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The syntax of Swedish present participles

– The lexical category problem*

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Abstract

In this paper, we suggest that the properties of Swedish present participles can be accounted for if we take a syntactic approach to lexical categories in the lines of Distributed Morphology. We depart from the fact that Swedish words ending in *-andel-ende* have the same denotation whether they appear attributively, predicatively, or nominally. Syntactically however, *-andel-ende*-derivations appear in a multitude of functions. This suggests that the underlying syntactic structure of what appears to be the same form may differ. We argue in terms of Distributed Morphology for two Swedish present participles, one nominal ending on *-andel-ende* and one true adjective ending in *-andel-ende*, where *-andel-ende* for the present participle cases denote imperfectivity and are licensed by an Asp head. For true adjectives, *-andel-ende* are reanalysed as adjectival morphemes that denote property and are licensed by a categorial head *a*.

1 Introduction

The categorial affiliation of participles has been a matter of debate for quite some time. Teleman et al. (1999) claim that participles function like adjectives but may have verbal denotation. Within the generative paradigm, Wasow (1977) first raised the question claiming that verbal past participles were formed in syntax but adjectival ditto were formed in the lexicon. Josefsson (1997, 1998), having a syntactic approach to word formation, claims that verbal past participles are really adjectives that have an embedded V under A whereas adjectival past participles are adjectives. Embick (2004) argues for three different resultative participles, one eventive, one resultative and one stative. Both Josefsson's and Embick's solutions to the problem imply that participles are something in between verb and adjective.

Swedish present participles such as *visslande* 'whistling' in (1) and (2), have the same form and more or less the same denotation, but differ as to syntactic functions, where the participle in (1) seems to be a verb, the one in (2) an adjective.

* I wish to thank Christer Platzack for having read and commented on earlier versions of this article. I am solely responsible for any remaining errors.

- (1) Kalle gick **visslande** över gatan
 Kalle go.PAST whistle-ANDE across street-DEF
 ‘Kalle crossed the street whistling’
- (2) Den **visslande** mannen...
 DEF whistle-ANDE man-DEF
 ‘The whistling man...’

Departing from the idea that lexical categories are derived in syntax, we will argue that Swedish non-nominal words ending in *-andel-ende* are either present participles or true adjectives and that the present participles may be further divided into verbal present participles and adjectival present participles. The difference between verbal and adjectival present participles is attributed to a categorial head *v* or *a* while the similarities will be attributed to the functional heads *V* and *Asp*, which are present in both *v*-participles and *a*-participles. We also attempt to distinguish present participles from true adjectives with the form of a present participle. Depending on the underlying structure, the present participle phrase may be licensed as a primary or secondary predicate in a sentence or as a modifier of a noun phrase.

The paper relies on the following assumptions:

- Lexical categories are syntactical objects not primitives (Baker 2003)
- Roots are unspecified for lexical category in accordance with Josefsson (1997, 1998) and Marantz (1997)
- Present participles are underspecified compared to verbs (Blevins to appear), but more specified than adjectives

The paper is outlined as follows. In section 2, we present three syntactic approaches to lexical categories: Distributed Morphology (Halle and Marantz 1993, Marantz 1997), Josefsson (1997, 1998), and Baker (2003). In section 3, we examine more or less traditional criteria for determining whether a participle is verbal or adjectival. Furthermore, in section 4, we show that Swedish present participles express imperfective aspect and then in section 5 we suggest structures corresponding to syntactically adjectival and verbal present participles, and true adjectives ending in *-andel-ende* departing from the assumption that lexical categories are derived in syntax. Finally we summarize our findings in section 6.

2 What does it mean to be verbal/adjectival/nominal?

The key issue in this paper is lexical category. According to Baker (2003), the generative tradition has had little to say concerning what it means to belong to a lexical category; in earlier work, words were assumed to be specified for lexical category in the lexicon. According to Chomsky (1972) for instance, a verb has

the feature set up +V, -N, whereas an adjective has the feature set up +V, +N. Participles in his view are underspecified.

Later research has taken a derivational approach to lexical categories and word formation, claiming that words are built in very much the same way as sentences, i.e. that word formation is syntactic (Halle and Marantz 1993, Marantz 1997, Josefsson 1997, 1998, Baker 2003 etc). Strongly opposing the point of view advocated by Chomsky (1972), Marantz claims that the computational system of grammar (1997: 3) may combine atomic elements from one or more lists into larger units (1997: 3).

Within the paradigm of Distributed Morphology (DM) (Halle and Marantz 1993, Marantz 1997, Harley and Noyer 1999, Embick 2003, 2004), lexical categories are taken to be syntactically determined. They can be understood as the relation between a root and its “nearest c-commanding f[unctional]-morpheme (or licenser)” (Harley and Noyer 1999: 3). This entails that a noun is a root with a D licenser; a verb is a root with *v*, Aspect and Tense licensers; an adjective is a root with an *a* licenser.

Baker’s (2003) approach to lexical categories is syntax-oriented as well, manifested in particular in the idea that a verb is a category which projects a specifier, whereas a noun has a Referential Index and an adjective neither has a specifier nor a Referential Index. This idea is consistent with some of the DM ideas. Additionally, Baker ties the “syntactic property of having a specifier” to “the morphological property of bearing tense inflection” and furthermore to “the semantic property of assigning an agent”. However a verb does not necessarily show all of these properties, such that “a word that has a syntactic specifier but no tense marking or theta-role is still a verb, as *seem* in a sentence like *Julia made it seem that she was tired*” (Baker 2003: 267). An adjective on the other hand need to be merged with a functional category Pred, which provides it with a specifier in order to license an argument and thus makes it function as a predicate. Adjectives, in Baker’s view, never license any arguments neither internal nor external. (Baker 2003: 35-36)

Josefsson (1997, 1998, 2001, 2005) suggests that roots are category neutral. A word is derived by a root being merged with a categorial head, which then projects. In her system categorial heads denote specific properties such that a verbal head denotes an Event and an adjectival head denotes a Property. Josefsson analyses past participles in terms of incorporation (cf. Baker 1988). In her opinion both verbal and adjectival past participles are adjectives, denoting property. Verbal past participles are adjectives, which have embedded verbal heads. The verbal participle needs to check its perfectivity features in an Asp node (Josefsson 1997: 147ff).

3 Criteria for categorizing participles

In this section we will discuss some of the criteria for classifying words as participles that have been suggested for Swedish and English. Most of them are advanced for passive participles, although some of them seem valid for present participles as well. The most common definition, advanced among others by Teleman et al. (1999), is that a verbal participle has the same denotation as the corresponding verb, even when used in an adjectival function.

Words ending in *-andel/-ende* may function as verbs, adjectives or nouns. A first rough classification is made in (3) – (5). In (3) is exemplified a present participle non-finite predicate, in (4) a present participle acting as a modifier, and in (5) and (6) *-andel/-ende*-derivations functioning as noun phrases. In (5) the *-ande*-nominalization is inflected for definiteness and in (6) it is modified by a possessor, both of which are properties of nouns. Notably, *visslande* ‘whistling’ has the same denotation as the corresponding verb *vissla* ‘whistle’, in all four cases.

- (3) Kalle gick **visslande** nationalsången över gatan
 Kalle go-PAST whistle-ANDE national anthem-DEF across street-DEF
 ‘Kalle crossed the street whistling’
- (4) Den **visslande** pojken
 DEF whistle-ANDE boy-DEF
 ‘The whistling man...’
- (5) **Visslandet** irriterade mig mycket
 whistle-ANDE-DEF annoy-PAST me a lot
 ‘the whistling annoyed me a lot’
- (6) Kalles **visslande** irriterade mig
 Kalle-POSS whistle-ANDE annoy-PAST me
 ‘the whistling of Kalle annoyed me’

3.1 Distinguishing verbal functions from adjectival functions

As shown in (3) and (4) present participles on the one hand appear as non-finite predicates and on the other as modifiers in noun phrases. We take present participles functioning as modifiers in noun phrases to be adjectival. Present participles functioning as non-finite predicates can be said to have verbal function when they retain the argument structure of the corresponding verb. This is the case in (3), where the complement *nationalsången* ‘the national anthem’ is the complement of *visslande* ‘whistling’ in the same way as it is the complement of its corresponding verb *vissla* ‘to whistle’, shown in (7).

- (7) Kalle visslade nationalsången
 Kalle whistle-PAST nation anthem-DEF
 ‘Kalle whistled the national anthem

Even though Swedish present participles irrespectively of categorial status have a common form on the surface, there exists at least one fairly solid morphological criterion for distinguishing verbal present participles from other words ending in *-ande/-ende*: Only verbal present participles may take an *s*-suffix as shown in (8) - (10). In (8), a verbal present participle, having retained the argument structure of the verb takes the *s*-suffix. No *s*-suffix is possible when the word in *-ande/-ende* has typical adjectival functions as in (9) and (10).

- (8) Lina tuggade högt, irriterande/-s oss alla
 Lina chew-PAST loudly annoy-ANDE/-S us all
 Lina chewed loudly annoying us all
- (9) Ett irriterande/*-s ljud
 INDEF annoy-ANDE/*-S sound
 ‘an annoying sound’
- (10) Ljudet var irriterande/*-s
 sound-DEF be-PAST annoy-ANDE/*-S
 ‘The sound was annoying’

The *s*-suffix only appears with verbal participles, as shown by Santesson (1993) and Thurén (2005). Assuming that present participles without *-s* and with a \emptyset -suffix, Thurén (2005) argues that the \emptyset -suffix and *s*-suffix are in a privative opposition, where the *s*-suffix is a marker of verbal status.

3.2 Distinguishing two varieties of adjectival functions

There are two varieties of *-ande/-ende*-words with adjectival function, adjectival present participles and true adjectives. True adjectives can appear both as modifiers, and as non-finite predicates. They can be distinguished from present participles both by syntactical and morphological criteria.

A syntactic criterion distinguishing present participles from adjectives is the fact that present participles cannot be modified by *mer* ‘more’ or *mycket* ‘much’. In (11) and (12), we find that the participle *liggande* ‘lying’ cannot be modified by *mer* ‘more’, nor can it be modified by *mycket* ‘much’, which is shown in (15) and (16). However *sammanhängande* ‘coherent’ in (13) and (14), (17) and (18), can be modified by *mer* ‘more’ and *mycket* ‘much’, which entails that it is an adjective although it looks like a participle on the surface.

- (11) Brevet blev *mer liggande
 letter-DEF remain.PAST *more lie-ANDE
 ‘the letter remained *more lying’
- (12) En *mer liggande man
 INDEF *more lie-ANDE man
 ‘a *more lying man’
- (13) Texten blev mer sammanhängande
 text-DEF become.PAST more coherent-ANDE
 ‘the text became more coherent’
- (14) En mer sammanhängande text
 INDEF more coherent-ANDE text
 ‘a more coherent text’
- (15) Brevet blev *mycket liggande på skrivbordet
 letter-DEF remain.PAST *much lie-ANDE on desk-DEF
 ‘the letter remain lying on the desk’
- (16) Ett *mycket liggande brev
 INDEF *much lie-ANDE letter
 ‘a *much lying letter’
- (17) Texten blev mycket sammanhängande
 text-DEF become.PAST much coherent-ANDE
 ‘the text became much coherent’
- (18) En mycket sammanhängande text
 INDEF much coherent-ANDE text
 ‘a much coherent text’

A second criterion for distinguishing true adjectives from *-andel/-ende* present participles is the possibility of the adjective to be modified by *ganska* ‘rather’ and *väldigt* ‘very’ (Borer 1991). In (19) and (20) is exemplified *irriterande* ‘annoying’ lexicalised as an adjective.

- (19) En ganska/väldigt irriterande kusin
 INDEF rather/very annoy-ANDE cousin
 ‘a very annoying cousin’
- (20) Sture är ganska/väldigt irriterande
 Sture be.PRES rather/very annoying
 ‘Sture is rather/very annoying’

Yet another criterion to distinguish adjectives from present participles mentioned by Malmgren (1990) and Teleman et al. (1999) is that present

participles cannot be the complement of *vara* ‘to be’¹. *Liggande* ‘lying’ in (21) is ungrammatical as the complement of *vara* ‘to be’ whereas *sammanhängande* ‘coherent’ in (22) is not, entailing that the former is a participle whereas the latter is an adjective.

- (21) *Brevet var liggande
 *letter-DEF be.PAST lie-ANDE
 ‘the letter was lying’
 (22) Texten var sammanhängande
 text-DEF be.PAST coherent-ANDE
 ‘the text was coherent’

A morphological criterion distinguishing true adjectives from present participles is prefixation of negative *o-* ‘un-’ (Wasow 1977, Embick 2003), which is possible with true adjectives on *-ande/-ende* but not on verbal or adjectival present participles². Consider (23), (24), (25) and (26).

- (23) Brevet blev liggande/*oliggande
 letter-DEF remain.PAST lie-ANDE/*O-lie-ANDE
 ‘the letter remain lying/*unlying’
 (24) En liggande/*oliggande man
 INDEF lie-ANDE/*O-lie-ANDE man
 ‘a lying/*unlying man’
 (25) Texten blev sammanhängande/osammanhängande
 text-DEF become.PAST coherent-ANDE/O-coherent-ANDE
 ‘the text became coherent/uncoherent’
 (26) En sammanhängande/osammanhängande text
 INDEF coherent-ANDE/O-coherent-ANDE text
 ‘a/an coherent/uncoherent text’

In (23) and (24) *liggande* cannot be prefixed by *o-* which indicates that *liggande* ‘lying’ is a participle here. In (25) and (26) *sammanhängande* can be prefixed by *o-*, thus it is an adjective. Note however that some Swedish verbs are prefixed by *o-*, such as *ogilla* ‘dislike’ and *oroa* ‘worry’. Present participles corresponding to such verbs thus constitute a formal exception to our generalization about the *o-* prefix.

¹ In some southern Swedish dialects, the verbal present participles may be used in progressive constructions, such as *Är du gåendes?* ‘Do you walk?’. Furthermore, there seem to exist some examples of a marginal construction corresponding to English progressives, such as *Kurserna var fallande* ‘the stock market was falling’ and *Kvinnan var döende* ‘the woman was dying’.

² Josefsson shows that Swedish past participles can be prefixed by negative *o-*, using this as argument for participles being adjectives.

3.3 *-andel/-ende-nominalisations*

Another category with the same form as present participles is *-andel/-ende-nominalisations*. Swedish does not have Gerunds, i.e. *-andel/-ende-nominalisations* are not verbal in the sense of being able to license an NP-complement, which is shown in (27).

- (27) *Hennes sjungande glada visor
 *her.POSS sing-ANDE happy song-PL
 ‘her singing happy songs’

True *-andel/-ende-nominalisations* can be formed by any verb apart from state verbs, see Josefsson (1998: 96-97). These nominalisations appear with noun morphology, being inflected for definiteness, the definiteness is in turn inflected for gender and number, as shown in (28) and (29).

- (28) Sjungandet av glada visor
 sing-ANDE-DEF of happy song-PL
 ‘the singing of happy songs’
 (29) Betänkandena från utskottet oroadde oss
 report-ANDE-PL-DEF from committee-DEF worry-PAST US
 ‘the report from the committee worried us’

As mentioned, *-andel/-ende-nominalisations* behave like other nouns. They can also be modified by possessors, as shown in (30), and adjectives, as shown in (31).

- (30) Mitt betänkande oroadde regeringen
 my-POSS report-ANDE worry-PAST the government
 ‘my report worried the government’
 (31) Detta glada sjungande lättade upp festen
 this-POSS happy sing-ANDE lighten-PAST up party-DEF
 ‘this happy singing lightened up the party’

3.4 Conclusion

Concluding our discussion of classifying criteria, we have, apart from singling out nominalisations made a distinction between present participles and true adjectives ending in *-andel/-ende*; the present participles are further divided into verbal and adjectival ones. What has been analysed as true adjectives ending in *-andel/-ende* can be thought of as participles reanalysed as adjectives. Verbal and adjectival present participles reflect two different syntactic structures allowing the participles to surface in different syntactic functions, as modifier and as non-finite predicate. Their respective features can be summarized in table 1.

Table 1: Characteristics of the different participles

| | Verbal ptc | Adjectival ptc | Adjectives |
|---|------------|----------------|------------|
| Modified by <i>mer, ganska, mycket, väldigt</i> | - | - | + |
| Complement of <i>vara</i> | - | - | + |
| <i>o-</i> | - | - | + |
| Function as attributive modifier | - | + | + |
| Modified by manner adverbials | + | + | - |
| Verbal argument structure | + | - | - |
| <i>-s</i> | + | - | - |

In section 5 below we will suggest structural analyses for the two types of present participles and *-andel/-ende*-adjectives from which the properties in Table 1 can be derived. First, however, we have to discuss the aspect of Swedish present participles.

4 The aspect of Swedish present participles

In this section we will explore the aspect of Swedish present participles, both situation aspect and viewpoint aspect, where we in accordance with Saeed (2003) take situation aspect³ to describe the nature of the event or state of the predicate and viewpoint aspect⁴ to be the temporal distribution or contour of an event (i.e. perfective if the event is terminated and imperfective aspect if the event is ongoing or iterated) (Saeed 2003: 126). It will be argued that both verbal and adjectival Swedish present participles show imperfective viewpoint aspect. Imperfective viewpoint aspect has been observed for Swedish *-andel/-ende*-nominalisations by Loman (1964) and Josefsson (1997).

The relevant distinction is the one shown in (32) and (33) where (32) denotes perfective viewpoint aspect since the event is brought to an end, and (33) denotes imperfective viewpoint aspect, since the event is not brought to an end.

³ Also known as lexical aspect or aktionsart

⁴ Also known as grammatical aspect

- (32) Han skrev brevet före lunch
 he write.PAST letter-DEF before lunch
 ‘He wrote the letter before lunch’
- (33) Han skrev brevet när Stina ringde
 he write.PAST letter.DEF when Stina ring.PAST
 ‘He was writing the letter when Stina rang’

Since the telic situation aspect is expressing a process leading to a goal, and the imperfective view-point aspect is expressing a process seen from the inside, these two readings are incompatible. Hence, if the assumption is right that Swedish present participles are imperfective, the telic reading of a present participle will be deviant in (34) but not in (35).

- (34)*^{/?} Han satt skrivande brevet före lunch (cf (32))
 he sit.PAST write-ANDE letter-DEF before lunch
 ‘he was writing the letter before lunch’
- (35) Han satt skrivande brevet när Stina ringde (cf (33))
 he sit.PAST write-ANDE letter-DEF when Stina ring-PAST
 ‘he was writing the letter when Stina rang’

Although ‘write the letter’ is a telic VP, the time adverbial in (35) allows us to focus the process part, which is compatible with the imperfective reading. In (34), on the other hand, even though the adverb highlights the whole telic event, the imperfect reading of the *ande*-form prevents such an interpretation, resulting in a slightly deviant reading.

Another type of events is represented by achievement predicates, where an achievement can be defined as an “instantaneous change of state” (Saeed 1999:124). In (36) and (38) is exemplified two prototypical finite achievement predicates, *vinna* ‘to win’ and *stanna* ‘to stop’. Their non-finite present participle counterparts are exemplified in (37) and (39). In (37), the expected denotation of *vinnande* ‘winning’ would be punctual. However, due to the imperfective aspect of *-ande*, the time of the event seems stretched, and focussed. Similar to example (37) we expect *stannande* ‘stopping’ in (39) to be punctual, but in order to interpret the event we stretch the time by adding the manner adverbial *långsamt* ‘slowly’. As with accomplishment predicates we find that the events of the present participle achievement predicates are perceived from within, i.e. denote imperfective aspect.

- (36) Stig vann loppet
 Stig win.PAST race-DEF
 ‘Stig won the race’

- (37) Stig sprang vinnande/-s över mållinjen
 Stig run.PAST win-ANDE/-S across line-DEF
 ‘Stig ran across the line winning’
- (38) Stina stannade bilen
 Stina stop-PAST car-DEF
 ‘Stina stopped the car’
- (39) Långsamt stannandes/-s bilen kunde Stina avvärja olyckan
 slowly stop-ANDE/-S car-DEF can.PAST Stina ward of accident-DEF
 ‘slowly stopping the car, Stina warded of the accident’

For *-ande/-ende*-words formed by activity predicates (see Vendler 1957, Saeed 1999: 123-124), we predict no restrictions since such predicates denote atelic processes, i.e. ongoing events as in the examples (40) – (43).

- (40) Kalle springer
 Kalle run.PRES
 ‘Kalle runs’
- (41) Stig kom springande/-s
 Stig come.PAST run-ANDE/-S
 ‘Stig came running’
- (42) Stina spelar gitarr
 Stina play-PRES guitar
 ‘Stina plays the guitar’
- (43) Hon kom upp på scen spelande/-s gitarr
 she come.PAST up on stage play-ANDE/-S guitar
 ‘she entered the stage playing the guitar’

Turning to *-andel/-ende*-words formed by predicates that denote states, we might expect, in accordance with Embick (2004), that such words get adjectival reading. However, this is not the case. Instead, a verbal present participle predicate may denote a specific state, which is shown in (44), and a reanalysed present participle, i.e. true adjective ending in *-andel/-ende*, may denote a generic state such as (45).

- (44) Ture blev liggande/-s i sängen
 Ture remain.PAST lie-ANDE/-S in bed-DEF
 ‘Ture remained in bed’
- (45) Andelen var betydande
 share-DEF be.PAST significant-ANDE
 ‘the share was significant’

It is a well-known fact that progressives cannot be derived from state verbs (individual level predicates) in English, hence sentences like **Whales are being*

mammals are ungrammatical (Cinque 1999: 99). Similar effects can be shown for Swedish present participles derived from state verbs like *älska* ‘love’. The denotation of the sentence in (46) is specific state, i.e. it means ‘making love to my wife’, if it is possible at all.

- (46) [?]Älskande/-s min fru kunde jag inte ta telefonen
 love-ANDE/-S my.POSS wife can.PAST I not take phone-DEF
 ‘making love to my wife I could not answer the phone’

Josefsson (1997) observes the same restriction for *ande*-nominalisations; *älskande* ‘loving’ picks up the specific reading and not the generic one.

The imperfective reading seems to hold also for present participles functioning as modifiers, which is illustrated in (47) and (48).

- (47) Den skällande hunden
 DEF bark-ANDE dog-DEF
 ‘the barking dog’
 (48) Den sjungande polisen
 DEF sing-ANDE policeman-DEF
 ‘the singing policeman’

In (47), *den skällande hunden* ‘the barking dog’ can be rephrased *hunden som skäller* ‘the dog that barks/the dog which is in the process of barking’. Similarly in (48) *den sjungande polisen* ‘the singing police’ can be rephrased as *polisen som sjunger* ‘the police that sings’ or *sjungande* can be reanalysed as a true adjective characterizing the police.

Concluding it seems to be the case that present participle predicates, due to their imperfective aspect, are hard to combine with accomplishment, achievement and generic state readings. Instead, a verbal present participle derived from a verb denoting accomplishment or achievement displays a reading where the event expressed by the participle is perceived from within or seen as repeated. Generic state readings are obtained in case we have a true adjective ending in *-andel-ende*. Given our observations it seems reasonable for us to assume that the *-andel-ende* affix denotes imperfective aspect and that it should be syntactically encoded on both verbal and adjectival present participles (and *-andel-ende* nominalisations in accordance with Josefsson (1997)).

5 The syntactic structure of Swedish present participles

Departing from the data presented in sections 3 and 4, we will derive structures for the three kinds of present participles that we have discerned, i.e. verbal and adjectival present participles, and true adjectives ending in *-andel-ende*

(reanalysed present participles), leaving nominals on *-andel/-ende* unanalyzed. Our analysis will take into account claims made by Baker (1988, 2003) Harley and Noyer (1999), Embick (2004), and Josefsson (1997, 1998, 2001, 2005).

5.1 Prerequisites

In section 3, we have highlighted a number of tests that can be used to categorize Swedish *-andel/-ende* words. Such words can be grouped into verbal present participles, adjectival present participles, true adjectives and *-andel/-ende*-nominalisations. Verbal present participles appear as non-finite predicates after certain verbs or as the predicate of small clauses. Teleman et al. (1999) state that verbal present participles appear as complements to *bli* ‘become, remain’ (Teleman et al. 1999[3]: 353) and as complements to *komma* ‘come’ (Teleman et al. 1999[3]: 357). This is shown in (49) and (50). Other candidates to take verbal present participles as their complements, listed by Teleman et al. (1999[3]: 356), are verbs denoting motion and position. As will be shown below, verbal present participles may also appear as secondary predicates to causative verbs which do not denote changes, such as *ha* ‘have’ in (51). Furthermore, present participle phrases used as small clauses can be verbal, such as (52) and (53).

In (49) – (53) we apply tests that discern present participles. In the (a) examples we show that verbal present participles take the optional *s*-suffix, which only appears on verbal present participles. In the (b) examples we show that the present participles resist prefixation by negative *o-*, which is a test for adjective hood, and in the (c) examples we show that the present participles cannot be modified by *mer* ‘more’, which is also a test for adjective-hood.

- (49) a. Sven blev liggande/-s i feber
 Sven remain.PAST lie-ANDE/-S in fever
 ‘Sven remain lying in a fever’
 b. Sven blev *oliggande i feber
 Sven remain.PAST O-lie-ANDE/-S in fever
 ‘Sven remained *unlying in a fever’
 c. Sven blev *mer liggande i feber
 Sven remain.PAST *more lie-ANDE/-S in fever
 ‘Sven remained more lying in a fever’
- (50) a. Sven kom körande/-s över åsen
 Sven come.PAST drive-ANDE/-S across ridge-DEF
 ‘Sven come driving across the ridge’
 b. Sven kom *okörande över åsen
 Sven come.PAST O-drive-ANDE/-S across ridge-DEF
 ‘Sven come *undriving across the ridge’

- c. Sven kom *mer körande över åsen
Sven come.PAST *more drive-ANDE/-S across ridge-DEF
'Sven come more driving across the ridge'
- (51) a. Sven hade några böcker liggande/-s på skrivbordet
Sven have.PAST some book-PL lie-ANDE/-S on desk-DEF
'Sven had some books lying on his desk'
- b. Sven hade några böcker *oliggande på skrivbordet
Sven have.PAST some book-PL O-lie-ANDE/-S on desk-DEF
'Sven had some books *unlying on his desk'
- c. Sven hade några böcker *mer liggande på skrivbordet
Sven have.PAST some book-PL *more lie-ANDE/-S on desk-DEF
'Sven had some books more lying on his desk'
- (52) a. Sven gjorde stor succé spelande/-s fiol
Sven make.PAST huge success play-ANDE/-S violin
'Sven made a huge success playing the violin'
- b. Sven gjorde succé *ospelande fiol
Sven make.PAST huge success *O-play-ANDE/-S violin
'Sven made a huge success *unplaying the violin'
- c. Sven gjorde succé *mer spelande fiol
Sven make.PAST huge success *more play-ANDE/-S violin
'Sven made a huge success *more playing the violin'
- (53) a. Vi såg Sven ätande/-s kakor
We see.PAST Sven eat-ANDE/-S cookie.PL
'We saw Sven eating cookies'
- b. Vi såg Sven *oätande kakor
We see.PAST Sven *O-eat-ANDE/-S cookie.PL
'We saw Sven *uneating cookies'
- c. Vi såg Sven *mer ätande kakor
We see.PAST Sven *more eat-ANDE/-S cookie.PL
'We saw Sven *more eating cookies'

We may add further evidence for the verbal nature of the participles in (52) and (53). Both *spelande* 'playing' and *ätande* 'eating' take an NP-complement, which indicate that the argument structure of the corresponding verb is intact.

In (54) – (56) we show present participles modifying nouns, a typical adjectival function. In the (b) examples we show that present participles used as modifiers, never take the optional *s*-suffix that marks for verb hood. In (c) we show that present participles used as modifiers resist prefixation by negative *o-*, and furthermore cannot be modified by *mer* 'more', shown in the (d) examples, both of which are tests for true adjectives.

- (54) a. den liggande mannen
 DEF lie-ANDE man-DEF
 ‘the lying man’
 b. den liggande/*-s mannen
 DEF lie-ANDE/*-S man-DEF
 ‘the lying man’
 c. den *oliggande mannen
 DEF *O-lie-ANDE man-DEF
 ‘the *unlying man’
 d. den *mer liggande mannen
 DEF more lie-ANDE man-DEF
 ‘the *more lying man’
- (55) a. den körande mannen
 DEF drive-ANDE man-DEF
 ‘the driving man’
 b. den körande/*-s mannen
 DEF drive-ANDE/*-S man-DEF
 ‘the driving man’
 c. den *okörande mannen
 DEF *O-drive-ANDE man-DEF
 ‘the *undriving man’
 d. den *mer körande mannen
 DEF *more drive-ANDE man-DEF
 ‘the *more driving man’
- (56) a. den sjungande mannen
 DEF sing-ANDE man-DEF
 ‘the singing man’
 b. den sjungande/*-s mannen
 DEF sing-ANDE/*-S man-DEF
 ‘the singing man’
 c. den *osjungande mannen
 DEF *O-sing-ANDE man-DEF
 ‘the *unsinging man’
 d. den *mer sjungande mannen
 DEF *more sing-ANDE man-DEF
 ‘the *more singing man’

We distinguish the present participles used as modifiers from true adjectives by comparing them to the *-ande/-ende*-words in (57). In (57), we show that *sammanhängande* ‘coherent’ does not take the optional *s*-suffix, hence is not a verbal present participle. Furthermore, *sammanhängande* can be prefixed by negative *o-* ‘un-’, and be modified by *mer* ‘more’, which suggest that contrary to

liggande ‘lying’, *körande* ‘driving’ and *sjungande* ‘singing’ in (54) – (56), *sammanhängande* ‘coherent’ is a true adjective.

- (57) a. den sammanhängande texten
 DEF coherent-ANDE text-DEF
 ‘the coherent text’
 b. den sammanhängande/*-s texten
 DEF coherent-ANDE/*-S text-DEF
 ‘the coherent text’
 c. den osammanhängande texten
 DEF O-coherent-ANDE text-DEF
 ‘the uncoherent text’
 d. den mer sammanhängande texten
 DEF more coherent-ANDE text-DEF
 ‘the more coherent text’

Yet another argument for claiming that *sammanhängande* ‘coherent’ contrary to *liggande* ‘lying’ is a true adjective is the fact that it can appear as a complement to the copula *vara* ‘be’, which is shown in (58) and (59).

- (58) a. Texten var sammanhängande
 text-DEF be-PAST coherent-ANDE
 ‘the text was coherent’
 b. Texten var sammanhängande/*-s
 text-DEF be-PAST coherent-ANDE/*-S
 ‘the text was coherent’
 c. Texten var osammanhängande
 text-DEF be-PAST O-coherent-ANDE
 ‘the text was uncoherent’
 d. Texten var mer sammanhängande
 text-DEF be-PAST more coherent-ANDE
 ‘the text was more coherent’
 (59) *Texten var liggande
 *text-DEF be.PAST lie-ANDE
 ‘the text was lying’

True adjectives also appear as secondary predicates in resultatives, which is shown in (60).

- (60) a. Debatten gjorde mig rasande
 debate-DEF make.PAST me furious-ANDE
 ‘the debate made me furious’

- b. Debatten gjorde mig rasande/*-s
debate-DEF make.PAST me furious-ANDE/*-S
'the debate made me furious'
- c. Debatten gjorde mig *orasande
debate-DEF make.PAST me O-furious-ANDE
'the debate made me *unfurious'
- d. Debatten gjorde mig mer rasande
debate-DEF make.PAST me more furious-ANDE
'the debate made me more furious'

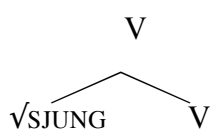
Some initial assumptions for the structures of the three types of *-andel/-ende*-words analysed here, i.e. verbal and adjectival present participles and true adjectives, can be taken over from previous research within the Distributed Morphology approach. Harley and Noyer (1999) state that participles may be represented by a root headed by Asp, which licenses participial morphology, and a categorial head v encoding Event licensing the external argument. A structure based on a participle differs from a structure base on a tensed verb in not having a T head encoding tense morphology. Consistent with the representation of verbs, an adjective should be headed by a categorial head a , and probably encoding adjectival morphology. In accordance with Josefsson (1997, 1998 etc.), we will take a to encode properties (i.e. generic states).

4.2 The derivations

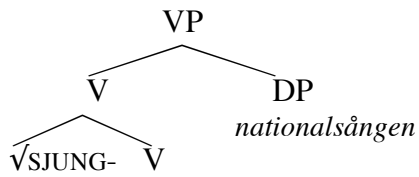
We will argue that the derivation of the three types of *-andel/-ende*-words discussed here takes place as follows. As a first step, a category neutral root (see Josefsson (1997, 1998) and Marantz (1997)) with a particular denotation is picked from the lexicon. Secondly observing that the present participle denotes an event or specific state, both properties typically found with verbs, we merge the category neutral root with V encoding an event or a specific state. Since internal arguments are standardly taken to be licensed as DP-complements to V, we there by also account for the fact that present participles can take internal arguments. We attribute this idea to Josefsson (1997: 147ff.), departing from Harley and Noyer's view that events are encoded in v .

These two initial steps in the derivation are depicted in (61) and (62):

(61) Step 1

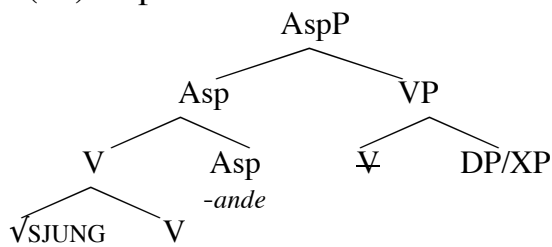


(62) Step 2



Consider next that Swedish present participles always denote imperfective aspect even when they are based on a verb that denotes a telic event, see section 4. It seems reasonable to connect imperfectivity to the *-ande/-ende*-suffix, i.e. the participial morphology. The third step of the derivation accounts for imperfectivity, in accordance with Harley and Noyer (1999) and Embick (2004), we license participial morphology in a functional head Asp that selects VP. We then head-move V to Asp and adjoin the $\sqrt{\text{V}}$ - V complex to Asp in order to get the linearization right, yielding the structure in (63).

(63) Step 3



The fourth step of the derivation differs for verbal and adjectival participles. Starting with verbal present participles, we have shown that there are both morphological and syntactical evidence for present participles being verbal. Firstly, we have shown that the *s*-suffix is always available for Swedish verbal present participles. Consequently, we assume a head that licenses the *s*-suffix⁵. Secondly, we have shown that the verbal present participle takes an external argument; there is always at least the conception of a subject to the present participle, also when the present participle licenses an internal argument. Consider (64) and (65), which represent evidence for a specifier.

⁵ We also assume a \emptyset -variety of the same suffix, licensed by the same head. Due to standardisation during the 18th, 19th and 20th centuries, the *s*-suffix frequency is rather low but always available when the participle is verbal. A search in the SVD02 corpus of 13 131 043 words (www.sprakbanken.gu.se), we get 85887 instances of *-ande*, 12242 instances of *-ende*, 322 instances of *-andes* and 89 instances of *-endes*, since an unknown part of the 85887+12242 *ande/ende*-words are adjectival present participles, nominals or true adjectives, we cannot tell often *-s* is attached to the verbal present participle.

- (64) Elin_i blev t_i liggande t_i på fotbollsplanen
 Elin remain.PAST lie-ANDE on the pitch-DEF
 ‘Elin remained lying on the pitch’
- (65) Här ser ni Tyskland och Tjeckien_i [PRO_i jagandes Mattias
 Fredriksson]
 Here see.PRES you Germany and Czech Republic-DEF PRO
 chase-ANDE-S Mattias Fredriksson
 ‘Here you see Germany and the Czech Republic chasing Mattias
 Fredriksson’

In (64), the subject *Elin* is in relation to both the finite verb *blev* ‘remained’ and to the non-finite predicate *liggande* ‘lying’. Since *liggande* ‘lying’ is derived from the intransitive verb *ligga* ‘lie’ we can assume that the subject of *liggande* ‘lying’ is generated as its internal argument, and then raised to the subject position of the present participle spec-*v*P. However, the derivation is not complete. The subject *Elin*, has to raise further to some specifier of *blev* ‘remained’⁶. This analysis should also hold for present participles in the complement of *komma* ‘come’, and verb denoting motion and location.

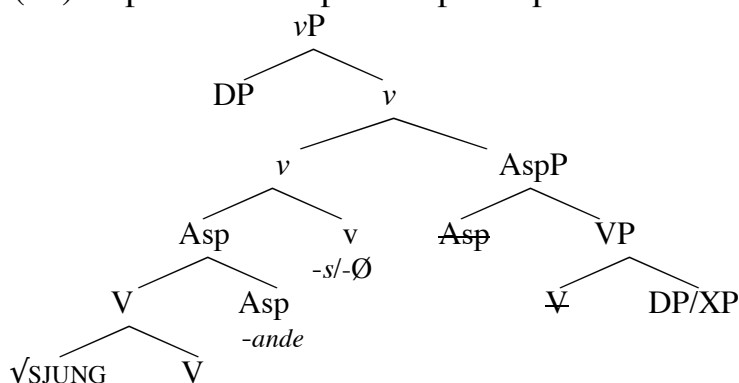
In (65), the present participle phrase functions as an adjoined small clause. In order for the null subject of the small clause to obtain semantic interpretation we need Control. To obtain Control, in this example from the object of the matrix clause, the invisible subject PRO must raise to Spec-*v*P. Control can be seen as a special instance of the operation Agree between features of matrix clause T and unvalued features of Spec-*v*P of the small clause; for details see Landau (1999) and Thuren (2006).

Having established evidence for an external argument the fourth step of the derivation will proceed as follows. In accordance with Harley and Noyer (1999) we take *v* to license the external argument, hence also the *s*-suffix. For unaccusative participles, we assume that the internal argument is merged in the complement of V, and then raised to Spec-*v*P, presumably to satisfy some edge/EPP feature of *v*⁷. This is consistent with Baker’s (2003) definition of a verb as a category that has a specifier. Headmoving and adjoining Asp to *v* will yield the correct form of the verbal present participle, with or without the *s*-suffix. In (66) is represented the structure of the verbal present participle. (66) holds for the present participle phrase in (64) as well as for the phrase in (65). The two differ in the way they combine with the other elements of the clause.

⁶ This analysis holds, if we presuppose that bli ‘to become’ does not assign a theta role to the subject. If it does, the theta criterion is violated.

⁷ An alternative view would be to assume several different *v*:s in accordance with Embick (2004).

(66) Step 4 – Verbal present participle



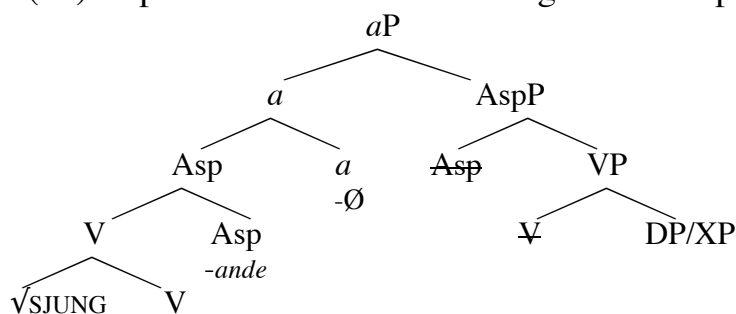
As mentioned above, up to Step 3 (see (63)), the analyses of adjectival present participles are identical, capturing the fact that both types of present participles have the same denotation as their corresponding verb. This analysis is also supported by the fact that both verbal and adjectival present participles can be modified by manner adverbials that take scope over events (Ernst 2000). If the adjectival present participle has a VP in its underlying structure, it should also be able to take DP complements a correct predication as (67) – (69) show.

- (67) den visor visslande polisen
 DEF song-PL whistle-*ande* policeman-DEF
 ‘the songs whistling policeman’
- (68) den Bibeln läsande prästen
 DEF Bible-DEF read-*ANDE* priest-DEF
 ‘the Bible reading priest’
- (69) den tåget körande lokföraren
 DEF train drive-*ANDE* driver-DEF
 ‘the train driving driver’

As we have demonstrated, adjectival present participles also seem to have an imperfective interpretation, which suggests that they also need AspP in their representation.

However, step 4 in the derivation of adjectival present participles must differ from that of verbal present participles, since the adjectival present participle appears as a modifier in a DP. To account for this, we will assume that the structure of in (63) is merged to little *a*, a categorial head that will account for the use of the adjectival present participle as a modifier to a noun. Hence we propose that adjectival present participles have the structural representation in (70). The only thing that distinguishes verbal and adjectival present participles is the uppermost functional category of the phrase. The linearization is achieved in the same way as for verbal present participles, that is by head-moving Asp to *a*.

(70) Step 4 of the derivation – merge *a* and AspP



An important question raised by this structure is why an adjectival present participle cannot appear as a complement of copular *vara* ‘be’. According to Baker (2003), an adjective neither projects a specifier, nor does it have referential index. A consequence of this is that an adjective in itself does not licence any arguments at all. In order for the adjective to appear as a predicate and license an argument, it needs a functional head, which provides this ability; thus any argument of an adjective is external. Baker calls this functional head Pred, but it may just as well be *v*. Given that the role of copular *vara* ‘be’ is to provide the opportunity of licensing an argument we see the clash, since the structure in (70) already license an internal argument in the complement of V. There is no need for *vara* ‘be’ to provide an argument to the predicate.

Another question that is raised is why a Degree head for modifiers like *mer* ‘more’ and *ganska* ‘rather’ cannot extend the structure. This follows from our analysis, since the internal structure of the phrase is verbal and that degree adverbs take scope over adjectives. Similarly the fact that manner adverbials may modify the present participle might be explained by the internal structure of the adjectival present participle phrase. As mentioned above, manner adverbs take scope over events (see for instance Ernst 2000), and our analysis of adjectival present participles includes an event maker V for the manner adverb to take scope over. In (71), *högt* ‘loudly’ modify not the head noun, but the event *sjungande* ‘singing’, represented by V.

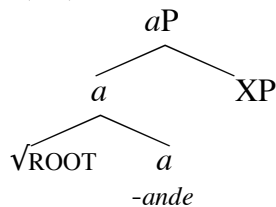
(71) Den högt sjungande polisen
 DEF loudly sing-ANDE policeman-DEF
 ‘the loudly singing policeman’

We will now turn to true adjectives on *-andel-ende*, such as *sammanhängande* ‘coherent’ in (72), and *oberoende* ‘independent’ in (73). These words have the characteristics of adjectives such that they can be modified by *mer* ‘more’, and *ganska* ‘rather’ and they may be prefixed by negative *o-* ‘un-’.

- (72) a. den sammanhängande texten
 DEF coherent-ANDE text-DEF
 ‘the coherent text’
 b. Texten var sammanhängande
 text-DEF be.PAST coherent-ANDE
 ‘the text was coherent’
- (73) a. det oberoende barnet
 DEF independent-ENDE child-DEF
 ‘the independent child’
 b. Barnet var oberoende
 child-DEF be.PAST independent-ENDE
 ‘the child was independent’

In (72) and (73), we see that the present participles do not denote an ongoing event but a property of a noun. Hence we cannot motivate a V in their structural representation. Furthermore, since they do not denote an ongoing event, *-andel/-ende* does not seem to provide imperfectivity. Hence, for the derivation of true adjectives ending in *-andel/-ende* we assume that *-andel/-ende* has been reanalysed as an adjectival derivational suffix, licensed by a categorial head *a*, which does not give imperfective aspect to the *-andel/-ende* word. Given these circumstances we take the representation of true adjectives ending in *-andel/-ende* to be that of ordinary adjectives, represented in (74).

(74) Derivation of an adjective



If Baker is right about the adjective needing a functional head to license an argument, we may explain why the structure in (74) can appear as the complement of copular *vara* ‘be’. In order to converge it need to be provided with an argument, by a functional head which it does not have, but which *vara* ‘be’ provides.

From the three structures presented above all the properties listed in table 1 may be derived.

6 Conclusions

In order to account for the similarities between *-andel-ende-*words in Swedish, we have assumed that lexical categories are syntactic objects and not primitives (Baker 2003) and that roots are unspecified for lexical category (Josefsson 1997, 1998).

We started out by showing that there are reasons to assume two types of Swedish present participles, viz. verbal and adjectival present participles, in addition to true nominals and true adjectives. The unspecified root account for the fact that these four types share the same denotation. The V head present in both verbal and adjectival present participles accounts for their event denotation and their ability to license an internal argument. Furthermore, the Asp head accounts for their imperfective reading. The two present participles differ only in their categorial head *v* or *a* respectively. As we have shown, this difference allows the first to appear as a predicate taking both an external and an internal argument and the other as an attributive modifier. Small *v* is also taken to license the particular Swedish present participle *s-*suffix, which clearly marks the participle as verbal in nature (Thurén 2005). For our third category, true adjectives, *-andel-ende* has been reanalysed as an adjectival morpheme and is licensed by the categorial head *a*.

In relation to a finite verb, the structure of a verbal present participle differs in not licensing tense. The adjectival present participle is structurally different from adjectives since it is only the outermost head, which is adjectival.

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