verbal compounding in Dutch is unproductive. That is, although a few verbal compounds do exist, this morphological category cannot be extended in a direct way.” (p. 49)

As for German, Becker 1992:20 writes that “many A + V and N + V compounds and all V + V compounds are not formed on the basis of their constituents, but formed by conversion or back-derivation from nominal compounds”. Becker prefers to call these kinds of constructions *pseudo-compounds*, since the resulting verbs have defective inflectional paradigms. Generally, the non-finite forms are more accepted than the finite ones. Becker writes: “From a diachronic point of view, the formation of a verbal pseudo-compound is a complex process. The verbal paradigms are built up from the non-finite ones and ending with the brace forms for the use in main clauses” (p. 21).

In Swedish, we do not have the problem speakers of German have: to decide, in main clauses, whether the compound should be separated or not. This may mean that it is easier for a verbal compound in Swedish to become a full-fledged verb, with a complete inflectional paradigm. Nevertheless, the defective inflectional paradigms are typical for verbal compounds in Swedish as well as in German. The varying acceptability within the verbal paradigm of recently formed compounds with a verbal head is an important characteristic, and one that should be accounted for.

Selkirk 1982, following Marchand 1969, assumes that the N-V compounds that do exist in English are formed on the basis of synthetic compounds with an adjective or a noun as head, and therefore excludes these compounds from her list of compounds generated by the system of word structure rules.

Baker 1988 states (p.71) that N-V compounds are ruled out in English. “In English, there are a few cases of N-V compounds acting as main verbs [...] but these are unproductive and sporadic [sic] backformations from the productive deverbal compounds” (p. 78).

Grimshaw 1990:17 remarks in parentheses, without further explanation or proof: “Note that compounds are headed either by adjectives or nouns in English, never verbs, since English allows no verb-headed compounds”.

It seems to me that the N-V compound repertoires in Swedish and English are not all that different. The compounds mentioned by Baker are *babysit*,

grocery-shop, bartend. Other examples include *hand-weave, machine wash, spoon-feed, breastfeed, Chomsky adjoin*.⁵ If it is possible to discard existing compounds by calling them back-formations, then this is certainly applicable in the case of Swedish as well. Nevertheless, we still have to account for why back-formation is possible in some cases, but not in others.

Syntactic restrictions on N-V compounding

GJ presents an explanation for the difference between (3a) and (b).

- (3) a Sömmerskan mått+beräknade klänningen
 seamer-the measure+calculated dress-the
 b *Författaren bokskriver
 author-the book+writes

From examples like these, she concludes that noun incorporation is permissible only as long as the verb's transitivity is left unaffected. I have formulated this as the hypothesis under (4).

- (4) HYPOTHESIS 1: Noun incorporation is licit only as long as the verb's transitivity is left unaffected.

GJ explains this in Chomsky's 1992 terms: the verb has a case feature that needs to be discharged. Structural case thus becomes a property of the case licensing head.

Lieber 1983 gives a simple account for the fact that the verb's transitivity should be unaffected by the modifying nominal:

- (5) "Feature Percolation Convention IV:
 If two stems are sisters (i.e. they form a compound), features from the right-hand stem percolate up to the branching node dominating the stems." (p. 253)

(This convention is language-particular, whereas Lieber's first three Feature Percolation Conventions are assumed to be universal.) This means that a two-stem compound as a whole adopts the argument structure of the second stem. An Argument-linking Principle, together with the assumption that verbs and prepositions are argument-taking lexical items, then accounts for the fact that a compound with a verb stem has to satisfy its argument structure outside the compound.

Lieber's account of English word formation uses the same, limited theoretical machinery to account for inflected forms as well as derived forms,

⁵The examples Bloomfield 1933 gives are *to housekeep, to bootlick*.

and primary compounds as well as synthetic compounds. This parsimonious approach is generally to be preferred – *if* it does not turn out that N-V compounding really is different from other instances of word formation, and therefore would need its own theoretical devices.

GJ found that grammatical N-V compounds come in two types:

- I) one where the noun looks like an incorporated object, and
- II) one where the noun seems to be an incorporated adverbial modifier of some kind.

Note that it is primarily the first type, the one containing what looks like an incorporated object, that could be a problem for a principle stating that N-V compounding is permitted only as long as a verb's transitivity is left unaffected.

N-V compounds of type I

In my Swedish corpus, the cases where the first part of the compound could be interpreted as the verb's object are in a minority. Among the 710 N-V compounds I excerpted from Hedelin, I found about 50 instances of the seemingly noun incorporating type, against which the validity of Hypothesis 1 can be tested:

(6) <i>betyg+sätta</i>	Erik betyg+sätter idag *Erik sätter idag	Erik grade+puts today Erik puts today
<i>brev+växla</i>	Erik och Bo brev+växlar *Erik och Bo växlar	Erik and Bo letter+exchange" Erik and Bo exchange
<i>damm+suga</i>	Erik damm+suger ?Erik suger	Erik dust+sucks Erik sucks
<i>färg+lägga</i>	Johan färg+läger *Johan lägger	Johan colour+puts Johan puts
<i>grund+stöta</i>	Båten grundstötte *Båten stötte	boat-the shoal+hit-PRET boat-the hit-PRET
<i>knä+böja</i>	Flickan knäböjer *Flickan böjer	girl-the knee+bends girl-the bends
<i>lag+stifta</i>	Riksdagen lagstiftar *Riksdagen stiftar	parliament-the law+establishes parliament-the establishes

These seven examples of what GJ would label object incorporation into verbs show that the Swedish examples warrant no such generalisation as Hypothesis 1⁶.

Rather, the general pattern that can be inferred from a close scrutiny of examples like those in (6), and invented neologisms formed according to the same pattern as shown in (7), is that incorporation of an object nominal into a verb without another overt object is indeed a possible word formation pattern in Swedish *in a certain context*

- | | | | |
|-----|---|---|---|
| (7) | a | Erik fotograferar lador idag
?Erik lad+fotograferar idag | Erik photographs barns today
Erik barn+photographs today |
| | b | Erik planterar träd idag
?Erik trädplanterar idag | Erik plants trees today
Erik tree+plants today |

The examples under (7) are intended to show that neologisms where the noun in a N-V compound is to be interpreted as an object are not impossible. This is, of course, something which could be submitted to the judgement of a group of subjects (bearing in mind that judgments are very context-dependent when the task is to accept or reject novel compounds).

Rosen 1989 claims that in the languages of the world, there are two different kinds of noun incorporation (NI). In one of these, the incorporated noun does not satisfy an argument of the verb, so the verb's transitivity is left unaffected. Rosen calls this kind Classifier NI, because the incorporated noun acts like a classifier on the direct object argument that it is associated with. The languages that have Classifier NI all freely allow pro-drop in all positions, and they have null-head modifiers (also called stranded modifiers)⁷ and doubling⁸.

The other kind of noun incorporation, which is found for instance in Polynesian and Micronesian languages, is called Compound NI by Rosen (because, as she says, it is similar to compounding in English). Here, the transitivity of the verb *is* affected by its being compounded with a noun; the direct object argument of the simple verb is satisfied by the incorporated noun which means that there can be no direct object outside the complex verb.

⁶The only way of defending the hypothesis that I can think of is to claim that it is sometimes possible for a compound verb to become lexicalized in this shape, and that when this occurs, the argument structure of the novel verb need not be the same as that of the one-morphemic verb it contains.

⁷This means that a noun phrase may have determiners, modifiers, and possessors, but no head noun.

⁸The noun which is incorporated with the verb is repeated in the direct object NP position with more, or at least as specific, information provided (Rosen 1989: 302).

Swedish does not seem to fit in very well in neither of the two types of noun incorporation identified by Rosen. As we have just seen, Compound NI as described by Rosen is possible in Swedish, but most modifying nouns in verbal compounds are not interpretable as the direct object of the verb, nor is this a genuinely productive word-formation pattern (although it is possible to form new verbs of this kind).

Semantic restrictions on N-V compounding of type I

After studying some N-V compounds of type I (the ones containing what seems to be an incorporated object) equipped with object NP, GJ found that the incorporated nominal represents a part, an aspect, or a property of the structural NP object, e.g.

- (8) Läkaren hjärt+opererade patienten.
 doctor-the heart+operated patient-the

This can be formulated as the hypothesis under (9a):

- (9) a HYPOTHESIS 2: The incorporated object nominal must be a part, an aspect or a property of the structural object.

Since we found above that structural objects are no necessary component of phrases where the verb seems to have incorporated an object nominal, the hypothesis has to be rephrased:

- (9) b HYPOTHESIS 2': If a sentence contains both an incorporated object nominal and a structural object, the former must be a part, an aspect or a property of the latter.

The thematic hierarchy of Grimshaw 1990 is invoked by GJ, to see if it can be of any help in explaining the fact that the incorporated nominal has to express some intrinsic value of the object nominal:

- (10) a (AGENT (EXPERIENCER (GOAL/SOURCE/LOCATION (THEME))))

This hierarchy sets out to be a reflexion of universal prominence relations within argument structure. In the case of N-V compounds, the head has an argument structure which obeys this hierarchy, and it theta-marks the non-head. The least prominent argument in this hierarchy, THEME, has to be theta-marked first, and remaining arguments are then satisfied from right to left. In N-V compounds, it is the noun within the compound that has to be satisfied first, which means that it has to be lower in the hierarchy than any argument outside the compound (p. 14).

- (12) a Företaget konsult+utredde räkenskaperna
 INSTR
 company-the consultant+revised accounts-the
- b Konsulten utredde räkenskaperna
 AGENT
 consultant-the revised accounts-the

Although there is this parallelism between Agent and Instrument, this fact does not entail, I think, that they should be placed like this, in the same slot in the argument hierarchy. The circumstance that Grimshaw did not allot a place in her hierarchy to the theta-role Instrument is strange and makes me think that she did not know where to put it. This should be dealt with instead of being accepted as normative.

Furthermore, the question whether subject incorporation exists in Swedish or not should be investigated before making a priori statements about the possibility of such constructions. Examples other than the one in (12 a) are listed in (13):

- (13) a Huset eld+härjades
 house-the fire+ravaged-PASS
- b Dungen löv+pryddes
 grove-the leaf+decorated-PASS
- c Ynglingen polis+förhördes
 young man-the police+interrogated-PASS
- d Gästerna mat+förgiftades
 guests-the food+poisoned-PASS

What examples like those in (13) show, is that we have to admit that the N in a N-V compound also may be a semantic, or deep-structure, subject.

Other attempts at establishing hierarchies

Roeper & Siegel's 1978 influential account for verbal compounds contains insights that have been developed by subsequent researchers. This article launches the *First Sister Principle*: "All verbal compounds are formed by incorporation of a word in first sister position of the verb." The order of subcategorization frames is discussed, together with the implications these orderings may have for verbal compounds. "It is not clear that all grammatical relations are crucially ordered in subcategorization frames. In any case, judgments become rather subtle when they involve subcategorization frames far from the verb. We have some inclination to order Agent prior to Locative, but the relationship is not pronounced. [...] We shall therefore assume that

subcategorization frames are not specifically ordered beyond what is listed in (128) [here numbered (14):

- (14)] verb DO Adv Inst PP PP PP
 where PP=Agent, Locative, etc.” (p. 240-41)

Roeper & Siegel claim that a compound can inherit the frames to the right of an inserted word but has to delete those to the left, so as not to produce ungrammatical strings. It is worth noting that many of Roeper & Siegel’s examples contain the thematic role Instrument. It is the placing of Instrument *before* Agent and Locative which explains the following patterns of grammaticality:

- | | | | |
|------|---|-------------------------------|-------------------|
| (15) | a | handmade by Indians | (Inst V Agent) |
| | b | *Indian-made by hand | (Agent V Inst) |
| | c | Indian-made | (Agent V) |
| (16) | a | hand-constructed in a factory | (Inst V Locative) |
| | b | *factory-constructed by hand | (Locative V Inst) |
| | c | factory-constructed | (Locative V) |

In an article on synthetic compounding in Hungarian, Kiefer 1992a:58 states that “relevance rather than thematic hierarchy seems to be the main organizing principle of argument selection in the case of Patient, Theme and Instrument arguments”. He compares Grimshaw’s putative organizing principle of argument structures with the actual argument structures of Hungarian sentences containing compounds with deverbal heads. The hierarchy that is best fitted to describe his examples is the following:

- (17) (Actor (Agent (Beneficiary (Theme/Patient (Instrument))))))

Kiefer notes: “Thematic hierarchy provides a convenient means to represent the scale of relevance which is ultimately based on world knowledge” (p. 64). But note that Kiefer warns against using this model as an explanatory device. If we did, we would fall in the trap of circular reasoning, he claims, since the model was arrived at by observing actual data.

The function of N-V compounds

N-V compounds modelled on deverbal nominal compounds

Some language purists have wanted to argue that N-V compounds are reprehensible, on the grounds that they are heavy, ugly, unnecessary, etc. A dislike of this construction type might also be the reason why certain researchers hardly want to acknowledge its existence.

Although Wellander 1915 admits that verbal compounding can be misused, and blames this on the speed that is forced upon the writers in daily press, his article praises the usefulness of this kind of compounding. Wellander attempts to give an explanation in psychological terms for the use of N-V compounds: A deverbal compound is a closed unit and expresses a total idea. When it has been employed, this total idea often remains topical and may need to be expressed again in the course of reasoning. “Den är en föreställning om ett verbalt skeende, kan alltså teoretiskt sett allt efter det syntaktiska sammanhanget tänkas bryta fram och kräva språklig dräkt på vilken punkt som helst av det verbala böjningsschemat” (p. 45) (‘It [the deverbal compound] is a conception about a verbal process, and so may theoretically, following the syntactic context, surface and demand to be expressed at any point of the verbal paradigm’).

Åkermalm 1954 argues that it is completely appropriate, indeed necessary, to create a denominative verb on the basis of a N-N compound in some cases, namely (a) when there is a difference in meaning between the compound and the closest corresponding verbal expression, (b) when the compound has a metaphoric meaning, and (c) when the synthetic compound is not formed on the basis of a verbal phrase (i.e., there is no natural paraphrase).

It seems that the inclination *not* to split the totality, the unity of modifier and head in the nominal compound, is very strong, and favours the creation of N-V compounds on the basis of existing words.

Independent N-V compounds

N-V compounds that are not formed on the basis of existing compounds, i.e. completely novel formations, are newcomers in the language, according to Åkermalm 1954. He describes them as being of two types, reminiscent of GJ’s type I and type II. For Åkermalm, type I does not only contain compounds where the noun is interpretable as the direct object of the verb head, but all N-V compounds dependent on syntactic relations, so that the noun fulfils a transparent function, albeit of an accidental nature, with respect to the main verb. This type of novel N-V compounds is exemplified in (18) with compounds excerpted by Åkermalm

- (18) a Hur man kö+stod i snöslask...
 how you queue+stood in sleet...
 b Familjen Westergren folkpark+turnerar...
 family-the Westergren amusement-park+tour...

The other type of novel N-V compounds is not modelled on a syntactic phrase, but is a more audacious combination of concepts. Compounds of this type are therefore difficult to paraphrase; it is often hard to describe in which particular way the modifying noun adds to the meaning of the verb. Consider e.g. (19), excerpted by Åkermalm.

- (19) Oårens beredskapsmän minnes+turistar i norr
 ‘Men in emergency service during the war memory+tour in the north’

It is very easy to form nominal compounds in Swedish, even if they are headed by a deverbal noun. The N-V compounds that are created on the basis of such words retain the semantic relationship between modifier and head of the original compounds. This means that there is often a meaning dimension to the compound that is not attributable to any argument structure imposed by the verb. The interpretation of the compound may be as vague and indeterminate as the interpretation of a nominal compound often is. However, it is noteworthy that even novel N-V compounds can receive an interpretation without recourse to thematic roles dependent on the argument structure of the verb.

That the argument structure of the verb determines the interpretation of the modifier in some compounds but not in others is, in fact, an idea that has been put forward by Selkirk 1982, for English synthetic compounds. Selkirk wants to reserve the expression *verbal compounds* for the compounds where the modifier fulfils an argument position with respect to the main verb. Examples of compounds that are not verbal are *party drinker*, *spring-cleaning*, *concert singer*, *homegrown*, *long-suffering*, *hardworking*. “The nonheads of these examples add a locative, manner, or temporal specification to the head...” (Selkirk 1982:24)

Productive N-V compounds

The N-V compounds in Swedish that are created productively seem to me to be mainly of the type where the non-head adds a temporal meaning, or, above all, some kind of manner description. In order to accomplish this modification, some nouns are used extensively, with many different verb heads.

- (a) Nouns that are used to add a temporal meaning: *jul-* (christmas-), *sommar-* (summer-), *vinter-* (winter-), etc.

- (b) Nouns that are used to add a manner meaning: *chock-* (shock-), *fel-* (fault-), *hem-* (home-), *prov-* (test-), *rekord-* (record-), *storm-* (storm-), *tjuv-* (thief-), *tvångs-* (compulsion-), etc.

Conclusions

Noun-Verb compounding in Swedish has not been given much attention. Ever since Grimm 1826, a succession of researchers have repeated the idea that N-V compounding is impossible in the Germanic languages.

This article wishes to draw attention to the fact that N-V compounding does exist in Swedish. The description of this word formation pattern is complicated by two factors. One is that most N-V compounds seem to be created by derivation or back-formation from already existing nominal compounds headed by a deverbal noun. The other is that some N-V compounds have an interpretation which seems to be exactly that of a corresponding verb phrase, so that *spån+täcka* (shingle+cover) means *täcka med spån* (cover with shingle) and nothing else. Some other N-V compounds, however, do not seem to be created on the basis of such a syntactic paraphrase. E.g. *sex+mobba* (sex+bully) (from *Expressen* 26 Sept 1995) can be interpreted in several ways. Maybe it means to bully somebody because of her/his sex (in that case an anglicism), or bully because of somebody's sexual preferences, or bully through sexual actions (but there is another expression in the language meaning 'sexual harassment'). The meaning of this kind of compounds can be described as 'to V in a way that has to do with N'; it is in this way reminiscent of N-N compounding, where so many different relations can hold between modifier and head.

There seem to be two principal reasons for the creation of N-V compounds. The first is an ambition not to split the unity of modifier and head in deverbal nominal compounds, thus favouring the creation of N-V compounds on the basis of existing words. The second reason is that N-V compounds succeed in adding a semantic dimension to the verb which would be very clumsy to convey in any other way.

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