Nominalizations and Participles in Swedish

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Contents

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Chapter 1

Introduction

1.1 Introduction

Verbs typically have a couple of morpho-syntactic properties that separate them from adjectives and nouns. Most notably, they can typically assign structural case and carry tense and person agreement marking, while nouns and adjectives normally lack these properties. From a semantic perspective, verbs are usually assumed to denote events, while nouns denote individuals and adjectives denote properties. Verbal stems can however show up in typical adjectival and nominal contexts, showing adjectival and nominal properties as well. When verbs turn up with adjectival properties we call them participles, and as participles, they have more restricted abilities to assign case (just like other adjectives), and they in general do not carry tense marking (just like adjectives) and do not show person agreement, but rather gender agreement (just like adjectives). When verbs turn up as nouns we call them nominalizations (or verbal nouns), and as nominalizations, they have a more restricted ability to assign structural case and carry tense marking, just like nouns in general. Further, if a nominalization shows gender, number and person marking, this marking reflects the gender/number/person of the noun itself, and not any of its arguments.

It is well established in the literature that certain types of participles show more verbal features than other types of participles, and that certain types of nominalizations show more verbal features than other types of nominalizations (see Chomsky 1970, Wasow 1977, Levin and Rappaport 1986, Abney 1987, Grimshaw 1990, Kratzer 1996, Kratzer 2000, Rapp 2000, Alexiadou 2001, Embick 2004, Emonds 2000, Harley 2007, Alexiadou 2007 etc.). I will quickly exemplify this below, using examples from English. In (1b) we see

a construction with a passive participle that shows most of the typical verbal traits: it assigns accusative case and it has exactly the same eventive properties (i.e. expresses the same aspect and aktionsart) as the corresponding active sentence in (1a). The passive and the active sentence also contain exactly the same arguments (Agent, Recipient and Theme), although in the passive version the Agent is optional.

(1) a. The university offered him a new job yesterday.
b. He was a offered a new job (by the university) yesterday.

The participle in (1b) still shows some adjectival behavior: it cannot for example carry tense marking and person agreement. Further, in many languages where predicative adjectives show gender agreement, verbal participles corresponding to the one in (1b) would show gender and number agreement as well (e.g. Swedish and Romance languages).
In (2b), another example of a passive participle is given:

(2) a. Peter (*still) broke the window yesterday.
b. The window was still broken (*by Peter) yesterday.

Here, the active and passive construction differ from each other both in terms of eventivity and argument structure: the active sentence denotes an achievement (a punctual change), while the passive sentence denotes a state, just like most non-derived adjectives do. This is clearly seen in the interpretation of the temporal adverb “yesterday”: in (2a) the adverb can only pick out the time of the event, while in (2b) it can only pick out the time when the state of the window being broken holds. This difference is not seen in (1). Regarding the argument structure, the active sentence has two arguments - an Agent and a Patient, while the passive sentence only has one argument (corresponding to the Patient of the active verb). The Agent is absent, and it’s actually not possible to tell if (2b) is derived from a transitive structure or an unaccusaitve structure (*The window broke yesterday*). Just like an adjective, the participle *broken* can’t license an agent in this context. A more detailed description of different types of participles will be given in chapter 5.

In the nominal domain, a pattern parallel to that of the participles can be seen. In (3) a transitive finite verb is given, with tense marking and person agreement, and two arguments carrying structural case.

(3) He paints pictures featuring the recent disturbances in Los Angeles.

In (4), three different types of nominalizations of the same verb (*paint*) are given, all derived with the suffix *-ing* (see .e.g. Lees 1964, Chomsky 1970,

Ross 1973 and Abney 1987 for discussion of different type of *ing*-nominals). The three examples show a declining amount of verbal properties:

(4) a. [John's painting a picture featuring the recent disturbances in Los Angeles] caused a huge riot among the art people.
b. A classic example is [John L's painting **of** a picture featuring the recent disturbances in Los Angeles].
c. [A painting (*of picture featuring the recent disturbances in Los Angeles) by John L] hung on the wall

The POSS-*ing* in (4a) shows many of the typical verbal properties: it assigns accusative case to its internal argument, and it denotes an event, just like its full verbal counterpart in (3). It however doesn't carry tense marking and person agreement. Further, the subject is marked as a possessor, and the whole nominalized phrase occupies a typical DP/NP position (subject position). In (4b), an *ing of* -nominalization is given. It retains the eventive properties of the full verb and the POSS-*ing*, but it cannot assign accusative case to its internal argument, which instead surfaces with the preposition *of* (Genitive Case). In (4c) a result nominalization is given, that doesn't refer to an event at all. In this context the internal argument cannot surface.

This thesis is about nominalizations and participles. The core of the thesis is three closely related case-studies of three suffixes in Swedish: The nominalization/present participle suffix *(e/a)-nde*, the nominalizing *(n)ing* and the passive/perfect participle *-d/t*. *(E/a)-nde* is a suffix that can attach to a verbal stem and create either something that will behave like a noun or an adjective (the participial use). *-(N)ing* is a suffix that attaches to verbal stems and creates something that behaves like a noun, and *d/t* is a suffix that attaches to a verbal stem and creates something that behaves like an adjective. The following chapters all discuss different aspects of these affixes. The dissertation touches on data that classically have been thought of as being somewhere in the border zone between the productive syntactic rule system and the idiosyncratically stored lexicon. The three suffixes under discussion are highly productively used. None of them however can attach to all verbal stems. Further, all of the three affixes can give rise to different types of readings, and the readings that are available for each verbal stem seem to be largely determined by the verbal root. The main goal of the dissertation is to get a better understanding of how the lexical information of verbal roots/stems affects morpho-syntactic operations.

I will follow certain ideas developed recently at the University of Tromsø (see e.g. Ramchand 2008, Svenonius 2006, Starke 2001 (and ideas presented

in recent seminars by Starke), Caha 2007 etc.) that concern syntax-lexicon and syntax-semantics interface, which will be described in detail in section 1.3. Some basic questions that will be discussed are the following. What is the nature of lexical items? Are there different types of lexical items, e.g., functional and "lexical" items? To what extent are the syntactic and semantic properties of a verb inherited in participles and nominalizations. A more extensive list of the sub-topics of this thesis will be presented in the end of this introduction chapter. First I will present some of the classical questions that everyone that works on participles and nominalizations has to take into consideration, thereafter some relevant approaches to nominalizations/participles followed by my take on the issue.

1.2 Basic questions and background

The first big issue is what the relation between the verb and the derived noun/adjective is. There are basically three relevant possible scenarios, which I will go through briefly below. After that, I will go through some analyses of nominalizations and participles, and see how they relate to the three scenarios.

1. *The verb and the corresponding participle/noun are stored as independent lexical entries.*
   In this scenario, what I have called suffixes aren't really suffixes, but rather part of roots. The lexicon will in such case contain entries like the following:

   (5) a. $\text{samla}_V = \text{collect}_V$
   b. $\text{samlande}_{A,N} = \text{collecting}_{A,N}$
   c. $\text{samling}_N = \text{collection}_N, \text{collecting}_N$
   d. $\text{samlad}_A = \text{collected}_A$

   Given that all the suffixes under discussion are productive, this scenario is quite unlikely to be the right one. It is also easy to isolate the syntactic and semantic contribution of both the root and the suffix in most cases, which makes it easy for the language learner to segment the word into a root/stem and a suffix. In some cases it's further obvious that the derived noun or adjective/participle inherits syntactic traits from the underlying verb, e.g. Case-assigning properties or the licensing of adverbial rather than adjectival modification. In these cases, it's more likely that the respective noun or adjective/participle is syntactically derived

from the verb.
There are however cases where the semantic relation between a verb and a nominalization or participle is less transparent, and in such cases it is more plausible to assume that they both are independent lexical entries. Take for example the English noun *build-ing* in a context like *the green building*. It looks just like a regular *ing*-derived nominalization, but there is no straightforward way to get to the very specific meaning of *building* (i.e., something like "a bigger, official house") from the semantics of the verb *build*.[1]
It has been proposed by e.g. Jackendoff (1975) and Zucchi (1989) that many nominalizations that carry non-productive nominalizing morphology, like *performance* are stored in the lexicon alongside with the verb, and that a lexical redundancy rule relates the two entries.

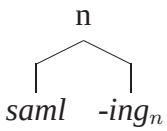
2. *A category neutral root is combined with a category assigning node.*
This idea goes back at least to Chomsky (1970), who argues that a lexical item like *refuse* is stored without any category feature. It can therefore surface as a verb, spelled out a *refuse* or as a noun as *refusal*. Some frameworks today take it to be the default case that roots are stored without category information, and that category is determined solely by functional items that combine with the roots. Most notably this view is advocated by people working within Distributed Morphology (DM) (Halle and Marantz 1993) and in works by Hagit Borer (see e.g. Borer 2005). One big question related to this position is whether the roots combine with the category assigning head in the syntax or in a pre-syntactic lexical module. I will not spend too much time on this question in this dissertation, but instead follow e.g. Baker 1988, Borer 2005 and Marantz (1997b) in assuming that these processes take place in the syntax (and further, that the syntax is the only generative component of the language faculty). Under this scenario, the lexicon could contain entries like the following:

(6) a. saml(a) = collect
b. a/e-nde = Adj (part)
c. a/e-nde = Noun
d. (n)ing = Noun

The structure of a derived nominal or adjective could then look like the following (only nominalization exemplified):

[1]Observe that *building* isn't just a result nominalization, since it cannot refer to all results of building event, i.e., you can build a boat, but you cannot refer to the boat as a building.

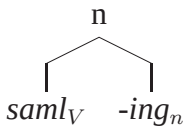
(7)



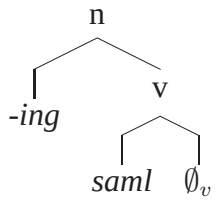
The most crucial part in this story is that there are two radically different types of item that language deals with: The ones with category information (the functional items) and the ones without category information (the roots). All the suffixes under discussion here share the property that they can only attach to roots that can also surface as verbs. (In fact their domains are all partially overlapping subsets of the set of items that can surface with tense morphology, i.e. as verbs). If this scenario is correct, this would have to be a coincidence. As will be further shown, the morphology indicates that this structure can't be right for the Swedish morphemes under discussion, with the possible exception of *(n)ing*

3. *Category specified item combines with a category changing item.*
This scenario is compatible both with a theory that has category neutral roots and theory where all items are specified for category. The nominalization *saml-ing* could plausibly have either of the following two structures:

(8) a. samling$_{noun}$ ("collection")



b. samling$_{noun}$ ("collection")



In both of these structures, the nominalizing morpheme is category changing, i.e. it takes something of the category v, and turns it into something of the category n. This should be compared with scenario 2, where the suffix doesn't change the category, but rather assigns a category. The structure in (8a) is basically what Abney (1987) proposes for derived nominals. The structure in (8b) is structurally similar to what

many linguists lately have proposed for nominalizations and participles that show obvious verbal traits, for example, Borer (2005), Alexiadou (2001), Embick (2004) and Harley (2007). In the proposals mentioned, the relevant category feature isn't always V (or v), but instead e.g. an aspectual head. There is in theory no limit to the number of projections that can embedded under the nominalizing/participle morpheme. As will be seen in the later discussion of Abney (1987), in a story where the syntax operates on category-specified elements, more functional material can of course also intervene between the verbal stem and the nominalizer or participial morpheme. The solution I will choose lies closest to the one sketched in (8a), where the nominalizing or adjectivalizing morpheme attaches to something that is already specified for category, though I will not take these categories to be V, A or N, as will be made explicit in the dissertation.

A fourth possible solution, which I won't take into consideration here, is a radical transformational account, that was the standard before Chomsky (1970), where participle phrases and nominalized phrases were derived from a full sentence via a transformation.

I will below first quickly present some of Chomsky's arguments against having all nominalizations being formed in the syntax, and further Wasow's parallel arguments for having some participles formed in the syntax, while having others stored or formed in a pre-syntactic lexical module (Wasow 1977). I will not discuss such proposals in great detail, but instead focus on purely syntactic treatments of nominalizations and participles that follow in the footsteps of Abney's (1987) seminal analysis of nominalizations in English.

1.2.1 Chomsky (1970)

Chomsky, building on earlier work on nominalizations, mainly Lees (1964), differentiates three types of nominalizations:

- Gerundive nominals: John's criticizing the book
- Derived nominals: John's criticism of the book
- Mixed nominals: John's criticizing of the book

The third type is called "mixed", since the nominal has the form of a gerund, and the syntax of a derived nominal. Chomsky argues for a transformational account of the gerundive nominals, and for a lexicalist treatment of

the derived nominals. For the mixed nominal, he is less sure, but suggests that they probably also should be given a lexicalist treatment. What he means with "lexicalist" here is basically that the relevant form enters the syntax as a noun, and therefore has the syntactic properties of noun.

Chomsky gives three arguments for having two different treatments of derived nominals.

1. **Productivity:** Chomsky points out that while the transformation that derives gerundive nominals is productive, and takes a wide array sentence structures as its input, derived nominals are much more restricted. He gives three examples of structures that only survive in gerundive nominalizations: Raising to subject, tough-sentences and certain psych constructions. Below is the pattern for raising exemplified:

   (9) a. Harry was certain to win the prize.
   b. Harry's being certain to win the prize...
   c. *Harrys certainty to win the prize... (no Raising within NP)

   More restrictions will be discussed in the following two subsections.

2. **The idiosyncratic relation between the derived nominal and the verb:** While all gerundive nominals have a transparent semantic relation to their corresponding verbs, this is not the case for derived nominals. Chomsky gives examples like *marriage, construction* and *laughter* where it's not obvious how to get the slightly idiosyncratic readings of these nominalizations.

3. **Difference in internal structure:** Derived nominals and mixed nominals have typical noun phrase syntax, i.e, they don't assign accusative case, they are modified by adjectives and they take a wide array of determiners. Gerundive nominals on the other hand have typical verbal internal structure, i.e., they assign accusative case, are modified by adverbs and do not allow determiners (except for the possessive *-s*).

As pointed out above, Chomsky proposes that some roots are not specified for lexical category, and they can surface in a different morphological form when they appear in noun position compared to when they surface in verb position (e.g,, *destroy - destruction, refuse - refusal*). He is however quite vague with respect to how and where the morphological rules that give rise to the verbal vs. nominal output actually apply. In the years following Remarks on Nominalizations, a lot of work was done in describing and motivating a lexical module, where derived nominals, adjectival participles and other

derived forms were generated. One of the most influential papers produced in this spirit was Thomas Wasow's *Transformations and the Lexicon*, which will be discussed in the next subsection.

1.2.2 Wasow (1977)

Wasow (1977) defended Chomsky's division of word forms that are stored or created in the lexicon, and word forms that are syntactically/transformationally derived. Most relevant for my dissertation is his discussion of passive participles in English. Wasow argues that the English passive participle must have two sources - one lexical and one transformational. Wasow makes the difference between lexical and transformational on similar grounds as Chomsky. Simplifying Wasow's arguments slightly, I will pick up on four criteria that Wasow gives for disambiguating lexical rules from transformations. First, transformations do not change node labels, while lexical rules may do so. Secondly, the lexical rules are local, in the sense that they can only involve an element and its argument. Thirdly, lexical rules apply before transformations, while transformations can feed into other transformations. Lexical rules can therefore feed into other lexical rules, while transformations can only feed into new transformations. Finally, lexical rules have a lot of idiosyncratic exceptions, while transformations have few or no true exceptions.[2]

Wasow starts with claiming that some passive participles are adjectives, while others are verbal. Given that the participles are formed from verbs, the node label must have been changed for the adjectival participles (from V to A), and, therefore, following the criterion above, a lexical rule must be involved. Wasow makes the claim that some participles are adjectives built on the following observations:

- They can appear in prenominal position, just like adjectives:

  (10) The broken/red box

- They can appear in the complement of certain verbs, that seem to have a raising flavor, just like adjectives:

  (11) John seemed/remained happy/annoyed at us.

[2]Wasow gives one more criterion: Lexical rules are structure preserving while this is not necessarily true for transformations. I will have nothing to say about this criterion here, since it is not straightforwardly translatable to the frameworks that will later be followed.

- They allow *un*-prefixation, whereas their verbal counterparts do not (this also shows that lexical rules can be the input of further lexical rules, i.e., *un*-prefixation):

  (12) a. The island was (un)inhabited by humans
  b. Humans (*un)inhabited the island.

- They can take typical adjectival degree modifiers, e.g. *very*, while verbs require *much*:

  (13) a. Your family was very respected/angry.
  b. John very *(much) respects your family

There are however passive participles that show typical verbal traits, and these, Wasow claims, have a transformational origin. Wasow gives two examples. First, adjectives do not assign accusative case, though passive participles formed from ditransitive verb do so:

(14) He was given a book.

Secondly, passive participles can be followed by predicative NPs, while this is not possible for adjectives:

(15) a. John is considered a fool.
b. *John is obvious a fool.

A further reason for analyzing some participles as transformationally derived is Wasow's second criterion (locality). Verbal participles can take a subject that has originated as a selected internal argument of the verb, most clearly seen in existential constructions:

(16) There is believed to be a monster in Loch Ness

This argument is less convincing though, given the existence of active phrases like *we believe there to be a monster in Loch Ness*, though Wasow also makes the same argument for passives of idiom chunks *Advantage has been taken of John by unscrupulous operators*, and for passives of verbs that, according to Wasow, take non-direct object internal arguments, like *help* and *thank*. The verbal participles, according to Wasow, have none of the adjectival properties of the adjectival passives. That is, they show all the traits of being transformationally derived, i.e., they:

- don't change category (Criterion 1)

- don't have strict "locality" restrictions (i.e., they can take non-selected arguments as subjects. (Criterion 2)
- cannot function as input to lexical rules (e.g., no *un-prefixation*) (Criterion 3)

As for Criterion 4 (idiosyncratic exceptions), adjectival passives may show irregularities in both form and meaning (as will be returned to later), while this rarely is the case for verbal participles.

Though I will acknowledge the morphosyntactic differences between the two types of passives (or possibly three types of passives, as recent investigation has shown (see e.g. Kratzer 2000 and Embick 2004)), I do not take Wasow's findings to prove that the two types of passives belong to two different lexical categories. Neither will I conclude with him that the two passives are formed in two different modules (the lexicon and the syntax). I will return to the differences later in this chapter, and in subsequent chapters as well.
Wasow doesn't discuss nominalizations in detail, but it is quite clear that for him derived nominalizations and mixed nominalizations *-ing of* must be taken to be lexically derived (as Chomsky's arguments already showed). First, both types have typical nominal distribution, which can be taken as an argument that the label node has changed. Further, both types can be further input for lexical operations like compounding, as in e.g., *truck driving* and *star performance*. (The absence of raising in derived nominals and mixed nominalizations could provide a further argument for giving them a lexical treatment, though the true source of the restrictions on raising is controversial, see Sichel 2007 for discussion.)

1.2.3 Abney (1987) and following syntactic approaches

Abney (1987) looked in great detail at different types of nominalizations in English, and he tried to give a syntactic account of three (possibly four) different types of nominals derived by *-ing*:

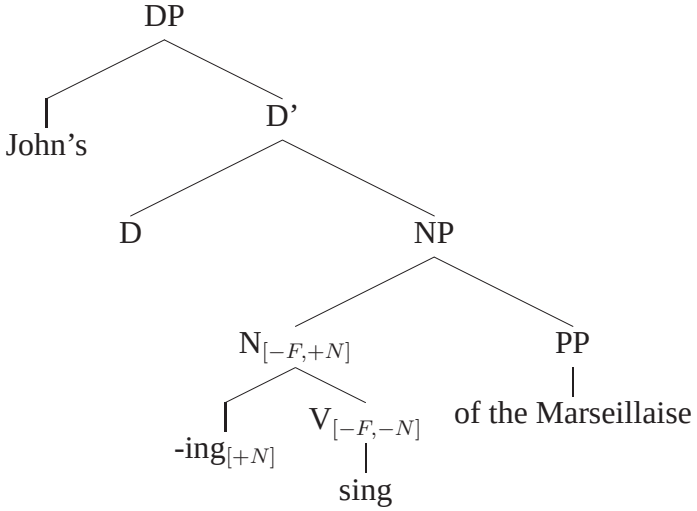
(17) a. *-ing of*: John's/the writing of the book
b. POSS *-ing*: John's/his writing the book
c. ACC *-ing*: John/him writing the book

The first type is what Chomsky called a mixed nominal, the second and third case are two types of gerunds. Instead of seeking the source of the difference in the lexicon-syntax dichotomy, Abney claimed that the difference in the internal and external syntax between the three *-ing*-forms followed from

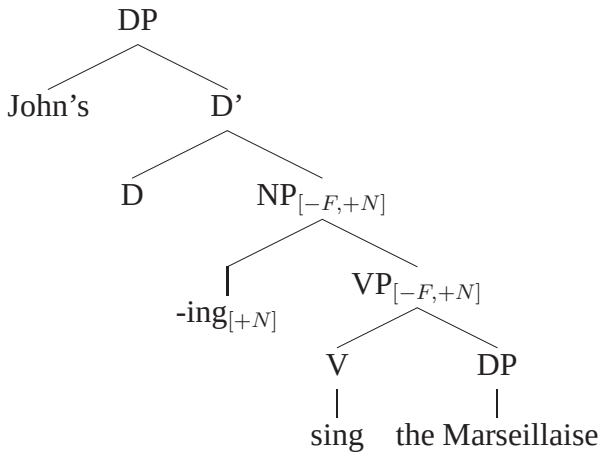
the attachment site of the suffix *-ing*. Highly influenced by contemporary proposals that wanted the syntax to take care of a great deal of the morphology (most prominently Baker 1985), Abney claimed that *-ing* was a syntactic affix, carrying the feature +N(oun) that could attach to either V (giving *-ing of* nominals), VP (giving POSS *-ing*) or IP (giving ACC *-ing*).

Abney uses two features to get the patterns fall out nicely: +/- Noun and +/- Functional. Nouns have a +Noun feature, and verbs have a -Noun feature. Lexical categories have a -Functional feature, and functional categories have a +Functional feature. The suffix *-ing* has only a +Noun feature (the nominal *ing* at least). The *-ing* -suffix provides a +Noun feature to a verbal projection. The phrase resulting from the adjunction of *-ing* to the verbal projection inherits the bar level and the +/- functional feature from the verbal projection. Adjoining a *-ing* to a V [-F, -N] gives a N [-F, +N]. When *-ing* adjoins to a VP [-F, -N], the result is a NP. In the case of ACC-ing, *-ing* attaches to something that is specified as [+F, -N], i.e., an IP. The result is something with the features [+F, +N], which is defined as a DP (which is Abney's novel proposal in the thesis). The structures are replicated below:

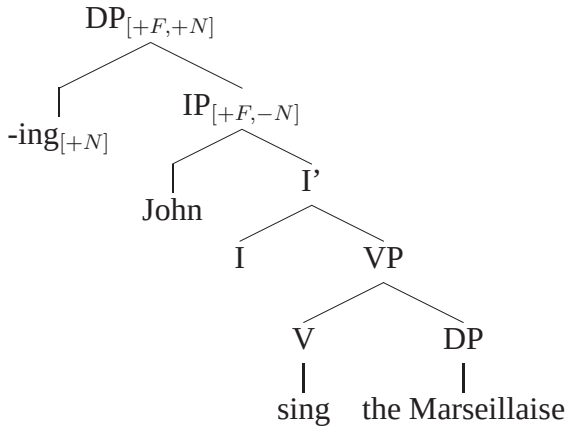
(18) a. *-ing of*: John's singing of the Marseillaise



b. POSS *-ing*: John's singing the Marseillaise



c. ACC *-ing*: John singing the Marseillaise



Abney's solution neatly captures both the internal and the external behavior of the different types of nominalizations. Most notably, he can deal with the fact that POSS *-ing* and ACC *-ing* don't allow modification by adjectives. If one assumes that adjectives modify N^0's rather than NP's, we don't expect adjectives in POSS *-ing* and ACC *-ing*, given that no N^0 is present in these constructions.

Abney briefly extends the reasoning to participles, and claims that the difference between adjectival passives and verbal passives can be captured in a similar way to the nominalizations. He takes the participial morphology to be an adjectivalizing suffix, that can attach at two places: either directly to V, yielding adjectival passives, or to VP, yielding verbal passives. In the first case, the result would be an A, in the second case an AP, as shown below:

(19) a. Verbal passive: John was [given a book]
.[$_{AP}$ -en [$_{VP}$ [$_{V}$ give] $_{DP}$ a book]]
b. Adjectival passive: The door is still [closed]
.[$_{A}$ -en [$_{V}$ close]]

This can be done without the use of a separate lexicon[3] Very similar proposals have been made more recently, e.g. Embick (2004) for dealing with participles (see below).

Abney's solution has been refined in subsequent work, as will be seen later. Most notably, Kratzer (1996) applies Abney's reasoning to a decomposed verb-phrase, where V has been split into V (big V), which introduces the internal argument and carries the lexical meaning of the verb, and Voice (often equivalent to what today most generativists commonly call v ("little v")), that is responsible for introducing the external argument and assigning case to the internal argument. The difference between *-ing of* and POSS *-ing* is easily captured in Kratzer's split VP: *-ing* attaches outside VP in *-ing of*-nominals, and outside VoiceP in Poss *-ing*-nominals.

I will in this dissertation follow Abney's general approach, and take nominal and participial suffixes to be able to attach at different levels in the syntax. I will however, like Kratzer, assume that the verb phrase has a richer structure, which will help to explain the fine-grained differences between different types of nominalizations and participles.

A more fine-grained division of nominals

In parallel with Abney's work on nominalizations, Grimshaw (see e.g. Grimshaw 1990) worked out better diagnostics for distinguishing different types of deverbal nouns. Her focus is derived nominals (i.e., *tion* etc.) and mixed nominalizations (i.e., *-ing of*), that is, the type of nominalizations that were taken to be lexical in Chomsky (1970). She made an important distinction between Complex Event Nominals (CEN) on the one hand, and Simple Event Nominals (SEN) and Result Nominals (RN) on the other. I will not go through her analyses and general view of nominalizations, but rather point out the reasons for splitting complex event nominalizations from the other types. The three types are exemplified below:

(20) a. The frequent assignment of easy problems (CEN)
b. The assignment/event (lasted for three hours) (SEN)
c. The assignment lay on the table (RN)

[3] Abney refers to affixation to a head as "morphology", though this doesn't mean that this type of affixation takes place in a separate module.

Grimshaw claims that the CEN's have an event structure associated with them, while this is not the case for simple event nominals and result nominals. According to Grimshaw, only nominals with an event structure have an argument structure. In short, all CEN's have an argument structure, while result nouns and simple event nouns never have an argument structure (what looks like arguments of eventive nouns are in fact modifiers, according to Grimshaw).

Grimshaw gives a whole array of diagnostics for separating the complex event nominals. The two most useful are the following: (1) CEN can take aspectual modifiers like *frequent* in the singular (21), and (2) CEN cannot pluralize, or take any determiner other than *the* or the possessive *s* (22). Result nominals, simple event nominals and non-derived nouns in general, differ from CEN's in both respects:

(21) a. The frequent destruction of small cities (CEN)
b. The frequent exams/*exam (RN/SEN)

(22) a. *The frequent examinations of the students (CEN)
b. ??Many killings of civilians by the military (CEN)
c. The assignments lay on the table (RN)
d. Many exams (SEN)

Grimshaw claims that suffixes like *-tion* and *-ment* are ambiguous, giving rise to both eventive and non-eventive nominals. *-ing* on the other hand only triggers eventive readings, with full argument structure. This claim has however been shown to be wrong (see Borer 1995 etc):

(23) the building, the paintings, a good living etc.

Linguists inspired by the Grimshaw-ian split, have also claimed that zero-derived nominals never have event structure associated with them (see Borer 2005). This claim has shown to be wrong as well, at least for English. The following examples of zero-derived de-verbal nominals with a complex event-reading are taken from Harley (2007):

(24) a. The frequent defeat of the Korean forces
b. The frequent outbreak of disease in refugee camps
c. the frequent murder of journalists

In general, it seems hard or impossible to classify any of the morphemes (including $\emptyset$) with respect to eventivity. There does seem however to be a hierarchy, that looks like the following:

(25) *ing* $>$ *-tion/-ment* $> \emptyset$

The higher up the hierarchy you are, the more event entailments you carry. However, the hierarchy is relative. If one verbal lexical item can only form nominals with the help of *-ing*, this item could possibly get result interpretation when suffixed by *-ing*. You would however not find a verb that has an *-ing*-derived result nominal, and a zero-derived or *-tion*-derived complex event nominal. It also seems like zero-derived nominalizations can only get a complex event reading if the verb lacks a *-tion* or *-ment* nominal. A similar hierarchy can by found in Swedish, which will be returned to in chapter 6 and 7.

Summing up, In English and many other languages, we can then distinguish three macro-groups of de-verbal nouns, listed below, with their characteristics:

- Gerundive nominals:

  (26) John('s) reluctantly giving Bill a new t-shirt (surprised the audience)

  These nominals behave just like verbs in most respects. Most noticeably, they assign accusative case to the internal argument, and can be modified by adverbs. Only gerunds (i.e., *-ing*-forms) can have these properties.

- Complex event nominals:

  (27) The frequent examination of the dog by the vet

  These nominals inherit the argument structure and the event properties of the verbal stem. They however have typical nominal syntax (no accusative case assigment, adjectival rather than adverbial modification etc.).

- Result nominals and simple event nominals:

  (28) a. The old painting/picture hangs on the rear wall. (Result)
  b. The fight/event went on for two hours (Simple event nominal)

  These nominals have the syntax and semantics of regular nouns, as shown in the example above (I take *picture* and *event* to be underived nouns). According to Grimshaw (1990), these nouns lack both event structure and argument structure.

It should be noted that the distinction between the two last groups isn't quite as clear as Grimshaw claims it to be. However, there is likely to be at least two types, possibly more, of mixed or derived nominals. Further, the difference between these groups can possibly be explained if we assume that one of the groups contains more verbal functional structure than the other.

The complex event nominals are claimed to have the same event- and argument structure properties as their underlying verb. As was shown earlier, both the complex event nominals and result/simple event nominals have certain restrictions, most notably, they don't seem to allow raising.

The following constructions can be found in gerunds and purely verbal contexts, but not in CENs: Raising to subject, raising to object/ECM, dative movement, object control, particle shift, object psych-constructions, and a certain types of unaccusative subject experiencer constructions (examples based on Abney 1987 n**?** and Sichel 2007):

(29) a. Harry was certain to win the prize.
b. Harry's being certain to win the prize...
c. *Harrys certainty to win the prize... (no Raising within NP)[4]

(30) a. I believed Bill to be a fool.
b. my believing Bill to be a fool....
c. *my belief of Bill to be a fool (no Raising-to-Object/ECM within NP)

(31) a. Mary gave Peter the book.
b. Mary's giving Peter the book...
c. *Mary's gift/giving (of) Peter of the book... (no Dative Movement within NP)

(32) a. John persuaded Mary to stay
b. John's persuading Mary to stay
c. *John's persuasion/persuading of Mary to stay (no Object control within NP)

(33) a. John explained (away) the problem (away).
b. John's explaining (away) the problem (away).

[4]There are counterexamples to this generalization, see Postal (1974) and Sichel 2007:
(i) John's tendency to be late - the tendency for John to be late.
(ii) John's chances of arriving on time - the chances of John arriving on time.

In general, raising in nominals is more likely to occur when the noun isn't obviously de-verbal, as in the cases above.

c. the explaining (away) of the problem (*away). (No particle shift within NP)[5]

(34) a. The TV entertained the children
b. the TV entertaining the children
c. *the TV's entertaining/entertainment of the children (no object experiencer verbs)

(35) a. John broke his leg (ambiguous between agentive and psych-reading of the subject)
b. John breaking his leg (ambiguous)
c. John's breaking of his leg (Only agent reading of the subject)

There are a number of different approaches that try to explain the restrictions above. First, Abney (1987) suggests that predication within noun-phrases is in general impossible. All the cases above involve, according to Abney, predication in some sense (or rather, they are all reduced clauses), and are therefore impossible. Note that Abney takes verb particles to always be impossible in non-gerundive nominalizations. It's not clear how he would handle the verb particle in (33).

Alexiadou (2001) focuses on the absence of Tense in nominals, and claims that Raising, ECM and Object Control are all dependent on Tense. There is therefore no Raising, ECM and Object Control in nominalizations that don't have tense. The restrictions on dative shift, particle placement and psych-constructions can probably not be explained by the absence of Tense. In these cases one could hypothesize that certain higher verbal layers are absent in nominalizations, and that these layers are responsible for the licensing of e.g. double object constructions and particle shift.

Another possible way to go is to assume that the nominalizing (and adjectivalizing) affixes come with a binding frame (i.e., that they can only attach to something of a certain category, or with a certain feature specification), see e.g. Lieber (1980) etc.. For example, Josefsson (1998) claims that the nominalizing affixes in Swedish have different binding frames, but what they share is that they is that they require something that is eventive, i.e., non-stative. This could potentially explain the absence of certain psych verbs, raising and ECM in nominals, since we might be dealing with stative verbs in all of these constructions. I will show some problems with proposals of this sort in chapters 2 and 3.

I will not give any definite answer to this puzzle in the dissertation. I will however claim that Abney probably is on the right track when he claims

[5]Note that only the *-ing*-forms allow particles at all: **John's explanation away of the problem*. (see Abney 1987 and Grimshaw 1990)

that derived nominals/mixed nominalizations cannot contain certain types of predication. As will be discussed later on, the restriction on predication in nominals might very well follow from a more general theory of lexical categories (like e.g. Baker 2003, see below). As we will see, tense is also absent in the nominals (and participles) under discussion, which probably imposes further limits on the nominalizations.

Beside the three-way split discussed above (gerundive nominals, CEN and Result/simple event nominals) there is another split that is relevant for the eventive nominalizations: the Act/Fact-split. As observed by Vendler (1967) and discussed in length in Zucchi (1989), a nominalization can either mean something like "the fact that x", and the act reading can be paraphrased as something like "the way that x". The different readings can be triggered by putting the nominalizations in different frames. Most importantly, the act-reading allows ellipsis of the noun, while the fact reading doesn't, as shown in the following examples, from Abney (1987):

(36) a. Caesar's destruction of his fleet was thorough (act)
b. Caesar's destruction of his fleet was thorough, but Antony's (e) was more so (act, with ellipsis)

(37) a. Caesar's destruction of his fleet was quite unexpected (fact)
b. *Caesar's destruction of his fleet was quite unexpected and Antony's (e) was even more so. (fact, ellipsis not possible)

In the gerundive nominals, only the fact reading is possible, and hence no ellipsis is possible.

(38) a. *Ceasar's destroying his fleet was thorough (no act-reading)
b. Ceasar's destroying his fleet was quite surprising, (* and Bill's (e) was more so) (no ellipsis in the fact reading)

Abney concludes that VP deletion is not possible in noun phrases, and further, that all fact-readings involve a full VP. Hence, all gerundive nominals contain a VP, while the mixed nominals only optionally do so. I will not go into depth on the fact-act difference, since the difference doesn't seem to be of any help for analyzing different types of nominals in Swedish, and further, since we don't have any gerundive nominals in Swedish.

1.2.4 Distributed Morphology

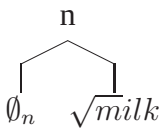
In the last ten years or so, a lot of work on nominalizations, participles and verbal morphology in general has been done within the framework of Dis-

tributed Morphology (DM) (foundations and description of framework can be found in Halle and Marantz 1993 and Harley and Noyer 1999). A more detailed description of the framework will be given here, since it bears onsome of the general issues in this dissertation. DM's main task has been to get rid of the lexical module, and instead have only one generative component of the language faculty that takes care of both word syntax/morphology and phrasal syntax. I will throughout the dissertation work with a similar assumption - i.e. I will take all the nominals and participles under discussion to be "created" in the syntax.

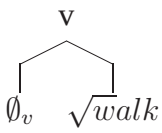
DM has three properties that distinguish it from earlier lexicalist frameworks: Late Insertion, hierarchical structure all the way down, and underspecification. The syntax operates on abstract morpho-syntactic features, like PLURAL, CAUSE and ROOT. These features are taken from a list of atomic semantico-syntactic features. Once the hierarchical structure is built up, lexical insertion takes place, whereby the abstract features get replaced by Vocabulary Items. This is what is referred to as "Late Insertion". Technically, DM has a morphological component which is responsible for certain manipulations to the output of the syntactic derivation post-spellout (e.g FUSION and FISSION), but both word syntax/morphology and phrasal syntax are built up initially by the syntax and they both crucially contain hierarchical structure, so for DM there's "hierarchical structure all the way down".

There are two radically different types of lexical items: functional items and roots. They have different distribution: functional items can only be inserted into the nodes that are labeled F-morphemes (this terminology is taken from Harley and Noyer 1999 - observe that the term Morpheme in DM is the same as terminal node). Roots can only be inserted into L(exical)-morphemes. Functional items are things like, like *-ed* (= past) *-s* (= plural) and *-er* (= comparative). Roots are basically everything else, and are crucially void of syntactic information. They are acategorial, i.e., not tagged in the lexicon as Noun, Adjective or Verb. The category is determined by the syntactic configuration that the root appears in, or more specifically, which f-morpheme the root appears in the complement of. In many cases, the f-morpheme doesn't have any overt morphological exponent, as illustrated below:

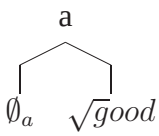
(39) a.



b.



c.



As will be sketched below, the category-determining functional node might in some cases have more specified semantic content, like COUNT, NUMBER or ASPECT, where the complements of the first two nodes mentioned above will be interpreted as nouns, and the third as a verb.[6] Importantly though, the phonological exponents of both the root nodes and the functional nodes are not present in the syntactic computation, and the encyclopedic content of the roots is also not present at this stage (i.e., the syntax doesn't know whether a root node is going to be replaced by e.g. *dog* or *table*).

The most important difference between f-morphemes and l-morphemes is that basically any root can be inserted into any l-morpheme, whereas for f-morphemes, there is always one specific exponent for a given node. The choice of root will be entirely determined by what you want to say, that is, if you want to make a statement about a dog you should insert the root *dog* and if you want to make statement about a table you should insert the root *table*. The encyclopedic content is the only relevant factor here. The vocabulary item you insert into an f-morpheme will instead be determined by the features present in the f-morpheme/syntactic structure. For example, in English, under the node PLURAL an /s/ will be inserted. There are not different types of plural with different encyclopedic content in English, while there are thousands of roots that could be inserted into a l-morpheme. Towards the end of the chapter, I will describe my take on the difference between roots and functional items, and point out some of the problems that arise from the DM focus on acategorial roots.

Underspecification, the third point, means that a vocabulary item need not be fully specified for the features present in the terminal node where it is inserted. Rather, a vocabulary item could be inserted if it carries a subset of the features present in the node. This is referred to as the subset principle, as defined in the following way in Halle 1997.

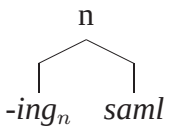
[6]For some followers of DM, the relevant functional head that gives rise to a nominal interpretation of a root is Determiner. See especially Alexiadou 2001 for an attempt to get rid of the different "small" a, n and v.

- *Subset Principle*
  The phonological exponent of a Vocabulary Item is inserted into a morpheme... if the item matches all or a subset of the grammatical features specified in the terminal morpheme. Insertion does not take place if the Vocabulary Item contains features not present in the morpheme. Where several Vocabulary Items meet the conditions for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen.

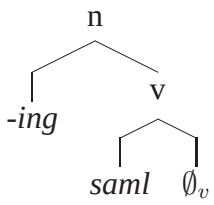
This part of the theory helps DM theorists deal with patterns of syncretism and allomorphy, or in general, cases that go under the label *competition*. The subset principle will be exemplified in section XX, and compared with an alternative approach, the superset principle.

Turning now to participles, given that roots are taken to be acategorial, there are basically two possible structures for nominalizations and participles, exemplified below:

(40) samling$_{noun}$ (“collection, collecting”)



(41) samling$_{noun}$ (“collection, collecting”)



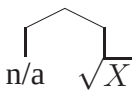
Researchers within the DM field have tried to show that languages usually use both strategies when forming nominalizations and participles.[7] Marantz (2007) and Embick and Marantz (2008) make a big point of the distinction between derivational morphology that attaches straight to an acategorial root (40), and derivational morphology that attaches to something that already is assigned a category (41). Marantz proposes that the category assigning heads,

[7]There’s potentially a third option for DM, namely that some vocabulary items that look like participles and nominalizations are stored that way, though without a category label. In syntax, they are combined with category assigning morphemes, that is spelled out as zero. This is used by Marantz and Embick (06) to account for certain adjectives ending in *ous*, e.g., *curious*, which could have the structure [A [A $\emptyset$ [curious]].

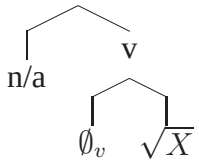
like (little) v, (little) n and (little) a, are phase heads (see Chomsky 2001). Once a phase is built up, the stuff within that phase acquires some semantic and phonological integrity, which means that morphology that attaches outside that phase should not be able to tamper with stuff that is inside the phase. That is, the category changing morphemes shouldn't trigger idiosyncratic changes within the first phase. Morphemes that assign a category to an acategorial root, could however affect the root in an idiosyncratic way. Marantz refers to affixes that attach before any category assigning head has been merged (including the first category assigning affix) as "inner morphology" (i.e., inside the first phase), and the category changing morphology as "outer morphology" (i.e., outside the first phase). The inner/outer distinction replaces the the lexicon-syntax distinction, as introduced by Chomsky (1970) and refined by Wasow (1977). As pointed out by Marantz (2007), much post-Wasow lexicalism lost a lot of the benefits in Wasow's system by putting virtually all morphology in the lexicon, without differentiating between regular and less regular morphological processes. Most importantly, they could not get the effect that less regular and and semantically opaque morphology in general appears closer to the root than semantically/phonologically transparent morphology. The layering appearance of morphology, that follows from having word formation both in syntax and the lexicon, wasn't easily captured in the post-Wasowian strict lexicalism. The distinction between inner and outer morphology, however, captures "layered" morphology. Many of the differences between inner and outer morphology are more easily seen in languages that have more morphology. The proposal made by Marantz is motivated by affixal patterns from the Bantu language Chichewa (Dubinsky and Simango 1996).

For the two abstract trees below, we potentially expect differences with respect to regularity in meaning and sound:

(42) Noun/Adjective(Part)



(43) Noun/Adjective(Part)



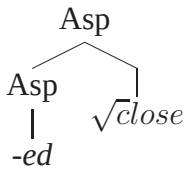
The first tree could represent an adjectival/lexical passive, in the terms of Wasow (1977) or a lexically derived nominal, again in the terms of Chomsky (1970) and Wasow (1977). It could also represent a regular non-derived adjective like *blue* or an underived noun like *dog*. The second tree could depict a verbal passive, in Wasow (1977)'s terms, or a "transformationally derived" nominalization. It should be noted though, that there could be morphology intervening between the "little" n/a in (42), as long as it is not category assigning morphology. Note also that inner morphology/affixation, as defined by Marantz (2007) and Dubinsky and Simango (1996) allows for irregularity in meaning and form, but in many cases no irregularity is seen. Given that, it is in many cases hard to tell the difference between inner and outer morphology. Since we don't really know what syntactic and semantic correlates the syntactic categories have, we have little chance of actually pointing out exactly which affixes are category determining. In section XX, I will focus on certain problems that one runs into when focusing on the "little" n/v/a categories. Further description/critique of the DM view will follow in the next section, where I contrast it with the framework followed in this dissertation.

The most thorough analysis of different participial constructions in English from a DM perspective has been done by David Embick (see Embick 2004). Embick claims that the two-way distinction between verbal and adjectival passives is too course grained, and that there are actually two types of adjectival passive, and one type of verbal passive. A similar claim is made by Angelika Kratzer (see Kratzer 2000). The adjectival passives can be split into resultative and stative passives (Kratzer uses the terminology "resultant state passives" and "target state passives", based on Parsons (1990) distinction between resultant state and target state perfects). The three types of passives are illustrated below:

(44) a. The door is still closed (Stative passive)
b. The metal is flattened (Resultative)
c. The door was closed at five o'clock by the janitor (eventive passive)

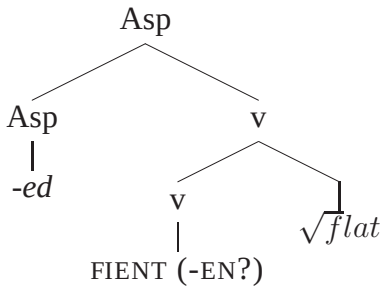
Embick wants to explain the fact that the same passive morphology is used in all three cases, and claims that the passive/perfect suffix *-ed* (and allomorphs) is always the instantiation of an aspect head. The different readings of the passive participle depend on the complement of the passive head (i.e., he uses the same tactics as Abney 1987). For the stative passive, the aspectual head attaches straight to a category neutral root, as illustrated below:

(45)



The resultative passive on the other hand does contain a verbalizing head, but a verbal head of a certain flavor, namely a BECOME or INCHOATIVE flavour, which he calls FIENT (from *fientive*.

(46)



The verbal passive has a verbal head that contains an agentive feature. This explains, according to Embick, why *by*-phrases are licit in the eventive passive, but not the resultative:

(47) a. The metal was flattened by the smith (eventive passive)
b. The metal is flattened now (??by the smith) (resultative passive)

In the structures above, there is no adjective head in any of the types of passives. All passives are instead of the category Asp. This is of no importance here. What is at issue is rather whether the Asp head attaches to something that already carries a category assigning head or not, i.e.,whether the Asp head is an inner affix or an outer affix. In the case of the stative passive, the participial morphology is clearly an inner affix, while in the other cases it's an outer affix. We do expect irregularity in form and meaning for the stative

passives, but not for the resultative and eventive passive. Though the stative, resultative and eventive participle (and the active perfect participle) are most commonly homophonous, as shown in (48a), there are certain cases where the stative participle surfaces with a different allomorph, as shown in (48a-c). The resultative, eventive and perfect participle are always homophonous though in English:[8]

(48) a. clos-ed$_{stat}$ - closed$_{res,ev,perf}$
b. open$_{stat}$ - opened$_{res,ev,perf}$
c. shav-**en**$_{stat}$ - shav-ed$_{res,ev,perf}$
d. bless-**éd**$_{stat}$ - bless-ed$_{res,ev,perf}$

When it comes to interpretation, it's hard to say if some stative passives have an idiosyncratic/non-predictable reading, given that it's not really spelled out what the aspectual affix is supposed to do, and neither is it clear what kind of information the root really contains. There are problems in Embick's analysis, which I will return to later.

There is a clear parallel between the three-way distinction in the passive participles and the three way distinction in deverbal nouns, as can be schematized as below:

(49) a. Gerundive nominals $\approx$ eventive passives
b. Complex event nominals $\approx$ resultative passives
c. Result/simple event nominals $\approx$ stative passives

The eventive passives and gerundive nominals have basically all the internal properties of full fledged verbs, though the gerundive nominals basically have the external distribution of nouns, and the eventive passives basically have the external distribution of adjectives. Stative passives and result/simple event nominals have both the external and internal properties of adjectives/nouns. The complex event nominals and resultative passives are somewhere in between. One difference though is that while complex event nominals sometimes can have a slightly idiosyncratic form (*-tion, -ment, -al, -ing* and $\emptyset$ are all possible suffixes of CEN's), the resultative participles are always homophonous with the eventive passive/perfect. In other words, the roots seem

[8] As will be made clear in the following chapters, Swedish has a different form for the active past participle (the so called "supine"). The resultative and eventive passive always come out the same (it's not even obvious that these are structurally different in either Swedish or English). Just like in English, there are a couple of irregular stative participles, or rather, some cases where the stative comes out just like a non-derived adjective, just like the English (b) example below.

to a fairly high degree be able to influence the form of the nominalizing suffix in the CEN, but not in the resultative passive (for now, the issue concerning the different inflectional classes will be disregarded). This makes it harder to determine whether CEN's are the result of inner and outer affixation, i.e., whether there is a little v present internal to the nominalizing suffix. This issue remains unsolved in many of the DM analyses of nominalizations as well.

There are various different DM-based or DM-inspired analyses of nominalizations. Marantz (1997a) focuses on the presence or absence of a little v in nominalizations, and claims that no little v is present in the zero-derived and *-tion*-derived nominals, while there clearly is a little v present in the bigger gerundive nominalizations. It seems like he also claims that the mixed nominalizations contain a little v, though it's not entirely clear. In many DM analyses it is assumed that the verbalizing head can come in different "flavors". That was for example seen in Embick's treatment of the difference between resultative and eventive passives participles: the resultative v does not have any agentive feature, while the eventive passive does so. Similar strategies can be seen in Marantz' work on nominalizations.[9]

1.3 Laying out the framework

In this dissertation I will build on certain ideas developed lately in Tromsø. There is strictly speaking no homogenous Tromsø-framework worked out yet, but a number of researchers have worked on ideas and solutions that are close in spirit to each other. I will here present a highly idealized version of the Tromsø view. Many of the ideas lie close to the DM view, but important details differ. First, two of DM's three original ingredients are present in the Tromsø view as well: Late Insertion and Hierarchical structure all the way down. Regarding Underspecification, quite the opposite view is taken. There is also a different take on the division between "roots" and "functional" vocabulary items, which I will take as the starting point.

Even though it's true that many lexical items can appear in both e.g. nom-

[9] Another interesting approach to the issue of different readings of nominalizations and participles is that of Joseph Emonds, see especially Emonds 2000. Emonds gives very simple lexical entries for the nominalizing and participial affixes, though the affixes can attach either at LF (giving result nominals and stative passives), Syntax (yielding Complex event nominals and some more adjectival passives) or PF (yielding Gerunds and eventive passives). This is more in line with the modular strategy employed by Wasow (1977)

inal and verbal contexts, or in both adjectival and verbal context without any derivational morphology, this is far from the default situation. Take for example the following two minimal pairs in Swedish: The verbs *springa* ("run") and *jogga* ("jog") are both unergative verbs, that show more or less identical behavior. However whereas *springa* has a zero-derived nominalization (with a mass noun as it's result), *jogga* doesn't have any zero-derived nominal, as shown below:

(50) a. Jag ska springa/jogga fem kilometer idag
I will run/jog five kilometers today
'I'm going to run/jog five kilometers today'
b. det var en hel del spring/*jogg i skogen idag
it was a whole part run/jog in forest.DEFtoday
'there was a whole lot of run/jogg in the wood today'

Conversely, the nouns *anfall* ('attack') and *räd* ('raid') behave more or less alike (though they differ in gender), and they are further very close to each other in meaning. However, *anfall* also functions as a verb, whereas *räd* doesn't, as shown below:

(51) a. Ett anfall/en räd mot staden
An attack/a raid towards city.DEF
'an attack on the city'
b. Vi ska anfalla/*räda staden
We will attack.INF/raid.INF city.DEF
'We will attack the city'

Somewhere, most likely in the lexicon, there must be information about the categorial flexibility/stability of these lexical items. Neither noun-verb conversion nor adjective-verb conversion are productive processes in Swedish. This issue is not only relevant for conversion between lexical categories, but also within lexical categories. For example, within the verbal domain, certain verbs can only occur in certain fixed frames, while others are more flexible, as seen e.g. in the fact that certain verbs can undergo certain alternations, like causative-inchoative alternations, double object alternations, spray-load alternations etc., while others can't. Most relevant for this dissertation though, is the selectional restrictions of certain affixes. The Swedish suffixes under discussion in this thesis all select for "verbal" lexical items, though none of them can attach to all lexical items that can be labeled "verbal". Focusing on the nominalizing strategies, we see that the different verbal lexical items allow different sets of nominalizing strategies - some of them not allowing to be nominalized at all. Below I show the variation, focusing on three nominal-

izing suffixes: *-a/e-nde*, *-ning* and a third group, containing both ∅, *-tion* and a couple of non-productive suffixes (I refer to this strategy as "zero-derived" below):

1. All three nominal types:

   (52) a. springa ("run"): spring - spring-ning - spring-ande
   b. cirkulera ("circulate"): cirkula-tion - cirkuler-ing - cirkuler-ande
   c. locka ("tempt"): lock-else - lock-ning - lock-ande

2. Only *nde*:

   (53) a. älska ("love"): *älsk - *älskning - älskande (Stative)
   b. sura ("sulk"): *sur$_{noun}$ - ??surning - surande (Unergative)
   c. sjunka ("sink", intrans): *sjunk - ??sjunkning - sjunkande (Unaccusative)

3. Zero-derived and *-nde*:

   (54) a. Hata ("hata"): hat - *hatning - hatande (Stative)
   b. skratta ("laugh"): skratt - ??skrattning - skrattande (Unergative)
   c. falla ("fall"): fall - ?*fallning - fallande (Unaccusative)

4. *-(n)ing* and *-nde*:

   (55) a. banta ("diet"): *bant - bantning - bantande (Unergative)
   b. minska ("decrease"): *minsk - minskning - minskande (Unaccusaitve)

5. No nominal:

   (56) likna$_{stat}$ ("resemble"): *liken - *likning - #liknande (Stative)

6. There are further a few verbal lexical items that lack a nominal *-nde*-form, that still have a zero-derived form, a *(n)ing*-form or some other form. These nominals are never eventive.

   (57) a. omge ("surround"): omgiv**ning** ("surrounding") - ?*omgivande

b. innehålla (“contain”): innehåll (“content”) - ?*innehållande
c. fascinera (“fascinate”): fascina**tion** (“fascination”) - ?*fascinerande
d. intressera (“interest”): intresse (“interest”) - ?*intresseran-det

Though the above lists highlight the very unpredictability of the Swedish nominalizing strategies, I will try to show that there are some generalizations to be made. As both *-ning* and *-a/e-nde* are productive, the erratic distribution isn't likely to be a result of “listedness”, but it should rather be a result of the syntactico-semantic properties of the lexical items.

Lexical items and functional items

In this dissertation I will follow ideas from e.g. Ramchand (2008) concerning the specification of lexical items. In Ramchand's system, all vocabulary items have some kind of category feature(s) (although she discusses only verbs, adjectives, nouns and prepositions can be handled in the same way).

According to her the verb phrase can be decomposed into three parts: (1) initP, denoting a stative initiation subevent that takes as its subject the initiator of the event INITIATOR; (2) procP, denoting a process subevent that takes as its subject the entity that undergoes change (UNDERGOER); and (3) resP that denotes result state of an event, taking the holder of the result as its subject (RESULTEE). The verbal roots contain category features that match these subeventual heads. The roots identify the heads as they get inserted. A verb can identify more than one subevent, and an argument can be the subject of more than one phrase, giving rise to complex theta-roles. Either phrase can also contain rhematic material, i.e. a complement that doesn't introduce a new subevent but only modifies/measures out the subevent dominating it. These can come in any shape (i.e. DP, PP or AP). Both what we know as functional items and lexical items carry category features. The very strict distinction between L-morphemes and F-morphemes, or roots and functional items, is in other words eliminated in this system. There are however distinctions between functional items and lexical items in Ramchand's system as well, if we say that by definition “lexical” items are those which contain encyclopedic information, where functional items have none. For the purposes of assessing ‘competition’ one has to know whether a given lexical item carries encyclopedic information or not. As in DM, items with different encyclopedic information will not “compete” for insertion, while this could happen for items that lack encyclopedic information. (In other words, a +ENCYC-feature will always have to trump over all the other features.)[10]

[10]Ramchand in fact allows all types of lexical items, even what is usually considered func-

Note that the category "verb" is nowhere to be found in the system sketched above. Rather it has been replaced by three features, none of which correspond to "verb". When looking at nominalizations with this view in mind, the relevant question is not "is there a little v in the structure", but rather, "which/how many of the subeventual heads are present". (Though, this view is in many senses similar to later work by Alexiadou, where "v" has been replaced by "Voice".)

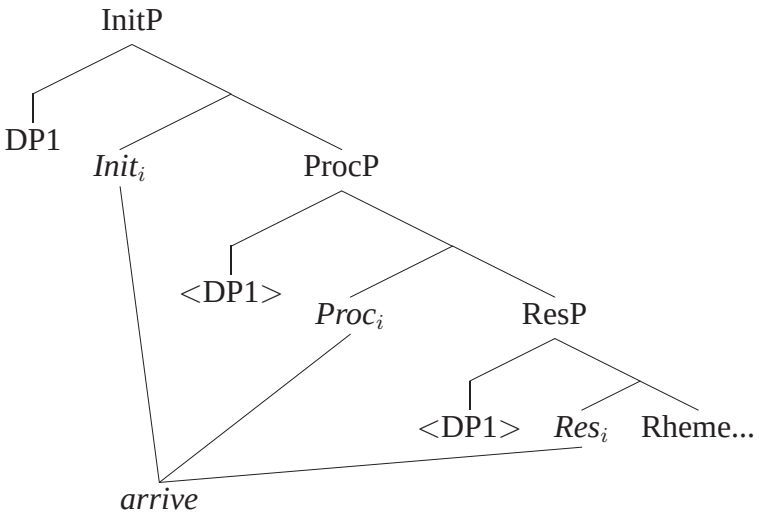
Ramchand argues that beside the bare category features, the verbal lexical items also contain some information about the number of arguments they surface with. This is done by co-indexing the heads that unmarkedly take the same arguments. For example, the verbs *arrive* and *bring* presumably carry the same category features, as does *run* and *chase*. The difference between the transitive and intransitive verbs lies rather in if some or all of the arguments are co-referent, as shown (58):

(58) a. Arrive: $< Init_i, Proc_i, Res_i >$
b. Bring: $< Init, Proc_i, Res_i >$
c. Run: $< Init_i, Proc_i >$
d. Chase: $< Init, Proc_j >$

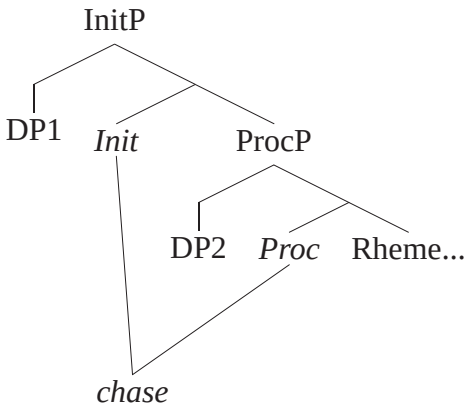
The structures of the lexical items *arrive* and *chase* are given below for clarification:

tional items, to contain encyclopedic information. However, if a "functional" item contains encyclopedic information, no competition in the purely morphological sense can take place.

(59)



(60)



I will take non-co-reference to be the normal, unmarked case, at least in Swedish. There could be a language where it is the other way around.

It is not just "verbal" items that are associated with a set of features. This is true for all kinds of morphemes - see e.g. Pavel Caha's work on case-endings (see Caha 2007), and work by Peter Svenonius on prepositions (see e.g. Svenonius 2006). The work on prepositions has clearly shown that the functional/lexical distinction is hard to maintain. Svenonius argues for example that two prepositions can have exactly feature specification, and the that

the choice between two such elements will be determined only by the encyclopedic content of the preposition in question (e.g., *in* and *on* differ probably in encyclopedic meaning).

I will follow Ramchand in assuming that verbal roots carry category features, and that these features have semantic values that correspond to (sub)events. I will further take it to be necessary to mark the co-reference relation between the different participants in the verb phrase (for example, by indexes as shown above). I will also tentatively follow Ramchand's three way Init-Proc-Res split, though as will be seen later, other ways of splitting up the verb phrase might give better results in the case of nominalizations and participles.

Insertion into non-terminal nodes

As indicated above, one and the same lexical item can contain more than one feature. For example, Ramchand gives the verb *arrive* the feature specification *[init], [proc], [res]* . This means that one and the same root can lexicalize many terminal nodes, or a full sub-tree. This can either be captured by the means of head-movement, or by allowing spell-out of non-terminal nodes. I will go for the latter choice here, following recent work by Michal Starke, presented in various seminars (see also Caha 2007 for more details and arguments why spell out of non-terminals is necessary). Most of the phenomena I will discuss could possibly be captured by head movement rather than by allowing spell out of non-terminals, though I think that the spelling out non-terminals-approach gives a more economic and elegant solution in most cases. This part of the Tromsø-package is in stark contrast with DM's restriction on insertion into terminal nodes only.

Just like in DM, the approach taken here makes use of late insertion of phonological material. A tree consisting of hierarchically ordered features is built up, and at spell-out, lexical items "lexicalize" the structure.

The superset principle and under-attachment

Once you have a system that allows insertion of lexical items into non-terminals, DM's underspecification and subset principle can no longer be maintained.[11] Take the lexical item *mice*. It is clearly complex, since it at least specifies both "plural" and something else ("root", "thing" or maybe "count", or all three of them). We also know that *mice* somehow blocks the compositional *mouses*. We take that to follow from an economy principle - spell out the feature tree with as few lexical items as possible. Now, take a tree that except for the plural and the "root/noun" also contains a determiner, as in (61):

[11] Many thanks to Pavel Caha for discussing these issues with me!

(61) [Det. [Pl. [X (mouse)]]] (i.e., “the mice”)

We know that the lexical item *mice* can spell out a subset of the features present in (61), namely plural and X, but not Det. Given the subset principle, *mice* could be inserted in this context, given that it actually is specified for a subset of the features present. Further, given the economy principle suggested above, it has to win over *the mice* (following the same logic, *cat* would also win over *cats* in plural contexts). The subset principle is in other words incompatible with a system that allows spell out of non-terminals.

A system that allows spell out of non-terminals needs the exact opposite to the subset principle, namely the superset principle, as has been worked out by Michal Starke (see Starke 2001. Caha 2007 gives the following definition of the superset principle (observe that it is formulated to mirror Halle’s definition of the subset principle)

- *The Superset principle*:
  The phonological exponent of a Vocabulary item is inserted into a node if the item matches all or a superset of the grammatical features specified in the node. Insertion does not take place if the Vocabulary item does not contain all features present in the node. Where several Vocabulary items meet the conditions for insertion, the item containing less features unspecified in the terminal morpheme must be chosen.

Given that both typical functional items, like case-endings, tense morphology etc. and typical lexical items, like verbs and nouns, carry a set of features, the superset principle should apply across the board. This gives us a good ground for studying the limits of participle formation and nominalizations of specific verbal items. Since a verbal root could be inserted in contexts where only a subset of its sub-eventual features are present, it comes as no surprise that we find participles and nominalizations that lack some of the event structure/argument structure that is present in full verbal contexts. For example, we could hypothesize the following structures for some of the constructions discussed so far:

(62) a. [Res] = Stative participle or Result Nominal
b. [Proc] = Simple event Nominal
c. [Res], [Proc] = Resultative participles

According to the superset principle, all verbal items that carry both a Res and Proc feature should be able to surface in all three contexts sketched above. However, there must exist other restrictions as well. I will claim that most

importantly, there cannot be any gaps in the verbal functional sequence, i.e., Init cannot attach right on top of Res. This is however not in itself a restriction on "underattachment", but rather on syntactic selection.

Syntax all the way down

The approach taken here is in fact a lot more consistent than DM with respect to the "Syntax all the way down"-statement. In DM, the Lexicon provides the syntax with features or feature bundles to operate on. A DM feature bundle could for example be something like [3rd, sg], that could correspond to the English third person singular agreement marker - *s* . It is not clear how the "bundles" come to exist. What is clear though, is that the "Syntax all the way down"-statement cannot hold for the features that make up these bundles, given that they are opaque to syntactic operations. In the theory followed here, the syntax operates on features as well, that presumably comes from a universal set of syntactico-semantic features. No pre-syntactic bundling is necessary. At spell out the complex structure [sg. [3rd]] can be targeted, resulting in -*s* .

1.4 Lexical/syntactic categories

Now that we have replaced the familiar vP (and/or VP) with Init, Proc and Res, the question is how the well-known categories N(oun) and A(djective) should be handled. There are a couple of plausible ways to go. One could possibly assume that N and A are syntactic primitives, as in e.g. DM, and in that case one could assume that N or A could freely be merged on top of any syntactic structure.

Ross (1973) argues that there is no homogenous set of items that can be labeled "noun". Instead, he proposes a "nouniness squish", where the elements get more noun-like the closer to the bottom of the squish they get:

Ross's "nouniness squish"

1. ***that* clauses:** John said [that Bill gave Mary a book].
2. ***for to* clauses:** He would resent (it) [for me to go out with Mary] (?)
3. **Embedded questions:** I wonder [how long time I have to wait here].
4. **Acc-*ing* (complements):** He resented [me going out with Mary].
5. **Poss-*ing* (complements):** He resented [my going out with Mary].

6. ***ing*-of (Action nominals in Ross's terms):** He resented [my careless examining of the body].

7. **Derived nominals:** He resented [my careless examination of the body].

8. **Underived nominals:** He resented [the daughter of Bill].

Ross motivates his hierarchy on the basis of extraction facts (the higher up in the hierarchy, the weaker the island). The hierarchy also reflects the amount of functional structure in the different nominal elements. Not all the elements in the "nouniness squish" could standardly be considered nouns.

One possible reason to keep the category noun in the syntax is that the items that belong to the "nouny" group share some characteristics, some common syntactic feature. They all share one feature, namely that they all can function as an argument of a verb. In that sense they do form a natural class.

They however differ both with respect to their internal properties and their external properties. Its easy to capture the internal differences: they are nominalized at different levels, i.e., where differing amounts of functional structure are present. It's harder however to capture the external differences, i.e., their distribution. Abney (1987) was able to get some of the differences by taking the suffix *-ing* to only provide the nominal feature, and let the phrasal status of the resulting nominal constituent be determined by the thing that *-ing* attaches to (i.e., V^0, VP or IP). This dissertation focuses on derived nouns and adjectives that still have very nominal or adjectival internal and external distribution, for example, the nominal categories are mainly modified by adjectives, they can occur in the complement of most quantifiers and they never assign accusative case. The participial cases, with some exceptions, behave quite like adjectives in general, though a couple of factors restrict their external distribution, as will be discussed in below and chapters 5 and 6.

Parallel to the Nouniness 'squish', there also appears to be an Adjectival 'squish', where different types of predicative categories can be hierarchically ordered.[12] The predicative form containing the most amount of functional structure is probably the infinitival complement of raising verbs, epistemic modal verbs, and ECM verbs. Here we should include present participial reduced relative clauses that include auxiliaries and negation (*The [people not*

[12] In addition to the "nouniness" squish, Ross (1972) proposed a general "squish" of non-discrete categories, starting with V and ending with N: V> Present Part> Perfect Part> Passive Part> Adj> P> N. (I will not discuss P and N here). This hierarchy is far from complete though. Recent studies have shown that there are a lot of infinitival verbs, a lot of present participles, at least two active past participles (but maybe as many as four, see Iatridou et al. (2001)), and at least two types of passive past participles (see e.g. Kratzer (2000)).

having been told what to do], will be in deep trouble). The adjectives containing least amount of functional structure are non-derived adjectives (e.g., color adjectives).

As we have seen above, at least since Wasow (1977), a line has been drawn between adjectival and verbal passive participles. Wasow (1977) claimed that members of the former group were either stored or formed in a pre-syntactic lexical module, i.e., they entered the syntax as adjectives, while members of the latter group were formed in the syntax via a transformation. Wasow's distinction between verbal and adjectival passives has since then gone mostly unchallenged, and even non-lexicalist approaches (e.g. DM) keep using it. In DM, the adjectival participles are inserted under an a(dj)-node, and the verbal participles under a v-node.

As was discussed above, Wasow (1977) uses a couple of tests to distinguish adjectival passives from verbal passives.

1. Only adjectival participles can appear in the complement of raising verbs like *seem*, *remain* and *appear*.

2. Only adjectival participles can be used attributively.

3. Only adjectival participles allow *un*-prefixation.

4. Only verbal participles can take small clause or DP complement.

These tests can also be applied to present participles (verb-*ing*). The first test seems to split up the participles in two neat groups, as can be seen in the following examples:

(63) a. This TV seems old
b. This TV seems broken
c. This movie seems interesting
d. *This TV seems broken by Bill
e. *John seems eating a banana

The adjectival participles in (b) and (c) are felicitous in this context, just as the real adjective in (a), while verbal participles in (d) and (e) are not.
However, as pointed out by Matushansky (2002), verbs like *seem* and other raising verbs select for gradable complements (when they don't select for IP or CP):

(64) a. This music seems nice/*choral (from Matushansky (2002)
b. This problem seems insoluble/*mathematical (from Matushansky (2002)

This shows that *seem* doesn't select for adjectives per se, but for gradable complements (this carries over to NPs in the complement of *seem* as well: *He seems a complete idiot* vs. *??He seems a teacher*)[13]

What is still interesting with the raising verb-test is that it shows that participles that are able to assign accusative case to their complements are never gradable in the relevant sense. This seems very similar to the behavior of different types of nouns: as soon as some nouns have some eventive structure, they can never be coerced into mass nouns, and when they have even more structure, they can never occur in the plural. The case of the plural seems to match the case of gradability most: as soon as a nominal has event structure, it can never be an argument of PLURAL - as soon as a predicate has some event structure, and can never be an argument of GRAD (which later can be in the complement of *seem*). Thus the conclusion seems to be that *Seem* doesn't diagnose adjectival behavior - it diagnoses gradability. Eventive participles are never gradable. However, a lot of adjectives are not (naturally) gradable either. In the case of the restrictions on number in the nominal case, the facts aren't that clear. I will propose that number is missing on certain structurally big nominalizations because the verb inside the nominal is already plural, or iterative in itself. In other words, it can be claimed that the verb inside the nominalization takes care about the number information itself. For the verbal participles, it's likely that verb itself specifies a certain grade-value, and that they therefore are not further accessible for grade-modification.

When it comes to attributively used participles, it's obvious that it is not the same group of participles that can be used attributively as can occur in the complement of a raising verb. This can easily be shown for present participles:

(65) a. the (very) fascinating/moving/boring movie
b. the (*very) running, laughing, dancing man

(66) a. This movie seems (very) fascinating/moving/boring.
b. *John seems (very) running/laughing/dancing.

[13]However, (non-derived) adjectives can undergo scalarity coercion:

(i) a. This music seems almost choral
b. This problem seems pretty much mathematical

it seems like a most participles can undergo scalarity coercion as well, as can be seen in the following examples:

(ii) a. That book was/*seems never written (by Hamsun).
b. This book seems very well-written (*by Hamsun).

Once the participle is gradable, it loses all its verbal/eventive traits, hence cannot be modified by an agent *by*-phrase.

As far as we can tell, both very verbal and adjectival participles can occur pre-nominally in English (and a lot of other languages). What is crucial is that the participle phrase, or adjective phrase, is head final, i.e. that it does not take any complement, as in:

(67) a. *the given John car
b. *the eating a sandwich man
c. *the proud of his son man

Since pre-nominal past participles are not allowed to take complements, it is harder to check if they're "adjectival" or "verbal", since verbal readings often are triggered by *by*-phrases or a (in)direct object. However, there are some past participles that do not occur under *seem* that can occur in attributive position.

(68) a. the recently made headway - all that headway was/??seems made in a day.
b. the most recently taken photos - these photos were/??seem taken recently
c. the kicked out guests - he was/??seems/??seemed kicked out

Again, as with the noun-verb distinction, there doesn't seem to be any sharp line between what is traditionally called an adjective and what is traditionally called a verb. The standard way to cope with this once again seems to be to merge the 'a' head to take different sizes of functional phrase as its complement. And as with the nominal case, a solution like this runs into problems concerning external distribution. This is probably most visible for the participles. If a participle always has an adjectival top level, we would expect it to always have the same external distribution. This is not true, as was pointed out for the passive participles by Wasow (1977). The same goes for present participles – only the most "adjectival" present participles can appear in predicative position in many languages, including Swedish, while more verbal present participles can only be used attributively, and sometimes in more non-finite, small clause contexts, as shown below:

(69) a. den väldigt fascinerande mannen (Adjectival present participle)
the very fascinating man
b. Han är väldigt fascinerande
He is very fascinating

(70) a. den (*väldigt) skrattande mannen (Verbal present participle)
the (*very) laughing man
b. *Han är (väldigt) skrattande

He is (very) laughing

In this case, there is no general ban on non-gradable adjectives/participles in attributive position. In chapter 5 and 6 I will discuss the ways of dealing with the quirky interaction between participles and copulas. The conclusion is that whatever the difference between different types of nominalizations/participles, it shouldn't be stated in terms of category V, N or A. There are participles and nominalizations that contain more structure than other types of nominalizations, but as long as we have no general idea of what it takes to be a verb, we gain nothing by calling certain participles (or nominals) "verbal". Ross's claim that there are no rigid boundaries threatens to undermine the formal categorial nature of syntactic primitives that much generative grammar is based on. In this thesis, I take the view that a detailed empirical study of deverbalization will not show an absence of hard primitives, but rather that the primitives are more fine-grained and decomposed than the traditional categories of N, A and V would suggest. In fact, Ross's 'squish', or any kind of more functionalist implicational hierarchy (Croft 1991) is just one step away from a syntactic functional sequence composed of finely articulated privative features. The implausibility of strict categorial distinctions in this domain begins to disappear when a more articulated set of categories is proposed. The other conclusion from this subsection is that the different deverbalizing affixes may be more contentful than just 'n' or 'a': they themselves might correspond to different 'heights' in the nominal and adjectival functional sequence respectively.

1.4.1 Verbs 'containing' Adjectives/Nouns?

The syntactic treatments of different types of participles and nominalizations looked at above have all focused on the amount of functional structure present in the nominalization/participle. The more "verbal" functional material the nominalizations/participles contain, the more verbal internal syntax the nominalization/participles show. The less functional structure nominalizations and participles have, the more they start to behave like non-derived nouns/adjectives. This has led many linguists to the conclusion that adjectives and nouns are somehow less complex then verbs, or even, that nouns and verbs make up the core of (at least certain) verbs, as most clearly seen in works by Hale and Keyser (see Hale and Keyser 2002 etc.) but also in Mark Baker's work on lexical categories (Baker 2003).

Baker (2003) notes that the *external* argument of an adjective usually is a theme argument, while the *internal* argument of a verb is a theme argument.

Following the Universal Theta Hierarchy (UTAH), he then claims that the theme arguments should always be assigned in the same structural position. Hence, the external position of an adjective is the same as the internal position of a verb. Further, if you have an adjective, you should be able to add structure to form a verb. Baker claims that you have to add a Pred head (for predication head, following Bowers 1993) to an adjective to form a verbal like predication structure. Baker compares pairs like the following, where an adjective phrase (plus a copula) encodes the same meaning as a verb-phrase:

(71) a. Fred is hungry/ Fred is fond of spinach.
b. Fred hungers /Fred likes spinach.

According to Baker, the difference in category between the (a) and (b) examples arises from a difference in the timing of vocabulary insertion. In the adjectival (a) cases, vocabulary insertion takes place before the merging of the PredP, as sketched below (from Baker 2003 p. 87):

(72) a. A
b. [$_{AP}$ A (NP)] **Merge**
c. [$_{AP}$ hungry/fond (NP)]**Vocabulary insertion**
d. [Pred [$_{AP}$ hungry/fond (NP)]] **Merge**
e. [$_{PredP}$ NP Pred [$_{AP}$ hungry/fond (NP)]]]**Merge**
f. [$_{PredP}$ NP $\emptyset$ [$_{AP}$ hungry/fond (NP)]]] **Vocab. Insert**
g. [NP$_i$ be$_j$ + Tense [$_{AuxP}$ t$_i$ t$_j$ [$_{PredP}$ t$_i$ $\emptyset$ [$_{AP}$ hungry/fond (NP)]]]]]

In the verbal cases, vocabulary insertion takes place after the merging of Pred. The adjectival stem moves to the PRED head:

(73) a. [$_{AP}$ A (NP)] **Merge**
b. Pred [$_{AP}$ A (NP)] **Merge**
c. A$_i$ + Pred [$_{AP}$ t$_i$ (NP)] **Move**
d. like/hunger [$_{AP}$ t$_i$ (NP)] **Vocab. insertion**
e. [$_{VP}$ NP like/hunger [$_{AP}$ t$_i$ (NP)]] **merge**
f. [NP$_j$ Tense [$_{VP}$ t$_j$ like/hunger [$_{AP}$ t$_i$ (NP)]]]

In this model, the difference between adjectives and verbs is that verbs spell out a bigger part of the syntactic tree than the adjective, more specifically, verbs spell out the Pred head as well. I will remain agnostic to Baker's claim that the Pred-head is the label for the crucial piece that separates verbs from adjectives (or in general that there is such a thing as a pred-head in the syntax). According to Baker, eventive/verbal passives and verbal present participles contain a Pred head, while adjectival passives/present participles do not. As has been noted above, and will be returned to later, the evidence that adjectival

and verbal participles actually belong to different categories is rather weak.[14]

Hale and Keyser (2002) devote a lot of energy to trying to capture the relation between lexical categories and different classes of verbs. They take as a starting point the fact that many verbs in English and in other languages have a nominal or adjectival base, as shown below:

(74) a. John coughed (de-nominal verb)
b. The door opened (de-adjectival verb)

They argue that these verbs are created by merging something of the category N (as in *cough*) or A (as in *open*) with a verbalizing head, or, as they put it, conflating a noun or an adjective with a V head. In other words, a verb can be an adjective or noun plus something, i.e., a noun/adjective is structurally a subset of verb. Again, the difference between Noun/Adjective on the one hand and Verb on the other is defined in terms of functional structure present.

Both Baker's and Hale and Keyser's proposals extend the argument about variation in syntactic size in different types of nominalizations and participles to non-derived and nouns and adjectives as well. Both approaches use head movement instead of spelling out non-terminals. In the framework chosen here, lexical items like *open*, *cough* and *hunger* will carry a set of category features. Depending on how many of the features are present in the syntax, the lexical item will have different readings. Given the framework sketched so far, one can easily extend whatever analysis is valid for explaining the relationship between de-nominal and de-adjectival verbs and their nominal/adjectival bases to the relationship between all types of verbs and their nominalizations and participles.

1.4.2 Nouns vs. Adjectives

The difference between adjectival elements and nominal elements however doesn't seem to be equally easily described in terms of amount of functional structure. As we have seen above, both participles and nominalizations can contain more or less verbal/eventive functional structure, ranging from target state participles/result nominalizations to eventive participles/gerunds. In

[14] Most notably, verbal participles and underived adjectives can be co-ordinated (i), while this is not true for verbs and adjectives (ii)

(i) With the kids grumpy and complaining about the food, we found it better to leave.
(ii) ??He made John angry and complain about the food

general, the split between nominal and adjectival elements rather has to be described in terms of quality rather than quantity. The issue is illustrated in the following paradigm from English, where the further problem of homophony is apparent. There seems to be no way to describe the relation between nouns and adjectives as a subset/superset relation.

English: A phrase headed by verb-ING (=Present participle/gerund) can either have predicative ("adjectival"/"verbal") (75) or nominal (76) distribution:

(75) a. the [[very interesting] movie] ("adjectival" use of verb-ING)
b. the [[laughing] kids] (slightly less "adjectival" use of verb-ING)
c. the [man [buying a car]] (is my brother) (even less "adjectival" use of -ING)

(76) a. the [buildings] (very nominal use of verb-ING)
b. the [laughing *(of) the kids] (ex. from Borer 2005) (slightly less nominal use of verb-ING)
c. [John's [buying a new car]] (even less nominal use of verb-ING)

It is possible to compare the "verbiness" of the verb+*ing* in the examples above by using looking at e.g. the availability of accusative ("structural") case, agentive *by*-phrases, adverbial modifiers, or the form of degree modifiers.

The nominal verb+ING in (76c) clearly contains more "verbal" projections than the predicative (adjectival) verb+ING in (75a) and (75b). The predicative verb+ING in (75c) clearly contains more "verbal" functional structure than the nominal verb+ING in (76a) and (76b). The six examples in 5.4.2 and (76) can be ordered in cline, as in (77), with respect to verbal properties of the of the verb+INGs. It should be noted that the order of certain parts is hard to determine:

(77) { (76c), (75c) } > { (75b), (76b) } > { (75a), (76a) }

The cline in (77) could be fleshed out with other types of predicative and nominal uses of verb-*ing*, e.g. ACC-*ing*, PRO-*ing*, progressive -*ing* and a number of adjunct -*ing*s. In between, there will also be a lot of predicative and nominal infinitives and past participles.[15]

[15]Note that this seems to be the pattern in languages that that base their nominalizations on passive participles as well, as illustrated for Czech below: (data from Prochézková (2006) Taraldsen and Medova (2006) - these two references also contain enlightening discussion of nominalizations and participles):

In short, nominalizations and participles, and even underived nouns and adjectives, make up structures that are smaller than the verbal structures. I.e., full verbal structure has features that nominalizations/participles lack. Exactly what the crucial feature(s) is/are is up for debate though. In some cases, when the participles/nominalizations are very big, the only difference between them and finite verbs is presumably Tense, or Finiteness. In the smaller cases, even features that encode argument structure and event structure might also be missing. In other words, you build up syntactic tree (of features without phonological content, if you go for the late spell-out view), and then you

---

(i) a. Boty sou jesteporád hoz-**en**-y *do kouta/ v koute
boots are still thrown-PART-NOM *into corner.GEN/ in corner.LOC
(*Janem)
(*Jan.INSTR)
'The boots still are/lie thrown in the corner'(from Taraldsen and Medova (2006))

b. Auto bylo ukrad-**en**-o (zlocincem)
car.NOM.SG be.3.SG steal-PASS-NOM.SG (gangster.INSTR)
'The car was stolen (by the gangster)'(from Prochézková (2006))

In (ia), we see a very adjectival participle, which is seen in the unavailability of the agentive adverbial and directional PP's. In (ib), the participial is verbal, which is diagnosed with help of the agentive adverbial.

(ii) a. Do hlavni-ho stan-u prichze-la hlas-**en**-í
to main-GEN.SG tent-GEN.SG come-3.PL.PAST announce-PART-PL
(vysledk-u) *kommenttor-em
result-GEN.PL commentator-INST.SG
'To the main tent, the announcements of results (*by the commentator) were coming.'(from Prochézková (2006)

b. ukrad-**en**-í auta (zlocincem)
steal-PASS-NOM.SG car.GEN.SG (gangster.INST)
'The stealing of the car (by the gangster)' (from Prochézková (2006))

In (iia), the nominalization ('announcement') contains little or no verbal structure, and can therefore not license a *by*-phrase. In (iib), the nominalization is verbal enough to license a *by*-phrase. In other words, we have one participial and one nominal use of verb+*en* that cannot license a *by*-phrase, and we also have one participial and one nominal use of verb+*en* that can license a *by*-phrase. Taking the availability of *by*-phrases to be a test that indicates verbal structure, we can conclude that the argumental/nominal (iib) contains more verbal functional structure than the predicative/adjectival (ia), and the predicative/adjectival (ib) contains more functional structure than the argumental (iia). It's however hard to determine the difference in structure between (ia) and (iia). What's important here though is that some nominal verb-*(e)n/t*- contain more eventive structure than some predicative verb-*(e)n/t*-, and that some predicative verb-*(e)n/t*-'s contain more eventive structure than some nominal verb-*(e)n/t*-'s.

make sure to stop building before you reach the highest of verb-layer, and what comes out can be a nominalization/noun or a participle/adjective.[16] The question is then how to capture the noun-adjective split. Why do we end up with a noun/nominalization in some cases and an adjective/participle in others? If you take category features to be freely available for merging at any level, this is not a hard question. In such case, you just build up a structure and then you add a category feature on top of that (N or A). However, the deep reason behind this distinction is still an open question.

This discussion will be returned to when dealing with the suffix *e/a-nde* in Swedish, given that it gives rise to both nominals and participles. As will be shown however, certain verb-types cannot receive nominal status at all with *e/a-nde* , but will always come out as a participle. Other types of verbs on the other hand don't easily come out as participles. As will be apparent, argument/event structure, as encoded in the verbal stem, will influence the possibilities of forming different types of participles and nominalizations.

Baker (2005) tries to extend his theory of lexical categories (Baker 2003) to also include different types of gerunds (verbal, adjectival and nominal). He gives the following definitions of the lexical categories:[17]

(78) a. Noun:"has a referential index" (+N)
b. Verb : "has a specifier" (+V)
c. Adjective: "has neither referential index, nor specifier" (-N, -V)

Adjective is for Baker the default category. If you just abort the verbal functional sequence at any height, we expect that we will get an adjective, unless we add a specifier (to get a verb) or a referential index (to get a noun).

Hale and Keyser's theory of lexical categories gives some nice hints about what might be going on in participles/nominalizations. As pointed out above, they take verbs like *cough* and *open* to be de-nominal/de-adjectival. What they note though, is that de-adjectival verbs usually are unaccusative, while de-nominal verbs usually are unergative, as can be seen in e.g. the fact that de-adjectival verbs easily causativize, while de-nominal verbs don't:

[16] As we will see though, some participles and nominalizations are likely to contain just as much verbal structure as certain clearly verbal forms, e.g., an ACC--*ing* nominal can contain as much (or more) stuff as an infinitival. The same holds for certain big participles.

[17] I will have little to say about the early Chomskian view of lexical categories, where the lexical categories where built up by the binary features V and N. See Baker (2003) for discussion and criticism of various theories of lexical categories.

(79) a. The door opened.
b. John opened the door.

(80) a. The baby coughed.
b. *He coughed the baby.

From this fact (among others) they conclude that adjectives require the presence of a specifier, whereas nouns don't. They state that adjectives are +Predicate, whereas nouns are -Predicates, and +predicates require a specifier, which is not provided by the category A by itself, but by a verbal head. I will agree with Hale and Keyser in assuming that the abstract notion +/- predicate captures the general difference between participles/adjectives and nominalization/nouns.[18] Some very basic morpho-syntactic properties seem to correspond to the +/- predicate distinction, quite impressionistically listed below:

Participles/adjectives (predicates)

- One of the arguments of a participle will not be structurally licensed within the participle phrase (adjective phrase), but by some external licenser (be it a determiner, preposition or T).
- Gender and Number morphology (if they are overtly realized) will not reflect the inherent number/gender value of the participle, but that of its argument.
- When they are modified, the modifier has the shape of an adverb rather than an adjective (this holds for all "predicative" categories, i.e. prepositions and verbs as well).

Nominalizations/Nouns (non-predicates)

- All of the arguments of the nominalization/noun will be locally licensed by the nominalization itself.

[18]The full lexical categories paradigm look like this according to them, see Hale and Keyser (1993):

(i) a. Noun: -complement, -predicate
b. Verb: +complement, -/((+)predicate
c. Adjectives: -complement, +predicate
d. Adpositions: +complement, +predicate

- Gender and number morphology on the nominalization/noun will reflect the gender/number of the nominalization/noun itself.

- When they are modified, the modifier has the shape of an adjective (this probably holds for other non-predicative categories as well, like full tensed clauses and certain infinitival clauses).

From a (formal) semantic point of view (see e.g. Heim and Kratzer 1998), adjectives and noun have been argued to be of the same semantic type, namely <e, t > (functions from individuals to truth values). They are in other words both one place predicates over individuals, as illustrated below (from Heim and Kratzer 1998):

(81) a. **[[cat]]** = λx . x is a cat
b. **[[grey]]** = λx . x is grey

Heim and Kratzer argue that the nouns don't denote individuals themselves, but rather that a determiner turns the noun into something of type e (individual). The similarity between adjectives and nouns is most clearly seen in predicative uses of nouns and adjectives, as below:

(82) a. Bill is a cat.
b. The cat is grey.

I think there are many reasons to be skeptical about adjectives and nouns belonging to the same type, since they are syntactically different in many ways, see e.g. Baker 2003 for arguments for treating nouns as type <e>. Even though they share some traits when they are used predicatively, they very clearly differ in other contexts. They do however differ clearly in predicative contexts as well, as seen for example in English in the fact that the predicative noun still requires a determiner (*a* in (82a)). In Swedish, some predicative nouns surface as bare singular nouns (this is true mainly for animate nouns denoting some type of "function" like "teacher", "priest" etc.), which might strengthen the claimed similarities between nouns and adjectives. However, here as well there is a clear morpho-syntactic difference between nouns and adjectives, in that predicative nouns are modified by agreeing adjectives, while adjectives are modified by non-agreeing adverbs, though, it is very hard to actually modify bare predicative nouns. I think however that the number difference in the following two cases shows that modifiers of predicative nouns really are regular agreeing adjectives (based on examples from Google):

(83) a. Han är tillförordnad kyrkoherde
He is appointed.CG.SG vicar.CG
'He has been appointed vicar.'

b. Det är högst beklagligt att präster blir tillförordnad**e**
It is highly regrettable that priests become appointed.CG.PL
kyrkoherdar varje gång den ordinarie kyrkoherden är borta.
vicars.CG every time the ordinary vicar.DEF is away.
'It is highly regrettable that priests become appointed vicars every time the ordinary vicar is away.'

In examples like those above *tillförordnad* 'appointed' never shows up with default neuter marking, the way an adverbial would.

Still, taking both nouns and adjectives to be predicates over individuals is a good starting point for understanding the differences and similarities between nouns and adjectives. Quite intuitively, one could say that a noun might be a predicate on some level, though it also spells out the very argument of that predicate. In other words, [[cat]] spells out both the predicate "be a cat" (82a), and the very entity that is "cat" or holds the 'cat' property (82b) (be it an individual cat, the set of all cats or the kind cat). Adjectives typically don't spell out an argument, but require some other referent to carry the property named by the adjective.[19] Relevant here is the formal semantic treatment of Chierchia and Turner (1988) who take properties to be a primitive type of individual, of a different sort from entities like 'cat' or 'dog'. If one takes the difference to be primitive, one might speculate that the predicative uses of nouns and adjectives are actually composed differently. Chierchia and Turner then takes nouns and adjectives to be two different types of individuals, which they refer to as predicable individuals (adjectives) and non-predicable individuals. The predicable individuals need to be "located" in another individual (this terminology is taken from Beyssade and Dobrovie-Sorin 2005), while non-predicable individuals can denote something by themselves. Why some predicates are lexicalized in such a way that they can themselves denote the thing that would be their argument, is probably a result of the encyclopedic content of the predicate, based on accidents of our cognitive categorization.

Going back to the different morpho-syntactic properties of nouns and adjecitves (as listed above), I would like to suggest that there is a connection between the difference in behavior with respect to Gender/Noun class feature

[19] Some adjectives can be used in nominal contexts as well, as in "red is a nice color". I will have nothing to about this usage. In their noun-like usasge, at least in Swedish, the adjectives have quite weird properties, differentiating from other nouns. (i.e., they can't really be modified by other adjectives).

for nouns and adjectives and their ability to denote something by themselves. The class of items that easily denote something by themselves have stored, idiosyncratic Gender/Noun class features, while the items that need to be "located" in something else have a slot for the gender/noun class feature, which is filled by the gender/noun class value of the element in which the property is located.[20]

As an illustrative example of how this is related to de-verbal nouns and adjectives, take the different nouns/nominalizations and adjectives/participles that are related to the two verbs *break* and *open* (both of them are unaccusatives, which show similar behavior in the verbal domain). Both of them have corresponding result nouns/nominals and stative adjectives/participles, but they differ with respect to whether the adjective or the nominal is a derived form, as shown below:

(84) a. There was a break/*breaking in the pipe.
b. There was an opening/*open in the wall.

(85) a. The door is still broken.
b. The door is still open/??opened.

I take the "predicates" in all the examples above to correspond to the Res^0, in Ramchand's system. In (84a), *break* is a noun denoting the result itself. In (85a), *break* is in its passive participial form *broken* denoting the property of being 'broken' that then holds of 'the door'. I take the result nouns *break* and *opening* to be structurally identical, and the stative participles/adjectives *open* and *broken* to be structurally identical as well (just like Embick (2004)). That *open* has stored predicative form, while the verb *break* has a stored nominal form, I take to be just an accidental fact, i.e., there's no specific reason that it's not the other way around. The language learner has simply learned that *break* also has a gender/noun class value stored in it's lexical entry, *open* hasn't. Building on facts like these, I will take nominalizing suffixes to provide a gender/noun class feature to something that is already "nominal" in some sense i.e., something that is a non-predicable individual (in the terminology of Chierchia and Turner 1988), or something that doesn't require a specifier (in the terminology of Hale and Keyser 1993). It can therefore not be added to something that already has an idiosyncratic gender value associated with it (i.e., it cannot be added to a "noun"). The participial morphology also adds a gender "slot" to the something that doesn't already have this slot in its lexical entry (i.e., it can not already be added to something that is already stored as an "adjective").

[20]This is admittedly a simplified account built on the patterns on Gender marking in Swedish, though as far as I'm aware it holds at least for most Indo-European languages

We will see when it comes to Swedish that the nominalizing and participle making suffixes cannot be added to all verbs/verbal structures. As will be speculated about in chapter 6 and 7, the structure you add the suffix to must already be semantically noun-like (for forming nominalizations) or adjective-like (for participles).

My final suggestion will then be that structures of different sizes can be nominalized or "adjectivalized" (just as proposed in Abney 1987), though there exist certain restrictions on the syntax-semantics properties of the thing you attach the suffix to.

Note though that there are two productive ways of forming participles/adjecitves from verbs - either you form a passive participle or you form a present participle, and further that there are two productive ways of forming nominals from verbs - either with the help of *(n)ing* or with *-(e/a)nde* . I will claim that the choice of nominalizer or "adjectivalizer" follows directly from the attachment site of the morpheme in question. The present participle suffix and *-(e/a)nde* systematically attaches to something that is bigger, i.e. contain more functional structure, than that which *(n)ing* and the passive participle suffix attaches to.

1.5 Outline

The discussion in this introduction has aimed at giving the background for understanding the issues that are involved in analysing nominalizations and participle formation based on what look like basic verbs. We have seen that understanding these particular issues has deep implications for theories of the functional sequence and the distinctions between lexical categories. I will approach these questions with a particular kind of framework in mind, i.e. one that is constructivist in spirit. This means that I will not be assuming a distinct lexical module, and I will be operating on the null assumption that morphology, syntactic hierarchy and structural semantics are all represented in one grammatical system.

Within this general frame, however, I will attempt to uncover generalizations in a fairly neutral manner. One of the main goals is to give a detailed and accurate comparative description of the Swedish facts, with respect to the three suffixes *-(e/a-)nde* ('present participle', and 'nominalizing'), *-(n)ing* ('nominalizing') and *-d/t/n/de* ('passive participle'). These suffixes are interesting precisely because they are on the one hand productive, but on the other show systematic gaps in their distribution. One of the goals of the dissertation is to understand the extent to which their behavior can be predicted from general principles, and how much needs to be stated in terms of other, more

lexically specific facts.

Issues regarding particular implementation will be important for concreteness, but I do not intend this dissertation to be an argument for a particular way of doing things. The patterns I report are important to account for, and have implications, whatever particular implementation one adopts.

There are two main strands of generalizations I report, reflected in Part I and Part II of the dissertation respectively. The first part deals with the issue of size of functional structure contained within the participles and nominalizations in questions, and investigates the extent to which a consistent notion of 'height' in the functional sequence corresponds to particular morphemes, or to particular instantiations of them. We will see that certain clear patterns emerge, but that the difference between 'nominal' (entity denoting) and 'predicative' (property denoting) does not itself correspond to a height distinction. Rather, it seems as though both nominal and predicative meanings are derivable for different sizes of structure.

The second part deals with the individual suffixes separately and investigates the selectional properties with respect to the types of verbs they can combine with. The outcome of this section is that different verbs must contain some lexical information, which the suffixes will be shown to be sensitive to, in different ways and to different degrees. The patterns here are important to take account of, and are challenging for theories which attempt to build on the idea that roots contain no syntactically relevant information. The other factor that will be important in this part is the idea that some of the gaps in distribution need to be explained via 'blocking', and in addition to the standard conception of that idea, I will propose that both words and phrases compete for the spell out of functional structure.

I will below give a quick overview what the different chapters are about.

Chapter two gives a quick overview of the range of function and meaning for the two nominalizations and the two participles. Thereafter follows an analysis of the morphological make-up of the suffixes in question. I will there show that *-(e/a)nde* attaches to the infinitival, while the passive participle and *(n)ing* attaches to something that is less morphologically complex.

Chapter three shows that the difference in semantic entailments between the two nominalizations and the two participles follows from the attachment site of the relevant nominalizer/participle suffix. I focus on two main issues: (i) the ability of aborting vP internal sub-eventual structure - which the passive participle suffix and *(n)ing* has, but not *-(e/a)nde*, and (ii) the ability of expressing vP external aspect - which *-(e/a)nde*-nominals/participles has, but not *(n)ing* and the passive participle suffix.

In Chapter 4 I compare the participles and nominalizations with "full" ver-

bal forms (mostly the infinitive), and I compare the syntactic differences (e.g. Case licensing and particle placement) between nominalizations/participles and full verbs. I note that, even though the *-(e/a)-nde*-forms share most morphological and interpretational properties with the infinitive, most of the *-(e/a)-nde*-forms still show typical nominal/adjectival syntax. I show that the absence of a verbal syntax correlates directly with the absence of a syntactic subject.

In Part II I discuss the three different morphemes, devoting one chapter to each of the suffixes. Chapter 5 contains a lengthy discussion of the restrictions of the passive participle. The chapter focuses on passive participles formed from unaccusative and and reflexive verbs. I show that are at least two qualitatively different passive participles, one where the participle suffix is merged on top of the full verb phrase, and one where only a resultative sub-eventual head is present.

Chapter 6 discusses *-(e/a)nde* (referred to as only *nde*). I show that even though the morpheme in question can attach to basically all typical "lexical" verbs (i.e., the ones that originates within the "first phase"), there are some systematic restrictions. Most importantly I show that there is a strong connection between the participial uses and the nominal uses of the participles: verbs that form so called adjectival or prepositional participles systematically lack nominals formed with *-(e/a)-nde*. The chapter closes with some speculations about this connection.

In Chapter 7 is all about *(n)ing*. This suffix is the least "regular" of the three suffixes. I show that one has to take "blocking" into consideration to account for the restrictions on *(n)ing*. More specifically, the *(n)ing*-nominals are blocked by zero-derived or irregular nominals. Even taking blocking into account, there are some restrictions that seem to have root in the event/argument structure lexicalized by the verbal root/stem. I will show that *(n)ing* looks a bit like an inverted passive participle.

Chapter 8 sums up the dissertation, and discusses possible ways to go for describing the relation between argument/event structure and nominalizations and participles.

Part I

General properties of de-verbal adjectives and de-verbal nominals in Swedish

Chapter 2

Introducing the forms

2.1 Introduction

In Swedish there are at least two productive suffixes that form nominals out of verbs: *-e/a-nde* and *-(n)ing*. I will refer to these suffixes as *-nde* and *-(n)ing* . There further exist a couple of non-productive nominalizing suffixes, which I will refer to as "irregular" nominalizations. Further, noun-verb conversion is fairly common, though probably not a productive process. I will throughout the dissertation refer to nouns that are morphologically identical to verbs as zero-derived nominals, though it might very well be the case that the verbs are derived from the nouns. The zero-derived and irregular nominals seem to interact with the productive forms, more specifically, they seem to "block" the regular, productive nominalizations in certain cases. Still, many verbs have three corresponding nominal forms, often with slightly different meanings.

(1) a. spring - spring-ning - spring-ande ('run')

b. cirkula-tion - cirkuler-ing - cirkuler-ande ('circulate')

c. lock-else - lock-ning - lock-ande ('tempt')

There are three different participles in Swedish: the active past participle, the passive past participle and the present participle. The active past participle does not have the typical adjectival distribution of the other two participles, and is therefore not going to be covered in this dissertation (though the form will still be discussed here and there). The form of the passive past participle varies depending on conjugation class of the verb. In the text I will refer to the morpheme as *-de*, given that this is probably its most common allo-

morph.[1] The so called present participle is morphologically identical to the *nde*-nominalizations. The passive participle always agrees in person, number and definiteness (definiteness agreement is only seen in the attributive usage) with the subject/head noun, though I will not gloss the agreement, since it's not of any importance for this thesis. I will refer to this participle as the "passive participle", dropping the "past".

The meaning and distribution of the Swedish present and passive participles are in many respects similar to the present and past participles in English, as will be shown below. In some contexts the participles can be "blocked" by zero-derived or irregular adjectives, just like the productive nominalizations can be blocked zero-derived nouns. This case is much rarer for the participles than the nominalizations, and it's possible that present participles never interact with non-derived adjectives.

This chapter has two parts: first I will briefly describe the distribution and meaning of each of the four forms under discussion, i.e. the *nde*-nominalization, the *(n)ing*-nominalization, the present participle (or *nde*-participle) and the passive participle (or *de*-participle). Then I will look at the morphological make-up of the forms, and I will show that the present participle and *nde*-nominalization are morphologically more complex than the passive participle and the *(n)ing*-nominalization. More specifically, *-nde* attaches to the infinitival form, while the other two suffixes attach to something less structurally complex. The leading idea throughout the dissertation will be that the syntactic and semantic differences between the two nominalizations, and the syntactic and semantic differences between the two participles is mostly or completely a result of the different attachment site of the suffixes.

2.2 General description of *-nde*, *-(n)ing* and *-de*

The *-(n)ing* suffix is more frequent in texts than *-e/a-nde* (depending on genre, *-(n)ing* is between 5 and 10 times more common than the nominalizing *-nde*, see Loman 1964). On the other hand, *-nde* is somewhat more productive, forming nominals from almost all verbal stems, while *-(n)ing* is more restricted (which will be discussed in greater detail in chapter 6 and 7). In addition, as already mentioned, *-nde* is also productively used for forming present participles (or "gerunds"), which makes Swedish *-nde* look a lot like

[1] This allomorph surfaces for conjugation 1 verbs in so called "weak" positions. It should be noted that the /e/ is an agreement marker rather than part of the participle morpheme. More correctly, the passive participle is just a dental stop, and it can surface as /d/, /t/ or /n/, depending on conjugation class and agreement.

English -*ing*.

The typical nominal and participial uses are exemplified below:

(2) a. **ätandet** av godis (Event Nominalization)
'the eating of candy'
b. den **ätande** mannen (Verbal participle)
'the eating man'
c. Han är mycket **fascinerande** (Adjectival participle)
'He is very fascinating'
d. ett kärl **rymmande** mer än två liter ("prepositional" participle)
'a vessel holding more than two liters'

On the surface, the "prepositional" participle is distinct in that it easily licenses direct objects, though it is not otherwise obvious that it is deeply different from the other participles. Its difference from adjectival and verbal versions of -*nde* will be discussed in chapter 6 in detail. On the surface, the *nde*-nominalizations (both eventive and result) have both the external and internal properties of regular nouns, i.e., they appear in argument position (external property), they are modified by adjectives, take a pre-nominal possessive argument and/or a post-nominal PP-argument (internal properties), as shown below:

Nominal in -*e/a-nde*

(3) Vi lyssnade på [Johans ständiga upprepande av gamla klichéer]
We listened to John's constant repeat.NDE of old clichés
'We listened to John's constant repetition of old clichés'

Non-derived nominal

(4) Vi lyssnade på [Johans gamla version av låten]
We listened to John's old version of song.DEF
'We listened to John's old version of the song'

There are no -*nde*-nominalizations in Swedish that can assign accusative, unlike English (PRO/POSS/ACC-*ing*). As we will see, the Swedish *e/a-nde*-nominals are more like English *ing of*-nominalizations (see introduction chapter, below and e.g. Chomsky 1970 and Abney 1987 for discussion).

The -*nde*-participles have on the surface the external distribution of non-derived adjectives, and can be used attributively (5) or in free adjuncts (6).

(5) a. Den springande mannen
the run.NDE man.DEF
'the running man'
b. Den trötta mannen
the tired man.DEF
'the tired man'

(6) a. Springande mot dörren hörde han någon ropa på hjälp
run.NDE towards door.DEF heard he someone call on help
'Running towards the door, he heard someone crying for help'
b. Trött på skolan beslöt Johan sig för att börja jobba
Tired on school.DEF decided John self for to start work.INF
'Tired of school, John decided to start working'

Only a subset of participles in *e/a-nde* can however be used predicatively. I will descriptively refer to these as the 'adjectival' participles. I will follow the Swedish reference grammar (Teleman et al. 1999) and call the other group verbal participles. I will leave aside what I have called "prepositional" participles for now.

(7) a. *han var springande
he was run.NDE
(intended: 'He was running') (verbal participle)
b. Filmen var fascinerande
movie.DEF was fascinate.NDE
'The movie was fascinating' (adjectival participle)

(7) shows that in the general case, participles in *-nde* cannot occur in the complement of the copula *vara* ('be').

The verbal present participles also appear in the complement of certain "light" verbs, most commonly *bli* ('become' or 'remain'), *come* ('come'), *gå* ('go') and *stå* ('stand'). As Thurén (2007) shows, this usage is fairly common, and a lot of different verbs can take the present participle as their complement, and thereby form complex predicates. This is exemplified below with the verb *komma* ('come'):

(8) Han kom springande mot mig
He came run.NDE towards me
'He came running towards me'

The participles can also occur in various types of small clauses. In exceptional cases, they can even take nominative subjects, as shown in (9a). Adjectives

are fine in this context too, as shown in (9b). The subjects are only possible when there's a part-whole relation holding between the subject of the matrix clause and the subjects of the two small clauses. I will not take the presence of the structural subject to indicate any presence of e.g. tense in small clauses in general.

(9) a. vi lämnade stationen – jag bärande på en tung
we left station.DEF – I.NOM carry.NDE on a heavy
resväska och min kompanjon med bara en hatt i handen.
suitcase and my companion with only a hat in hand.DEF
'We left the station – me carrying a heavy suitcase and my companion with just a hat in his hand.'

b. Vi lämnade puben klockan tolv – jag spik nykter
We left pub.DEF clock twelve – I completely sober
men Kalle full som en alika
but Kalle drunk as an 'alika'
'We left the pub at twelve o'clock – me completely sober but Kalle drunk as a skunk'

I will in chapter 4 claim that the present participles that occur in small clauses and free adjuncts are different from other participles in that they contain a syntactic subject (possibly PRO or a trace). I will refer to the participles containing subjects as "gerunds" or "big" verbal participles.

With regard to internal properties, the big verbal participles sometimes show more verbal properties than non-derived adjectives and adjectival present participles. This is mainly seen in case-assigning properties: while only very few adjectives can assign accusative case in Swedish, the gerundive participles in *-nde* seems to do so more often. It should however be noted that accusative objects of *-nde* participles are quite rare, and there's a huge variation among speakers with regard to the acceptability of them (see Egerland 2002 and Thurén 2007 for discussion). This will be returned to later.

It's worth pointing out the similarities between Swedish *-nde* and English *-ing* - both of them form nominals and participles. Swedish however seems to lack the uses of English *-ing* that contain the most verbal structure. Full tensed clauses or infinitival phrases are most usually used where English can use a gerundive/participial clause. Egerland (2002) notices three main differences between Swedish and English regarding free gerundive adjuncts. First, Swedish gerunds never contain negation, while this is possible in English:

(10) *Inte springande snabbt nog, kom han inte fram i tid
Not run.NDE fast enough, came he not there in time
(cf. English: 'Not running fast enough, he didn't arrive there in

time')[2]

Second, the gerund is not compatible with auxiliaries in Swedish, though it is in English (see Egerland 2002):

(11) *Havande hört om det, ringde han omedelbart hem.
Have.NDE heard about it, rang he immediately home.
(cf. English: 'Having heard the news, he called home immediately')

Third, while the English gerunds can contain accusative marked subjects, this is not possible in Swedish:

(12) *Pressen redan vetande för mycket, bestämde sig
Press.DEF already know.NDE too much, decided self
regeringen för att offentligöra nyheten.
government.DEF for to go-public-with news.DEF
(cf. English: 'The press already knowing too much, the government decided to go public with the news.')

In all the cases above, a full finite clause has to be used in Swedish (with an appropriate complementizer). In other cases, infinitival clauses can be used. Egerland argues that the English *ing*-forms can express independent tense, while this is not possible in Swedish. This carries over to the nominal domain as well - in Swedish there are no counterparts of English POSS/PRO/ACC-*ing*. In other words, *nde*-nominals cannot contain auxiliaries, negation and cannot assign accusative case to their internal argument.

The passive participle has, just like the present participle, typical adjectival properties. There are at least two types of passive participles Stative (or "adjectival") and Eventive (or "verbal"). There is possibly one more type of passive, the Resultative (as was discussed in the introduction, see Embick 2004 and Kratzer 2000). Like other adjectives, passive participles are used freely in attributive position, in the complement of a copula (and thereby giving rise to a passive reading) and in various small clauses. The properties of the passive participle will be extensively discussed in chapter 5.

Unlike *-nde* in Swedish and *-ing* in English, that form both participles and

[2]Thurén (2007) notes examples like *de ännu* **inte** *existerande maskinerna* ("the yet not existing machines"), where a participial phrase seems to contain negation. Note however that adjectives can be modified by negation in similar contexts: *Den ännu inte färdiga brudklänningen* ('the yet not ready wedding gown'). I will therefore take Egerlands observation to be correct.

nominals, *-(n)ing* only forms nominals, which can be both simple result nominals and complex event nominals, in the sense of Grimshaw (1990), though as we will see, some of the Grimshaw's diagnostics will tell that *(n)ing*-nominals are rather simplex event nominals. Usually they don't allow modification by *ständig*('constant') when they are not plural. It is OK in the example above, but that is probable because the verb *upprepa* ('repeat') is lexically iterative (or at least "repetitive"). In general, while *-nde* shows similarities with English *-ing*, *-(n)ing* behaves more like a derived nominal in English (i.e. *-tion*) Examples of *-(n)ing* nominals are given below.

Result Nominal

(13) Han hade [en stor saml**ing** med värdefull konst]
He had a big collect.ING with valuable art
'He had a big collection of valuable art'

Eventive nominal

(14) [Hans ständiga upprep**ning** av gamla klichéer] irriterade
His constant repeat.ING of old clichés annoyed
åhörarna
listeners.DEF
'His constant repetition of old clichés annoyed the listeners.'

No participle

(15) *Den spring**ning**(a) mannen
the run.ING.(DEF) man.DEF
(intended: 'the running man')

Where they overlap, in the domain of nominalizations, the difference between-*(n)ing* and *-e/a-nde* is hard to capture, though a number of generalizations concerning the differences have been claimed to exist:

1. *-(n)ing* frequently forms non-eventive (resultative) nominals - *(-e/a)-nde* only very rarely does so (Loman 1964).

2. *-(n)ing*-nominals often refer to a single event - *(-e/a)-nde*-nominals often refer to repeated events (Loman 1964).

3. *-(n)ing* goes preferably with transitive verbs - *(-e/a)-nde* goes preferably with intransitive verbs (Loman 1964).

4. *-(n)ing*-nominals require an Originator argument (Initiator) and an Event Measurer argument (incremental theme) - *--e/a-nde* nominals require an

Initiator argument but no Event Measurer argument (although they are compatible with one) (Josefsson 1998).

The points above are just tendencies, and there are counterexamples to all of them. A detailed examination of these generalizations will be given later on in chapters 6 and 7.

2.2.1 Object and Event denoting nominalizations in *-(n)ing* and *-nde*

The nominalizations formed with *-(n)ing* and *-nde* share a number of typical syntactic non-verbal properties. In that sense they can both behave like Complex Event Nominals, as discussed in seminal works like e.g. Grimshaw (1990) and Alexiadou (2001). The non-verbal properties that these nominalizations share in contrast to tensed verbs and even infinitivals include the following: (i) no accusative case can be assigned; (ii) verbal particles are prefixed to the nominalization; (iii) internal arguments can sometimes be prenominal/incorporated; (iv) the internal argument usually gets realized as a prepositional/genitive *--av*-phrase (similar to the English *-of-phrase*) (v) and the external argument can surface as a pre-nominal possessive phrase, or more markedly or as a postnominal *-av*-phrase. Thus, in their most eventive uses they share typical properties with the English *-ing of*-nominalizations and English derived nominals.

However, *-e/a-nde* nominals (marginally) and *-(n)ing* nominals (frequently) also have less eventive uses. A list of the different non-eventive uses of *-(n)ing* is given below, taken from Loman (1964):

- Nomina acti: Refers to the result or product of an event (more or less corresponding to Grimshaw's simplex event nominals, or result nominalizations):
  - *öppning* -'opening', *anteckning* -'note', *samling* -'collection', *bosättning* -'settlement', *stickning* -'knittings', *uppfinning* -'invention', *packning* -'luggage', *korrigering* -'correction', *markering*- 'marking'.
- Nomina agentis: Refers to the agent of the action (though only from habitual events):
  - *regering* -'government', *ledning* -'management'
- Nomina instrumenti: refers to the instrument or the means of the action:

  - *betalning* - ‘payment’, *kompensering* -‘compensation’, *fyllning* - ‘filling’, *stoppning* -‘stuffing’

- Nomina loci (denotes the place for the event):
  - *parkering* -‘parking lot’, *mottagning* -‘reception’

- Nomina temporis (denotes the time of the event):
  - *gryning* -‘dawn’, *skymning*-‘dusk’

With regard to *-nde* nominalizations, these are in fact mostly eventive, although there are some non-eventive ones, and they are always result/object nominals. Further, it seems that *nde* - nominals only give rise to a non-eventive reading if the verb that *-(a/e)-nde* attaches to does not have a *-(n)ing* or zero derived nominalization. An almost exhaustive list of plausible non-eventive *nde*-nominals is given below:

(16) *klargörande* -‘clarification’, *förnekande* -‘denial’, *seende* -‘sight’, *offentligörande* -‘disclosure’, *antagande* -‘assumption’, *tyckande* -‘opinion’, *hävdanden* -‘claim’, *leende* -‘smile’, *uppträdande* -‘performance’, *erbjudande* -‘offer’, *påstående* -‘claim’, *meddelande* -‘messages’.

In each of the non-eventive uses of the n͡de-nominalization, the nominalization in *-(n)ing* is absent/ungrammatical for this particular verb root.

(17) a. flera le-enden - many smiles (*lening)
b. flera uppträd-anden - many performances (*uppträdning)
c. flera erbjud-anden - many offers (*erbjudning)
d. flera påstå-enden - many claims (*påståning)
e. flera meddel-anden - many messages (*meddelning)

Interestingly, while these forms can be used as non-eventive nominals (as shown in (17)), some of them can also have eventive readings (see (18)). As will be returned to in chapter 6, *nde*-nominals don’t usually allow clausal complements, and as seen in the list above, many of the verbs that have result/object *nde*-nominals take clausal complements when they are full verbs. Only the verbs in the list above that allow non-clausal complements have eventive readings in the *nde* nominalization:

(18) a. Efter meddelandet av nyheten var vi alla skakade
after message.NDE.DEF of news.DEF were we all shaken
‘After the telling of the news, we were all shaken’

b. hans ständiga förnekande av brottet
his constant deny.NDE of crime.DEF
'His constant denial of the crime'

There seem to exist independent factors that explain the absence of *-(n)ing* nominalizations of the verbal roots in the examples above. In other words, *-nde*-nominals do not block *-(n)ing* nominalizations. Rather, *-nde* can kick in when there's no other nominalization around. The same relationship seems to hold between *-(n)ing* and zero derived (or irregular) nominals. This will be discussed in greater detail in chapter 7 and 8. It should be noted that event denoting nominals in *-nde* also can occur in the plural in certain context, most notably if the verb in question doesn't have a corresponding *(n)ing*-nominal.[3]

2.3 Morphological make-up of the different forms

In this section, I lay the groundwork for what is to come by focusing on morphosyntactic differences between *-(n)ing* and *-nde* that have received less attention in the literature. I will argue that morphological differences are important clues to the distributional behaviour of the constructions formed with the two suffixes, and correlate with a variety of syntactic effects (see Alexiadou 2001 for similar results from Greek).

The purpose of this section will be to establish that *-(n)ing* attaches to the verbal stem/root form, while *-nde* attaches to the infinitival. Under the framework of grammar assumed in this thesis, this suggests that the *-nde* form contains more verbal structure than the *-(n)ing* form. The passive participle attaches to something that is less complex than the infinitival, as will be shown below.

2.3.1 Verbal conjugation classes and *-e/a-nde*

Swedish verbs are traditionally divided into five conjugation classes. Conjugation class 1 is the only productive class in modern Swedish, although the other groups are large. In the table below I give a very traditional description of the Swedish conjugation system. The first class is the one that always carries the vowel /a/, which I will refer to as a theme-vowel. None of the other groups have this theme vowel. The second group consists of the weak verbs without the theme vowel that end in a consonant (the voicing of the past tense suffix will be determined by the nature of the final consonant, as shown in the

[3]It has been pointed out for other languages that eventive nominalizations can take the plural, but that this mainly happens when the verb is perfective.

table)[4]. The third class are the weak verbs without a theme-vowel that end in a vowel. The fourth class are the strong verbs that are characterized by vowel alternation in the past tense and active past participle/supine.[5] The fifth class consists of the irregular verbs.[6]

TABLE 1: SWEDISH CONJUGATION CLASSES

	Infinitive	Pres. part	Imperative	Present	Supine	Past
1	titt-a	titt-a-nde	titt-a	titt-a-r	titt-a-t	titt-a-de
2 -Voice	köp-a	köp-a-nde	köp	köp-er	köp-t	köp-te
2, +Voice	drömm-a	drömm-ande	drömm	drömm-er	dröm-t	dröm-de
3,	bo	bo-ende	bo	bo-r	bo-tt	bo-dde
4Strong	spring-a	spring-ande	spring	spring-er	spr**u**ng-it	spr**a**ng
Irreg.	gör-a	gör-ande	gör	gör	gj**o**rt	gj**o**r-de

Observe that there are no strong, irregular or conjugation 2 verbs with vowel-final stems that take the infinitival *-a*. That is, one could imagine a verb having the infinitival form CV-a, and the imperative form CV, just as conjugation 2 verbs have an infinitival of the shape (C)VC-a and an imperative of the shape (C)VC. However, no such verbs exist. We can therefore conclude that vowel final verb stems do not take the infinitival *-a*.

Given the description of the Swedish conjugation classes above, the conjugation system in Swedish is very simple. For the three classes of weak verbs, all the tense/mood forms are identical:

(19) a. -r = present tense
b. -a = infinitive (deleted after a vowel)
c. ∅ = imperative
d. -t = (active) past participle/supine
e. -de = past tense/preterite (with regular de-voicing after voiceless consonants)

There are two phonological quirks that are related to the past tenses of the second and third conjugation. These are however seen in the adjectival inflectional domain as well:

1. Conjugation 2: For verbs ending in long vowel-/d/ or long vowel- /t/,

[4]There is one exception to the voicing harmony between past tense suffix and final consonant: Verbs ending in V: /n/. In this case the preterite dental stop turns up in its voiceless allophone: *krön - krönte* . Note that this is never the case for any other voiced final consonants, and neither when the final /n/ is long: *bränn - brände* .

[5]The active past participle, or the so-called "supine", also has a special form for the strong verbs: an /i/ occurs before the supine /t/. This will be returned to in chapter 5.

[6]There is only one verb that has suppletive forms, and that is *-vara* ('be'). Many of the so-called irregular verbs are verbs that have a strong preterite form, and a weak supine form.

the vowel always gets shortened:

(20) a. rå:d - rådde
advise - advised
b. stö:t - stötte
poke - poked

Note that this is never the case if the verb ends in another consonant: *vi:ga - vi:gde* . Here we see a parallel in the adjectival domain, where the neuter agreement /t/ shortens the vowel for adjectives that end in V: /d/ / /t/ : *röd - rött* ('red$_{cg}$' - 'red$_{neut}$', note also the de-voicing of /d/ in *-rött*), *söt - sött* ('sweet$_{cg}$'- 'sweet$_{neut}$'. This only happens when the adjective ends in /d/ or /t/ : *fu:l - fu:lt* .

2. Conjugation 3: the vowel always gets shortened in the past tenses:

(21) bo: - bodde

We see the same shortening taking place in the adjectival domain, where the neuter agreement marker /t/ always shortens the stem vowel in vowel final adjectives: *blå: - blått* ('blue$_{cg}$'- 'blue$_{neut.}$')

Given the parallel between the verbal and the adjectival domain, we have reasons to expect that the vowel shortening in the two cases above is entirely phonological in nature.

All verbs also have the same present participle form, that is *-nde*, which is attached to the infinitive. All strong verbs and most irregular verbs change their stem vowel in the past tenses (past tense (preterite), active past participle, and passive past participle).[7]

Basically all verbs have the same non-past tense paradigm, that is, the present tense, the infinitive and the imperative. The only exceptions are *vara* ('be'), which has a suppletive present tense form (*är*), and *kunna* ('can$_{inf}$') that show vowel alternation in the present tense/impertative (*kan*).

To describe the the non-past tenses, one only needs to divide the verbs in Swedish into two macro-classes: (A) the verbs that take the theme-vowel /a/, and (B) the verbs that don't take a theme vowel. Class B consists of two subgroups, that are defined by their phonological properties: the verbs that

[7]Many irregular verbs have only irregular preterite forms, while their active and passive participial form is regular. There's only one verb (according to the Swedish reference grammar, verb, paragraph 65) that has a strong active participial form, and a regular preterite form: växa - växte - vuxit/växt . As seen, there is also a regular active participle form for this verb.

end in a consonant and the verbs that end in a vowel. Class A in table 2 is equivalent to conjugation class 1. Class B(i) consists of verbs from the other conjugation classes that end in a consonant (most of them), and Class B(ii) consists of the verbal stems outside of conjugation class 1 that end in a vowel (not that many).[8]

TABLE 2: DISTRIBUTION OF *--a*

	Ex.	root	present tense, imperative	Infinitive, *--nde*
Class A	pek -	∅	-a	-a
Class B(i)	köp-	∅	∅	-a
Class B(ii)	bo	∅	∅	∅

-Ande and *-ende* are allomorphs in Swedish. All verbs whose infinitival form ends in *-a* (around 98 per cent of verbs) select the *-ande* allomorph, while verb whose infinitival form ends in some other vowel select the *-ende* allomorph. The /a/ is absent in certain "root" contexts (i.e. compounds) for all verb stems, and in all tensed, imperative and passive/past participles for all but the verbs that belong to conjugation class 1 (class A in the table above). I will take it that the relevant morpheme we are investigating is *-nde*, and the *-a* which shows up in most cases is the infinitival *-a*. The *-e* showing up with the verbs lacking the infinitival *--a* is epenthetic (for some reason the /n/ in *-nde* cannot be syllabic). Therefore I will talk about *-nde* nominals rather than *-a/e-nde* nominals.

The present participle use of *-nde* and the nominalization in *-nde* show the same allomorph pattern, as is shown below.[9]:

(22) att spring**a** - spring**a**ndet$_{noun}$ - den spring**a**nde mannen
to runINF - runINF.NDE.DEF - the run.INF.NDE man.DEF
to run - the running - the running man

[8]There are a couple of irregular verbs that have short infinitives without the infinitival *-a*, e.g. *ge* ("give"), *bli* ("become, be") and *ta* ("take"). These verbs also have a more archaic infinitival form with the standard infinitival *-a*, preceded by a consonant (*giva, bliva, taga*). The nominalized and participial forms are always built on the longer archaic form (*givande, blivande, tagande*).

[9]I have found some vowel final verbs with the *ande*-allomorph on the internet, but only for the nominal use. The relevant forms are *spy-ande* ("the throwing up") and *sy-andet* ("the sew-ing"). These forms are strikingly ill-formed in my Swedish. but it is possible that some dialects actually treat the nominal forms differently. For these dialects/idiolects, the nominalization morpheme could simply be *-ande*, which suffixes to the root, while the participle is *-nde*, which suffixes to an infinitival.

(23) att se - seendet$_{noun}$ - den seende mannen
to see - see.INF.NDE - the see.INF.NDE man.DEF
to see - the seeing - the seeing man

The claim that the present participle is built upon the infinitival has also been made for German. The German present participle is built by merging a participial ending (/d/) on top of an infinitival:

(24) sing-**en** - sing-**en**-d sing (inf) - sing-ing

The connection between the infinitival and the present participle suffix *-ing* can be seen in English as well. As shown by e.g. Stump (1985) and Milsark (1988), all verbs that have an infinitival form also have a regular *-ing* form. This is shown below for the verb *be*, that has suppletive present and past tense forms. The *-ing*-form crucially attaches to the infinitival form.

(25) be - be-ing (*was-ing, *were-ing, *is-ing etc)

This can be seen in Swedish as well for the verb *-vara* ("be"):

(26) var-a$_{inf}$ - är$_{pres}$ - var-a-nde$_{pres.part}$ (*ärande)

For verbs that lack an infinitival form, such as the modal verb *-måste-*'must', no present participial form exists (in both Swedish and English)

(27) måste$_{pres?/past?}$ - *måst-a-nde/*måste-nde
must$_{pres?/past?}$ - *must-ing

2.3.2 Structures and lexicalization via morphemes

So far, we have seen that *-nde* can be analysed as attaching to the infinitival derived form, assumed here to be the suffix *-a*. However, there also seems to be a layer of morphology that can be seen sometimes in the form of a theme vowel (also *-a*) which shows up closer to the root than the infinitival ending. That this 'theme vowel' is not lexicalized as part of the roots we find it in can be seen by the fact that it disappears with certain suffixes (e.g. *-bar-*'able'), and in compounding. In (28) below, I show that verbs of class A occur without a "theme"-vowel in compounds, zero-derived nominals and in verb+*-bar* ('able').

(28) a. spark-skada
kick-injury

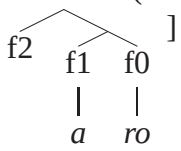
b. spark
   kick
c. spark-bar
   kickable

I will assume that both the theme vowel and the infinitival *-a* correspond to levels of structure that I will for now simply label as f1 and f2 respectively (leaving it open for now exactly what these functional nodes contribute semantically). From the data above, we can see that f1 is not present in compounding, (most) zero-derived nominals or 'able' derivations. Verbs of Class B(i) and B(ii) can also occur in these contexts, as shown below:

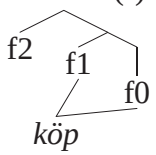
(29) a. köp-centrum, bo-vänlig
   buy-center ('shopping center'), live-friendly ('inhabitable')
b. köp. bo
   buy, live ('nest"
c. köp-bar, bo-bar
   buy-able, live-able ('inhabitable')

This indicates that the verbal roots of Class B(i) and B(ii) above only optionally spell out f1. Thus, in a framework where one morpheme can lexicalize more than one terminal node, the distribution of the theme vowel *-a* can be captured in the following way.

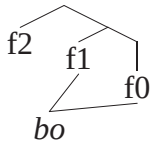
(30) CLASS A: (*-roa* -'amuse')



(31) CLASS B(I): *köpa-* 'buy'



(32) CLASS B(II): *bo-* 'live'



In (29), the "root"-like verbal lexical element can only lexicalize one node - the one I've called f0 above[10] while the verbal lexical items in (31) and (32) can lexicalize at least two nodes, f0 and f1. When f1 spells out separately, it corresponds to the "theme"-vowel.

In (29) the root is specified for lexicalizing only f0, in (31) the root is specified for lexicalizing f0 and f1. Note that the roots also can lexicalize only a subset of the of the syntactic nodes that they are specified for (Superset Principle, Starke/Caha). Thus, roots in Class B(i) and B(ii) will be specified for spelling out the set of f0 and f1 or any subset thereof. Given this Superset principle, a further rule is needed to make sure you don't generate the following two forms:

(33) CLASS B(I) [[$_{f0}$ (köp)] $_{f1}$ (-a)]

(34) CLASS B(II) [[$_{f0}$ (bo)] $_{f1}$ (-a)]

Since /a/ can spell out f1, shown in (29), and verbs of Class 2 and 3 can spell out only f0, by the Superset Principle, one has to state a rule that prohibits the derivations in (34) and (33). I propose that there is a general economy principle favouring parsimonious insertion of lexical material, which will generally favour spell out of heads by a single lexical entry as opposed to separate morphemes, all else being equal. This principle is given informally below.

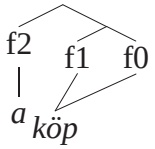
(35) **Lexical Economy**
Do not insert a morpheme unless it is necessary.

This principle will be crucial in other parts of the dissertation, and will explain "blocking" in different domains. This principle in fact follows from the elsewhere condition of the superset principle, i.e., if there are two different ways of lexicalizing a string, go for the alternative that leaves the least features unspecified. *Köp-a* and *bo-a* would leave more features unspecified than *köp* and *bo* , i.e., the f1 feature, in the verbal root.

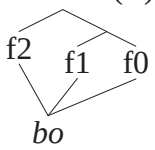
[10] In the trees which follow, I give the functional head that combines first with the root the label f0. For convenience of labelling, I use f0 as the minimal featural information possessed by a verbal lexical item. I leave it open for the time being whether roots should be thought of as acategorial, in which case, the minimal item would simply be inserted under the root itself.

Putting the above representations together with the spellout of f2 for the infinitival *-a*, we get the following pattern: while verbs in the *köp* class combine agglutinatively with the infinitival ending *-a*, verbs in the *bo* class are specified for the f2 feature directly and can lexicalize the whole structure. This gives us the following representations for the internal verbal structure for Class B(i) and Class B(ii) infinitives.

(36) CLASS B(I) (*-köpa* - 'buy') :

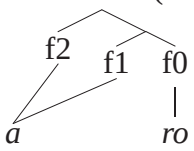


(37) CLASS B(II) (*-bo* - 'live'):



In the case of Class A, the theme vowel *-a* could in principle act in a parallel fashion to the verbal roots: it could express the set consisting of f1 and f2, or any subset thereof. That assumption would give us the representation in (38).

(38) CLASS A(*-roa* -'amuse'):



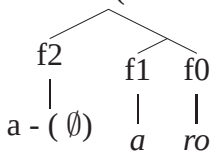
However, phonological rule might do better in this case

(39) Delete the infinitival /a/ after any vowel.

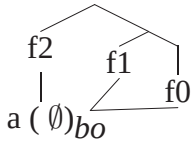
Note that no such rule can be stated for the theme-vowel (f1) itself, otherwise we wouldn't get *-ro-a* . This rule is needed to explain the absence of what would look like vowel final Class 2 verbs (verbs ending in a stem-vowel in the imperative, and an /a/ in the infinitival). If we adopt a phonological account,

the representation for the infinitivals in Class A and Class B(ii) would rather look like (40) below.

(40) CLASS A(-*roa* -'amuse'):

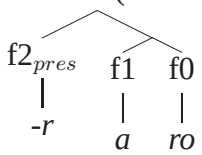


(41) CLASS B(II)(*bo*-'live'):

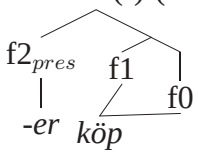


As shown in Table 2, the infinitival -*a* only shows up on the infinitival and the present participles/-*nde*-nominalizations. There are two straightforward ways to account for the absence of -*a* in the tensed forms (and past participial forms and the imperative as well, which I will not discuss here). Either Tense is a form of f2 that selects for f1, or the morpheme spelling out Tense is a higher functional element which is also specified for f2. Either way, the tense affix will lexicalize f2 by hypothesis, and the representations would look as in (42) below. I use the present tense ending -*r* in the following examples, but past tense -*de* would behave in the same way. I take the -*e* in the Class B(i) consonant final stems to be an epenthetic vowel:

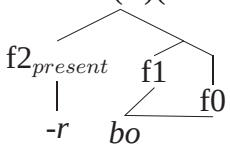
(42) CLASS A(-*roar* -'amuse'):



(43) CLASS B(I) (*-köper* - 'buy') :

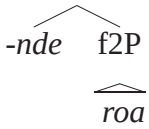


(44) CLASS B(II)(*bor*-'live'):

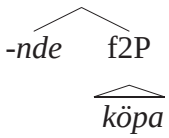


The *-nde* morpheme differs from the tense and past participial morphemes in that the infinitival *-a* is present. I take that to mean that *-nde* selects for f2 (and crucially is not able to spell out f2 itself) (I take the *-e* in (45c) to be epenthetic):

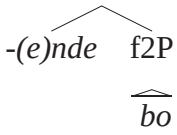
(45)



(46)



(47)



For now it's not clear what role f1 and f2 are playing. It is tempting to describe f1 as a verbalizing head (Josefsson 1998 goes in that direction). There are two problems with that approach, one conceptual and one empirical. First, we don't know what it means to be "verbal", that is, we still don't know what syntactic and semantic properties are to associated with "verbhood", and we don't know if it's a simplex concept, or something that should be decomposed into several components. (A standard approach would be to take

assignment of accusative case to be the syntactic side of being a verb[11], while denoting an event would be the semantic side of it). Empirically, assuming that f2 is a verbalizer gives rise to the following paradox: in Swedish there are (at least) two more or less productive verbalizing suffixes: *-n(a)* which mainly turns adjectives into verbs, and *-er(a)* which mainly verbalizes latinate stems. However, all verbs formed with either of these suffixes belong to conjugation class 1, that is, they always realize f1 as *-a* which occurs *in addition to* the verbalizing suffix, as shown below:

(48) blek$_{adj.}$ - blek**na**$_{inf.}$ - blek**na**$_{imp.}$
pale$_{adj-}$ - pale$_{inf.}$ - pale$_{imp.}$

(49) asfalt - asfalt**era**$_{inf.}$ - asfalt**era**$_{imp.}$
asphalt - asphalt$_{inf.}$ - asphalt$_{imp.}$

It should be noticed that *-er(a)* and *-n(a)* verbs never form ∅-nominalizations, either with or without the final *-a*. That is, they seem to be somehow verbal already. It is further hard to argue that *-er(a)* and *-n(a)* are mono-morphemic, since the *-a* disappears before derivational morphology like *-bar-*'able', just as other cases of f1 do.

(50) identifiera - identifierbar
identify - identifiable

When it comes to infinitive *-a* (what we have been calling f2), it is likely that it can spell out more than one feature, given the number of different syntactic behaviors and semantic interpretations of infinitival phrases (see e.g. Wurmbrand 2001 and Wiklund 2007). Let us just conclude for now that f2 is not likely to be the exponent of any of the syntactic heads in the argument structure domain of the verb phrase (say Init^0 or Proc^0), given that some auxiliary verbs and most restructuring verbs have infinitival forms as well, showing the infinitival *-a*.[12]

[11] Another approach is to take the possibility of carrying tense to be a verbal property. This approach is too crude when it comes to syntactic categories like participles and nominalizations, since the stems involved in participles and nominalization have tensed forms as well (often even homophonous with the nominal/participial form.)

[12] Many auxiliaries and restructuring verbs do not show infinitival *-a* however. Auxiliaries and restructuring verbs can be grouped in the following way, based on the distribution of *-a*, and the availability of infinitival uses:

1. No infinitival use: *måste* ('must'); *lär* (hearsay, probably) Only present tense, though for some speakers also an active past participial form *-måst*.

2. No or only archaic infinitival use: *ska* ('shall' future auxiliary), whose infinitival form *-skola* is no longer used; *bör* ('ought') whose infinitival form *-böra* is seldom or never

2.3.3 Passive participles and *-ning*

As was argued above, the present participle/nominalizing suffix *-nde* seems to be merged on top of the infinitival form of the verb. The two other non-finite forms that are the focus of this dissertation, the (passive) past participle and the nominalizing *-(n)ing* both attach to something smaller. First, *-(n)ing* attaches straight to the root, which is revealed by the fact that neither the theme vowel nor infinitival /a/ are ever seen before *-(n)ing* , as is shown for the three classes below:

(51) Class A: *simma* ('swim'): sim-ning

(52) Class B(i): *läs* ('read'): läs-ning

(53) Class B(ii): [13] så ('sow'): så-ning

It is however not strictly possible to rule out the presence of feature f1 in the *-(n)ing*-nominalizations. Once again, given the Superset Principle, we cannot tell if *-(n)ing* spells out both f1 and an additional feature (some kind of gender/nominalizing feature). For simplicity, I will assume for now that is not the case, until we have some more independent evidence for the precise role of f1 in the decomposition.

So far, it is clear that the form that *-(n)ing* attaches to never shows any *-a* marker (either theme vowel (f1) or infinitival (f2)). Before we proceed, it is worth saying a few words about the *-ing* vs. *ning* allomorphy itself, in case it potentially also has morphosyntactic consequences. According to Söderberg 1968 (from Josefsson 1998) the *n* in *(n)ing* disappears in the following contexts: (a) verbs derived by *era*; (b) on stems that end in *-n* or consonants + *-r* /

used in modern Swedish. They can both only surface in present tense or past tense.

3. Infinitival use, no or only archaic realization of *-a*: *ha* ('have', perfect auxiliary); *bli* ('become', 'get', passive auxiliary). Both have very archaic infinitival forms (*-hava* and *bliva*), though these forms obligatorily surface in present participles/*nde*-nominalizations. Can be used in all tenses (the auxiliary use of *ha* is for independent reason unavailable in the passive participle).

4. Infinitival use, infinitival *-a*, conjugation 2, strong or irregular: *vara* ('be', copula); *kunna* ('can', modal, restructuring); *försöka* ('try', lexical restructuring); *vilja* ('want', lexical restructuring(?)). All have the full set of verbal forms.

5. Infinitival use, infinitival form, conjugation 1: *verka* ('seem', raising), *tendera* ('tend', raising); *-sluta* ('stop', (lexical) restructuring); *börja* ('begin', (lexical) restructuring).

In other words, only the verbs in group 4 and 5 show the infinitival *-a*, and only verbs in group 5 show both infinitival and f1 (theme vowel) *-a*.

[13] It's surprisingly hard to Class B(ii) verbs that take *-(n)ing*. For now I have no explanation for that.

-l and (c) in certain prefixed verbs (e.g. *BE-spar-ing* and *för-dyr-ing*). At least one conditioning factor on the disappearance of *n* seems to be phonological (namely (b)), but the other condition appears to relate to the complexity of the verbal root. Instead of having a specific rule for the *-er-a* verbs, as Söderberg has, one might propose a general rule that covers all bi- or polymorphemic stems that end in /r/. This rule would in that case cover the following cases in (54) as well, where a prefix has been attached to a stem/root ending in /r/. Notice that the /n/ is present when the verbs are unprefixed:

(54) a. stör**n**ing - förstöring (‘disturbing’ - ‘destruction’)
b. rör**n**ing - beröring (‘touch, stir’- ‘touch’)
c. spar**n**ing - besparing (‘saving’- ‘saving’)

Notice further that /n/ only disappears after /r/, as can be seen in the following examples:

(55) a. förinta - förint**n**ing (‘annihilate’ - ‘annihilation’)
b. förminska - förminsk**n**ing (‘decrease’ - ‘decrease’)
c. befrukta - befrukt**n**ing (‘fertilize’- ‘fertilization’)
d. bekämpa - bekämp**n**ing (‘fight, combat’ - ‘fight, combating’)
e. betala - betal**n**ing (‘pay’- ‘payment’)

The examples in (54) and (55) only contain the prefixes *be-* and *för-* . These prefixes behave differently from most particles: *be-* and *för-* are always prefixed, even in infinitives and tensed forms, in contrast to the stressed particles which only prefix to nominalizations, present participles and passive participles and end up post-verbally when the verb is tensed or an infinitive. *för-* and *be-* have clear grammatical functions: *för* often functions as a verbalizer or adds a causative function to the root; *be-*often functions as an applicative (Josefsson (1998) treats *be-* as a binder of the comitative role). It may be significant that the ‘separable’ particles are also always stressed, in contrast to *be-* and *för-*. The /n/ is necessarily present in *(n)ing*-nominals with prefixed, stressed particles, as is shown below:

(56) a. körning - uppkör**n**ing (‘drive’ - ‘drive up’)
b. spårningen - urspår**n**ing (‘track’ - ‘derail’)
c. spärrningen - inspärr**n**ing (‘lock’- ‘lock in’)

It is tempting then, to think of these facts as not *directly* bearing on morphological complexity, but reflecting a phonological, or stress based generalization: i.e. the /n/ in *-ning* only goes away after /r/, when the final syllable carries main stress. However, there are some stressed particles in Swedish which have the option of staying prefixed even in the tensed and infinitival forms as

well (so called bound particles). Compare the verb-particle constructions in (57) with another set of verb particle constructions shown in (58), here shown in the infinitival form:

(57) a. köra upp - *uppköra (‘drive up’)
b. spåra ur -*urspåra (‘derail’)
c. spärra in - ?*inspärra (‘lock in’)

(58) a. röra vid - vidröra (‘touch’)
b. fyra av - avfyra (“fire/discharge’)
c. föra över - överföra (‘transfer’)
d. göra ren - ren-göra (‘clean’, ‘make clean’)

The particles in (58) optionally stay prefixed to the infinitive, and when they stay, they still carry the main stress. In the *(n)ing*-nominalizations of these particle verbs, the /n/ is optionally present (numbers following the relevant forms indicate number of google hits):

(59) a. rengöring (887 000) - rengörning (33 000)
b. vidröring (525) - vidrörning (192)
c. avfyring (5410) - avfyrning (3070)
d. överföring (624 000) - överförning (872)

In the examples above, there doesn’t seem to be any straightforward difference in meaning between the *ning* form and the *ing*-forms. Looking at the numbers, it is clear that the *ing*-form is highly preferred (my judgments tell the same thing), which suggests that the simplest form possible is always preferred. There are further some cases where a prefixed form has a different meaning. The different meaning carries over to the nominalized forms, as can be seen in the following examples:

(60) a. genomföra ett projekt - genomföringen av projektet
‘to carry out/realize a project’- ‘the realization of the projekt’
b. att föra något genom något - genomför**n**ing
‘to drive something through something’ - ‘though-driving’

(61) a. att upp-bära barnbidrag - uppbäring av barnbidrag(very marked)
‘to collect/draw child benefit’ - ‘drawing/collecting of child benefit’
b. att bära upp ett piano - uppbärning av pianoet
‘to carry up a piano’- ‘carrying up of the piano’

This data suggests therefore that morphological complexity is the main factor at work here, not stress per se. I will therefore take the /n/ to disappear

after /r/ when it attaches to a complex stem, as is shown in (62) below.

(62) a. [[kör] **n**ing]
b. [genom- [[för] -**n**ing]]
c. [[genom- [för]] -ing]
d. [[[asfalt] -er]] -ing]

There is no general rule for Swedish that /n/ can drop in these contexts, as shown in (63):

(63) be-skära [[be- [skur]] -na]
BE-cut$_{inf}$ - BE-cut (passive participle, weak form)

Thus the *(n)ing* allomorphy must be morphophonological, and cannot be reduced to general phonological processes. One could speculate that the-*n*- is a morpheme in itself ("verbalizer"), and is (partly) targeting the same position as one of the morphemes in the bi/poly-morphemic verbs under discussion. However, since the -*n*- does show up in complex stems which do *not* end in /r/, I will not pursue such an analysis here.

While -*(n)ing* looks like it attaches directly to the root form, with no independent morphological evidence of f1, the (passive) past participle morphology attaches on top of what I have called f1, which can be seen in the fact that the /a/ is only present in the Class 1 verbs. This is shown for the three classes below:

(64) den simm-a-de sträckan (Class A)
'the swum distance'

(65) den läs-ta boken (Class B(i))
'the read book'

(66) det så-dda fältet (Class B(ii))
'the sown field'

It should be noted that -*(n)ing* attaches to something that is "verbal", as opposed to e.g. the (non-productive?) nominalizing suffix -*tion* in Swedish. -*tion* only derives nominals from verbal items that are derived with -*er(a)* . Notably, -*(n)ing* attaches outside -*er(a)* , while -*tion* attaches before *era* , as shown below:

(67) repar-era - repara-tion - reparer-ing
'repair' - 'reparation' - 'repairing'

For summing up the discussion, the selectional restrictions of the the three morphemes are given below:

(68) nde + f2P

(69) de + f1P

(70) (n)ing + f0P

I will in following chapters make a point about the general difference between selecting for an infinitival (f2) as opposed to something smaller. I will not be able to say anything interesting about the difference between selecting for f1 or f2 (though see the final notes of this chapter).

Note that all the three suffixes attaches outside some "verbal" morphology, as is seen most clearly for *-nde* and *-de* , but also for *(n)ing* , if we take the verbalizer *er(a)* to be count as verbal morphology (but see Harley 2007 for discussion about verbalizers and "phases"). From a DM perspective we we wouldn't expect any idiosyncratic forms and meanings of any of these suffixes. It is really hard to say what an idiosyncratic interpretation is, though it's likely that all three of the suffixes give rise to slightly idiosyncratic meanings (I will only discuss this for *-nde* in chapter 7). When it comes to forms, we see that *(n)ing* often seems to be "blocked" by zero-derived or irregular nouns, which can be taken as an evidence that they are similar to the stative participles discussed be Embick (2004). There are some cases where *-nde* also is "blocked" by an irregular form, though this is very rare.[14]. The only claim that I will make about 'irregularity' is that it is more likely to find irregular forms corresponding to smaller structures than to larger structures, which should follow from more general acquisitional and processing constraints. We are more likely to store small units than large units. I will make no claims about the exact size limits for idiosyncratically stored information.

2.3.4 Alternatives

Given that *-(n)ing* attaches to something that looks like f0 (i.e., there's never any *-a* present), and *-nde* attaches to f2, there seem to be two "verbal" layers present in *-nde* that are not present in *-(n)ing*. Before concluding that, I will go through a couple of alternative analyses, that could possibly reduce the difference between the two types of nominalizations. The two following alternatives will be discussed:

1. There is no such thing as f1.

2. *-nde*-nominals and participles do not contain the infinitive.

[14]I only know of one case: the psych-verb *intressera* ('interest') is predicted to form an adjectival present participle. No such form is found, but instead we have the "irregular" form *intressant* ('interesting').

Beginning with f1, it would maybe be nice to eliminate it, given that we haven't found any syntactic or semantic correlates for it. For now, the morphological evidence for f1 is that conjugation 1 verbs show the *-a* in tensed, past participial and imperative forms, but not in compounds, (most) root nominalizations, *-(n)ing*-nominalizations and *-able*-adjectivalizations (or in other less productive nominalizations/adjectivalizations). One way to get rid of f1 is to assume that *-a* is actually part of the root of the conjugation 1 verbs. In such case, the deleting of *-a* in compounds etc. is only a phonological operation. However, there are facts that speak against this. First consider the verb and noun *rea* ('sale', a short form for 'realisera' (verb) or "realisation" (noun)). The root itself ends in *-a*, so it is not possible to tell if it belongs to conjugation class 1 or 2, though I will take it to belong to conjugation class 1, like all other new formed verbs. In compounds, the *-a* stays as in e.g. *reagalning/ *regalning* "salesmaniac". Judging from this fact, it cannot be argued that there is a rule that deletes root final *-a*'s in compounds. Compare this to the conjugation class 1 verb *oro-a* (worry). The *-a* disappears in compounds and before derivational affixes, as in *-orolig* ('worried') or *oroväckande* ('worrying' lit. "worry-wakening"). It could be argued that the examples I've picked are all formed from nouns (*rea* and *oro*). However, as long as you take the verb and the noun *rea*, and the verb *oro-a* and the noun *oro* to contain the same root, it won't really matter if the compounds above are formed from nouns or verbs: the crucial thing is that we know that *oro-a* is somehow derived from *oro*, we know that *-a* has been added somewhere.[15]

Turning to the second alternative, one could speculate that the *-ende/ande* alternation is strictly phonological in nature, and therefore, the /a/ in *-ande* is not the infinitival /a/ at all. Thus one could assume that the relevant suffix always is *-ande*, and that the the /a/ turns to an /e/ after any vowel except /a/. Note that one would have to assume *--ande* attaches to f1, and not the root (f0), given that the /a/ stays in Class 1 verbs (*oro-a - oro-a-ande - *oro-ende* vs. *bo - bo-ende*).

(71) a. oro-a-ande

[15]It should be noted that a certain class of nouns, namely the so called "weak" nouns, also lose their final vowel in compounds: *flick***a** - *flick-skola* ("girl" - "girl school"), *pojk***e** - *pojk-skola* ('boy' - 'boy school'). The weak nouns consist of old feminine nouns, ending in *--a*, and old masculine nouns, ending in *-e*. Interestingly, new formed or loaned nouns never seem to pattern with the weak nouns - rather they are strong in that they keep the final vowel in compounds (e.g. *pizza-bagare* ('pizza baker') and *kaffe-filter* ('coffee-filter')). In that sense nouns behave completely opposite to verbs, if one takes the masc/fem *-e/a* to be similar to f1 in the verbal domain. That is, new verbs are derived with the help of *-a*, while nouns enter the language as nouns.

b. köp - ∅ - ande
c. bo - ∅ - ande > bo-*e*nde

There is no way to actually rule out the derivations in (71). (71) would only be possible to falsify/verify if there were a verb of Class 3 that ended in /a/. However, there is no such verb in Swedish. However, we have no reason to assume that there is a phonological rule that would turn /a/ to /e/ after a vowel. We have already seen /a/ does not turn to /e/ after vowels above: *oro-a*, not *oro-e*. There are no other known cases in Swedish where /a/ turns to /e/. In short, there are no really plausible alternatives to the *-nde* on top infinitive-analysis.

2.4 Final notes

Summarizing, a detailed morphological examination of derived verbal forms in Swedish shows that the 'derivational' morphemes *-nde*, *(n)ing* and the passive participle each attach to different sizes of morphological structure: *-nde* attaches to the infinitival form of the verb; *(n)ing* attaches to the bare root; the passive participial ending attaches to an intermediate level of structure that includes the 'theme vowel', but not the infinitival marker. I have assumed that these different levels of morphological structure correspond to levels of syntactic hierarchical structure and I have used the labels f1 and f2 to mark the theme vowel level and infinitival level respectively. Even though the passive participle suffix and the *(n)ing* attach to what looks like different levels in the morphology/syntax, they however show similar phonotactic restrictions on what they attach to. The present and past tense, the infinitival and *(n)ing* require that their host carries primary or secondary stress on the final syllable. They differ in that sense from e.g. the suffix *-bar* (-able), which can attach to stems that do not have stress on the final syllable. This is clearly seen when *-(n)ing* and *-bar* attach to verbal stems that end in an unstressed syllable, like *cykel* ("bike") - deletion of the second syllable /e/ is necessary for *-(n)ing* (and other verbal forms), but not for *-bar* , as shown below:[16]

[16] A more standard take on the issue is that *cykel* actually is monosyllabic (/cykl/), and that the /e/ is simply epenthetic. There are reasons to assume that root actually is bi-syllabic, and that the /e/ is necessary deleted, a deletion triggered by the rule that verbal morphology (including *(n)ing*) only attaches to stress-carrying syllables. The main reason for assuming that *cykel* is stored as bi-syllabic is the fact that only verbal stems with rising final sonority cluster that also have related nouns with non-stressed final syllables can surface in e.g. compounds and with *-bar* , c.f. *segel*$_n$*-bar* ("sail-able") and **vander-bar* ("hike-able") (the correct form instead has to be *vandr-ing-s-bar* . The choice of stem form in compounds and verb+*-bar* is discussed in Lundquist (2009).

(72) a. cykl-ing - *cykel-ning - *cykeling
b. cykel-bar

There are reasons to expect that *-(n)ing* and *-de* attach to the same stem-type, despite the fact that the vowel is swallowed by the the nasal and *-(n)ing* (or the /i/, when /n/ is missing). In what follows, I will not assume a difference in morphological structure between verb+*-de* and verb+*-(n)ing* . It should further be noted, as was seen in the conjugation tables, that passive participles formed from strong verbs always have the same stem-vowel as the supine/active participle, while the present tense/infinitival stem form is always used for the *(n)ing*-nominals. I will not have anything deep to say about this, but just point out that whatever the feature that both passive and active past participles have in common will trigger ablaut of the stem vowel. This doesn't necessarily mean that the two morphemes *-(n)ing* and *-de* attach at different levels.

In the next chapter, I examine evidence from a different domain that supports the idea that *-nde* embeds more verbal structure than either *-(n)ing* or the passive participle.

Chapter 3

Semantic effects of the Morphological differences

3.1 Introduction

In the last chapter it was established that *-nde* attaches to the infinitival form, while *(n)ing* and *-de* attach to something smaller (called f1 or f2). The framework used in this dissertation allows verbal roots themselves to lexicalize the different heads in the verbal functional sequence, without the help of functional morphemes. This means that a morphologically simple form could spell out the whole vP, just as well as a complex one could. As we will see, there are reasons to suspect that in some contexts, both *(n)ing* and *-de* can spell out the whole verb phrase, as predicted. They however often spell out just the lower part of the vP, most notably as result nominals and stative participles. I will argue below, that given that *-nde* attaches outside the infinitival form, it should not be able shrink to anything that is syntactically/semantically less complex than the least complex structure that can be lexicalized by the infinitival. I will show below that the both participial and nominal *-nde* are always active, as opposed to passive (with a couple of lexicalized exceptions), just like the infinitive in Swedish, that always shows active syntax. I will take that to mean that to mean that *-nde* attaches just outside the verb phrase (or "first phase"). I will show evidence from three different domains for the claim that both the nominal and participial *-nde* contain information that is encoded in the very high regions of the verb phrase or the low regions of the "IP" (or whatever you want to call the part dominating the vP), while both *(n)ing* and *-de* contain only vP-internal information. The three domains are: (1) causative/inchoative-alternations, (2) Reflexive interpretations and (3) aspectual values.

As I will show, the passive participle and *-(n)ing* are sensitive to semantic roles (resultee, undergoer etc.) rather than grammatical functions, like subject and object, while *-nde* is sensitive to grammatical functions rather than semantic roles. This can be seen in the difference between passive participles and present participles. *-nde* is sensitive to the notion of "subjecthood", while the passive participle is sensitive to the "internal argument-hood", rather than "objecthood". This is most obviously seen in the attributive participial uses.

(1) a. den sjung-a-nde mannen/*sången
the sing-INF-NDE man.DEF/*song.DEF
'the singing man/*song'
b. den sjung-na sången/*mannen
the sing-DE song.DEF/*man.DEF
'the sung song/*man'

(2) a. de fall-a-nde löven
the fall-INF-NDE leaves.DEF
'the falling leaves'
b. de fall-na löven
the fall-DE leaves.DEF
'the fallen leaves'

(3) a. den gråt-a-nde kvinnan
the cry-INF-NDE woman.DEF
'the crying woman'
b. *den gråt-na kvinnan
the cry-DE woman.DEF
(intended: 'the cried woman')

Most importantly, the *-nde* participle can modify all types of subjects, no matter what verb type.[1] It is of no importance if the subject starts off as an internal or external argument, as can be seen in (2a) (unaccusative verb) and (3b) (unergative verb). Participles in *-nde* can however never modify objects, as is seen in (1).

Passive participles on the other hand, only modify internal arguments, as in (1b) and (2b), and not external arguments (as in (3)). Subjecthood and objecthood are of no importance, as can be seen in the difference between (1b) (head noun is the object of a transitive verb) and (2b) (head noun is the subject of an unaccusative verb).

[1]The exception is expletives, including the dummy subject of weather verbs. I will later suggest that all verbs, including unaccusatives, contain InitP. In such case, it could be true that *-nde* always modifies the external argument. I will however take it that *-nde* is subject oriented, rather than agent-oriented.

Infinitives and tensed verbs are also sensitive to grammatical functions rather than semantic roles/argument structure (e.g. it is not the case that certain verbs lack a tensed form due to their argument structure). In Swedish, the active past participle (the perfect) is not sensitive to thematic roles etiher, which manifests in no *have-be*-alternations, as seen in some other Germanic languages.

I take these distributional facts to indicate that the *-nde* suffix must be added after the argument structure building portion of the clause, and its modificational possibilities when used as a participle are the same as whatever determines what ultimately would become the 'subject' of a tensed clause, or the PRO subject of an infinitival. The difference between the two different nominalizations is on the surface-level less clear than that between the two participles. In the next subsection though, I show evidence that whatever combines with *-nde* in nominalizations contains all the argument structure information that is present in the transitive verb. In doing so, it will systematically contrast with *-(n)ing* nominalizations and passive participles.

3.2 Causative-inchoative alternations in Swedish

In Swedish, morphologically identical causative-inchoative pairs are fairly rare, compared to e.g. English. There are some identical pairs (like (4a)), though more commonly the reflexive pronoun is used to form inchoative versions of transitive stems (4b). Further, sometimes the passive *-s* is used to form inchoatives, though in these cases the reflexive version is often available as well. Finally, causatives are sometimes derived from inchoatives by umlaut (this can only happen if the inchoative verb is strong).

(4)
a. minska$_{trans/intrans}$ — Identical forms
'decrease$_{trans/intrans}$'
b. sprida - sprida sig — Reflexive inchoative
'spread$_{trans}$' - 'spread$_{intrans}$'
c. höja - höjas — -s inchoative
'raise' - 'rise'
d. sjunka - sänka — Umlaut
'sink$_{intr.}$' - 'sink$_{tr.}$'

It is not possible to include either the inchoative reflexive (or any other type of simple reflexive) or the inchoative *-s* (or any type of passive or deponent *-s*)in any type of nominalization, and the only participles that allow them are the very "big" gerundive participles. In (5) I show that passive or simple reflexives are not allowed in *-nde*-nominals or attributive *-nde*-participles (there's

no difference for the the passive participle or the *(n)ing*-nominal):

(5) a. ryktet spreds/spred sig snabbt
rumour.DEF spread.PASS/spread REFL quickly
'The rumor spread quickly'

b. *det snabbt spridandes/spridande sig/spridande ryktet
the spread.NDE.PASS/spread.INF.NDE REFL/spread.INF.NDE rumor.DEF
'the quickly spreading rumor'

c. *ryktets spridande (av) sig/spridandes
rumor.DEF.POSS spread.INF.NDE(of) REFL/spread.INF.NDE.PASS
'the rumors spreading'

The inchoative form of the verbs that have umlaut-derived causatives can surface in participles. They will not be discussed, but they do not in general pose any problems to the line of thought followed here.

As will be shown below, *(n)ing*- but not *nde*-nominals can give rise to inchoative readings of verbs that don't have an inchoative reading in the bare infinitival form (or any other tensed form). If we conclude that *-nde* is always merged on top of an infinitival, we get the beginning of an explanation for the fact that we cannot get inchoative *-nde* nominalizations from verbs that do not have a "bare" inchoative infinitival (i.e., verbs that need either a reflexive pronoun or *-s* to give inchoative readings). As can be seen in the following examples, *-(n)ing* and the (small) passive participle, don't care about reflexives and passive *-s*'s, while *-nde*, both in nominalizations and participles, does.

Sprida ('spread') is a verb that in Swedish requires a reflexive pronoun to get a non-transitive reading (6a), in contrast to the behaviour of the corresponding verb in English that is ambiguous between an inchoative and a transitive reading. (6b) shows that the *(n)ing*-nominalization can convey the reflexive reading, while the *nde*-nominalization cannot. (6c) shows that a reflexive interpretation is available for the passive participle, and (6d) shows that it is not available for present participles.

(6) a. Cancern spred *(sig) till flera viktiga organ
cancer.DEF spread.PAST *(REFL) to many important organs
'The cancer spread to many important organs'

b. Det enda som kunde stoppa
the only that could stop
spridningen/#spridandet av cancern var
spread.ING.DEF/#spread.INF.NDE.DEF of cancer.DEF was
strålbehandling.
radiation treatment

'The only thing that could stop the spreading of the cancer was radiation treatment.'[2].

c. Cancern är spridd i hela kroppen
Cancer.DEF is spread.DE in whole body.DEF
'The cancer is spread in the whole body'

d. ??Den spridande cancern,
the spread.INF.NDE cancer.DEF
intended: 'the spreading cancer' [3]

The pattern above can be contrasted with a transitive use of *sprida*, where both the *-(n)ing*-nominalization and *-nde* nominalization are available (the two participles as well, see last footnote).

(7) a. De sprider copyrightskyddat material.
They spread.PRES copyright.protected material
'They spread copyright protected material'

b. Vi försöker stoppa spridningen/spridandet av
We try.PRES stop.INF spread.ING.DEF/spread.INF.NDE,DEF of
copyrightskyddat material.
copyright.protected material.
'We are trying to stop the spreading of copyright protected material'

The pattern in (6) is repeated for verbs that receive an inchoative reading by means of the passive *--s* . Just as with the reflexive, the passive *-s* cannot attach to attributive present participles and *-nde*-nominalizations, giving rise to ungrammatical results. The *-(n)ing* and the passive participle again easily

[2]A counterexample is the reflexive verb *bete sig* ("behave"), that like many other verbs ending in vowel only has the *-nde* nominalization. The nominalization has the reflexive reading (there is no non-reflexive reading), and can further be characterized as an object nominalization (pluralizes easily). The close to synonymous reflexive verb *uppföra sig* ("behave") shows the same behavior, indicating that there is some semantic generalization lingering about. One more tricky counterexample to this generalization is the particle verb *breda ut sig* , which is close to synonymous with *sprida*. However, the reflexive reading is possible in both the present participle and the *-nde*-nominal (in the *(n)ing*-nominalization and passive participles as well). The quirky behavior of this verb has been observed in German as well (Florian Schäfer, p.c.).

[3]You can find examples of this construction on the internet, though they all look like direct translations from English. The external argument can however be modified by the present participle, like in *den spridande parten* ("the spreading part"). meaning "the part that is spreading something". It's in general though quite hard to drop the object for the verb *-sprida*.

convey the inchoative meaning.

(8) a. Vattennivån höjdes med fem centimeter
Waterlevel.DEF raise.PAST.PASS with fem centimeter
'The waterlevel rose five centimeters'
b. Höjningen/ #höjandet av vattennivån har nu
Rise.ING.DEF/#rise.INF.NDE.DEF of waterlevel.DEF has now
avtigit.
decreased.
'The rising of the water level has now decreased.'
c. Vattennivån är fortfarande något höjd
Waterlevel.DEF is still somewhat rise.DE
'The waterlevel is still slightly raised'
d. *Den höjande vattennivån
The rise.INF.NDE waterlevel.DEF
(intended: 'The rising water level')

Again, in the transitive use, both types of nominalization are fine:

(9) a. Den nya regeringen höjde bensinskatten med 5
The new government.DEF raise.PAST gasoline taxes with 5
procent
percent
'The new government raised the gasoline taxes by 5 percent.'
b. Höjningen/ höjandet av bensinskatten gav
Raise.ING.DEF/raise.INF.NDE.DEF of gasoline taxes gave
upphov till en hel del protester.
rise to a whole amount protests
'The raising of the gasoline taxes gave rise to a lot of protests.'

As expected, the pattern seen in the two cases above, is not repeated for verbs that have homophonous causative and inchoative forms. As noted above, this is predicted, since the participle and nominalization in *-nde* should represent the same argument structure as the infinitival: if the infinitive can convey both a causative and an inchoative reading, so should the *-nde*-forms. The effect is seen most clearly in the participial reading (10b). The inchoative reading is also available for the *-nde*-nominalization, though it is admittedly slightly marked (for unknown reasons):[4]

[4]In all examples above and below I have chosen to have the internal argument surface as a post-nominal *av*-phrase. I don't think that the placement of the argument is of relevance here. In general, it's highly marked to have the internal argument as a pre-nominal possessor in the *-nde*-nominals if the verb is unambiguously transitive, though it's OK for unaccusatives.

(10) a. Skivförsäljningen har minskat kraftigt de senaste
record sales.DEF have decreased heavily the latest
åren.
years.DEF
'Record sales have decreased greatly in the last few years.'

b. (?)minskandet/minskningen av aktiekapitalet
decrease.INF.NDE.DEF/decrease.ING.DEF of share capital.DEF
'the decrease of share capital'

c. den kraftigt minskade skivförsäljningen
the heavily decrease.DE record sales.DEF
'the greatly decreased record sales'

d. det minskande aktiekapitalet
the decrease.INF.NDE share.capital.DEF
'The decreasing share capital'

The three cases above strengthen the relation between between the infinitival and the *-nde*-forms: the *-nde*-forms are sensitive to the valency of the active verb form (they are sensitive to whether the active verb will come out as an transitive/causative or an intransitive/inchoative verb, or both), and they don't care about the argument structure per se. Both *-(n)ing*-nominalizations and passive participles are in some sense sensitive to argument structure, as will be returned to in chapter 7 (for *-(n)ing*) and 5 (for passive participles).

We now have plausible hypothesis for the role of the infinitival /a/:

(11) **Generalization Concerning f2**
The infinitive /a/ (f2) maps a complete argument structure to case-structure/functional structure. More specifically, it creates a position for an external argument/subject.

If the description above is correct, we have to assume that the present tense and the past tense also spell out f2. The passive participle however does not spell out f2. The definition of f2 I have given above makes it look a lot like what Bowers (1993) and Baker (2003) call Pred^0, and maybe also what has been called Voice, in e.g. Kratzer (1996).

I don't have any obvious explanation so far for the unavailability of reflexives and anticausative/passive *-s* in the *-nde* forms. It will be shown below that complex reflexives (i.e., *sig-själv*) are available in nominal *-nde* and that

simplex reflexives are possible in certain gerundive participles.[5] The reason for the absence of passive/anticausative *-s* in nominalizations and present participles might be that *-s* is in merged very high in the structure. Support for this idea can be found in the fact that the passive/anticausative *-s* attaches outside tense, as has been discussed various works by Marit Julien (see e.g. Julien 2007).

I will suggest that f2 is more or less what other linguists have called Voice. The voice head will create a predicational relation between the subject and the rest of the clause. The subject is merged in it's specifier. I will claim that the participial/nominal *-nde* is merged in the specifier position of f2, and thereby stopping a referential argument from being merged there. I will discuss the difference between the nominal and participial *-nde* in detail in chapter 6.

(12) a. [nde [f2/voice [InitP [....]]]] - Nominalization or participle
b. [subj [f2/voice [InitP [....]]]] - Infinitival

For now I will just assume that a simple reflexive is dependent on a structural subject. In the next section I will move on to a more general discussion of reflexivity.

3.3 The issue of reflexivity

In this section, I give further arguments for a split in size between the two *-nde*-forms on one hand and *(n)ing* and *-de* on the other. I will also show that both *-de* and *(n)ing* can be relatively big, excluding anti-causative and "self-caused" interpretations in many contexts. This section discusses reflexivity in general, but many of the arguments here mirror the ones in the last section, and also explains the effects noticed above (i.e. the unavailability of inchoative/self-caused interpretations in certain contexts).

In section 4.3 I will give a number of arguments against PRO or pro in nominalizations and passives. A strong argument for PRO or pro in both even-

[5] I don't allow deponent verbs as present participles in attributive position, or as *-nde* -nominalizations, though marginally in small clauses, i.e., as gerunds . For example, the following example I find highly marked:

(i) ?*de svettande(*s) arbetarne
the sweating workers

Note that verb *svettas* ("to sweat") is a deponent verb in Swedish. Some Swedish speakers seem to allow examples like the one above though.

tive passives and nominalizations is the absence of reflexive or 'self-action" readings, as has been observed by Baker et al. (1989) and Kratzer (1996) (and later work). First, observe the following passives (all examples below from Kratzer forthcoming):

(13) a. The children are being dressed.
b. The climbers are being secured with a rope.

The sentences above cannot get a "reflexive" interpretation, i.e., (13a) cannot felicitously be used in a situation where the children are dressing themselves. Rather, (13a-b) can be paraphrased as:

(14) a. They are dressing the children.
b. They are securing the climbers.

This is one of the facts that made Baker et al. (1989) propose that the passive morpheme was an incorporated external argument. In other words, there is something like an impersonal pronoun in the passive. This explains why the reflexive reading is equally impossible in the passive examples in (13) as in the active examples in (14). Below I will discuss the availability of "reflexive" interpretations in different types of nominalizations and participles. I will also make explicit my take on reflexives, and make clear how restrictions on reflexive interpretation follow from a system where the verbal roots themselves carry information about the co-rererence relations among the arguments.

Kratzer (forthcoming) notices that eventive nominalizations carry the same restrictions on reflexive interpretations as the passives:

(15) a. The report mentioned the painfully slow dressing of the children.
b. The article praised the expeditious securing of the climbers

This suggests that an impersonal pronoun is present in the nominalizations as well. I will here give a quick sketch of my view of reflexives and reflexivity, and show that there are alternatives to Baker et al. (1989) that don't involve an impersonal pronoun.

As made clear in the introduction chapter, I follow Ramchand (2008) in assuming that verbal roots carry at least two types of information, in addition to encyclopedic content: (i) which functional heads the root can lexicalize and (ii) which of the arguments are co-indexed (or, which of the functional heads do not introduce a new argument). In this system, for example, the two verbs *sprida* (transitive 'spread') and *anlända* (unaccusative 'arrive') both can lexicalize the three functional heads init, proc and res. The difference between

them is that the three specifier positions of *anlända* are necessarily occupied by the same argument (i.e., the three positions are co-indexed), while for *sprida*, one of the positions will not be co-indexed with the other two. For now I will take the initiatior argument of *sprida* to be non-co-indexed with the undergoer/resultee argument. The lexical representations of the two verbs are shown below:

(16) Anlända ('arrive'): init_i, proc_i, res_i

(17) Sprida ('spread', trans): init, proc_i, res_i

I have chosen to just mark co-indexation in the lexical entry, and assume that non co-reference is the default relation (I could have done it the other way around). For a verb like *sprida* (or any other transitive verb), a co-reference relation between the arguments can be created by inserting a reflexive pronoun (simplex or complex). This is not needed for a verb like *anlända*, since it is specified for being "reflexive" (see Chierchia 2004). (I will discuss causative-inchoative pairs that are not morphologically marked in section 5.4). It seems like the generalization holds for rhematic arguments as well - that is, a rhematic object is by default not co-referent with other arguments, unless the verb is specified for taking a co-indexed rheme.

- An argument is by default interpreted as disjoint from the (implicit or explicit) argument of a dominating head.

Reflexivity is something that is encoded in the meaning of the lexical items under this story. That is, when a verb lexicalizes a head, it will give information about what relation it has to the arguments in its complement. Most crucially, the verbal items are lexically specified for self-causation, or disjoint causation. Below I will attempt to deal with the reflexive patterns, taking my starting point in a more lexicalist take on reflexivity, as presented in Reinhart and Reuland (1993).

As was shown above, an *nde*-nominalization and *nde*-participle of the verb *sprida* ('spread') can only give rise to a non-reflexive interpretation. An *-nde* -nominalization if the verb *anlända* ('arrive') can of course only have a "reflexive" interpretation (i.e. an interpretation where the initiator, undergoer and resultee are co-referent, i.e., a non-causative reading). Whether all the arguments are present or not is a separate issue. It is of course possible to get a reflexive interpretation of almost all predicates, by filling one of the argument positions with a reflexive pronoun. In Swedish a verb always needs to be marked with a reflexive pronoun if you want to get a reflexive reading, unless the verb is already marked in the lexicon as "reflexive" (i.e., two or more of the verbal heads are marked as co-referent). The general pattern in Swedish

conforms to the theory of argument reflexives proposed by Reinhart and Reuland 1993 Reinhart and Reuland 1993, and is captured in the following two conditions:

1. If a predicate is reflexive marked, it is reflexive. (Reinhart and Reuland's Condition A)

2. If a predicate is reflexive, it is reflexive marked. (Reinhart and Reuland's Condition B)

A predicate is reflexive if two of its arguments are co-indexed, and a predicate counts as reflexive marked if one of the arguments is a simplex or complex reflexive.[6] I will give some examples below that show that Reinhart and Reuland's theory of reflexives holds for Swedish.

In Swedish, a predicate can only get a reflexive reading if the verb has a reflexive object, and further, a reflexive pronoun in object position always give rise to a reflexive reading of the predicate. This can be easily shown in control contexts, just as predicted by Reinhart and Reuland (1993). Starting with infinitives, it's easy to see that an implicit PRO subject always binds an anaphor in a direct object position, as can be seen in e.g. object control (18) and subject control (19) contexts. Observe that it doesn't make any difference if the reflexive is simplex (*sig*) or complex (*sig själv*).

(18) a. *Han tvingade mig$_i$ att PRO$_i$ tvätta sig (själv).
he forced me to PRO wash REFL.3 (self)
Int. 'He forced me to wash him.'

[6]Reinhart and Reuland claim that the difference between the verbs that take simplex and complex reflexives is that the one that takes the simplex ones are lexically reflexive, while the ones that take complex reflexives are underlyingly transitive verbs. I will remain agnostic to this claim. R&R further makes a distinction between semantic predicates and syntactic predicates. "Semantic predicate" refers to the predicate and the argument structure it is lexically specified to take. In the framework used here, it refers to the lexical specification of the verb, i.e., the heads that the verb can lexicalize, plus the possible co-reference possibilities of the elements in the specifiers. "Syntactic predicate" refers to the argument/event structure actually realized in the syntax. R&R argue that their condition B is sensitive to the notion of semantic predicate, based on examples like:

(i) a. Max$_i$ heard a story about him$_i$.
b. Max$_i$ told a story about him$_{*i}$.

The co-reference between the subject and the pronoun is impossible in (ib), but possible in (ia). The explanation behind the difference is that the noun *story* actually have a an "Originator/Author "-role in its lexical representation. This role however, does not seem to be present in the syntax.

b. Jag tvingade honom$_i$ att PRO$_i$ tvätta sig (själv).
I forced him to PRO wash REFL.3 (self)
'I forced him to wash himself'

(19) a. Han$_i$ lovade mig att PRO$_i$ tvätta sig (själv).
He promised me to PRO wash REFL.3 (self)
'He promised me to wash himself.'
b. *Jag$_i$ lovade honom att PRO$_i$ tvätta sig (själv).
I promised him to PRO wash REFL.3 (self)
Int. 'I promised him that I would wash him.'

It is also clear that a non-reflexive object never can give rise to a reflexive reading, as is shown below:

(20) a. Han$_i$ tvingade honom$_j$ att PRO$_j$ tvätta honom$_{i/*j/k}$.
He forced him to PRO wash him
'He forced him to wash him.'
b. Han$_i$ lovade mig att PRO$_i$ tvätta honom$_{*i/j}$
he promised me to PRO wash him
'He promised me to wash him.'

The judgments above are very clear.[7] Note that this is a special restriction on direct objects. Reflexive pronouns in PP's for examples don't need to be bound by the PRO in the control infinitival, as shown in (21) (observe further that the non-reflexive personal pronoun is equally fine in this context):

(21) Hon$_i$ lät mig$_j$ PRO$_j$ stanna hos sig$_i$/henne$_{i,k}$ över natten.
she let me PRO stay at REFL/her over night.DEF
'She let me stay at/with refl/her over the night.'

Also, reflexive possessive pronouns don't necessarily need to be bound by the (PRO) subject. (There is a lot of dialectal/idiolectal variation on this point though. I highly prefer the reflexive possessive to be co-referent with a PRO subject in control infinitivals, though some of my other informants easily get control by the matrix subject):

[7] Platzack (1998) however claims that sentences like *Eva bad honom$_1$ att PRO$_i$ kamma sig* ("Eva asked him to comb refl") are ambiguous (i.e. that the reflexive can be bound by either the matrix subject or the object), None of my informants allow the matrix subject to bind the reflexive in this context, and examples of this kind are completely absent in the PAROLE corpus.

(22) Han tvingade mig att skriva om sina/hans memoarer
he forced me to write again REFL.POSS/his memoirs
'He forced me to re-write his memoirs.'

I will have nothing to say about non-direct object reflexives here. The only thing relevant is that reflexive arguments of the verb have different restrictions than non-argumental reflexives. In short, it's safe to say that a verb needs an overt reflexive argument if it is going to give rise to a reflexive reading. Another case where this is seen is in the context of object drop. If an internal argument can be dropped, no reflexive reading is available. This is shown in the following example:

(23) a. de är nere vid floden och tvättar (kläder)
they are down by river.DEF and wash (clothes)
'They are down by the river washing (clothes).'
b. de är nere vid floden och tvättar *(sig)
they are down by river.DEF and wash REFL
'They are down by the river washing themselves.'

In (23a), the object can be dropped. Once it's dropped, it cannot get a reflexive interpretation.

The theory of reflexives sketched above straightforwardly predicts that no reflexive reading should be available in nominalizations and participles, if the nominalization/participle is big enough to spell out two or more heads, that are not marked co-referent in the lexical entry of the verb. Nominalizations and participles that only spell out one sub-eventual head should of course be compatible with a reflexive interpretation, though a reflexive reading will never be forced, given that no information is given about the other arguments. This is seen in the stative passive in (24a) and the result nominalization in (24b):

(24) a. Han är fortfarande fastkedjad vid staketet
he is still stuck.chain.DE at fence.DEF
'He is still chained to the fence.'
b. En tidig Beatles-inspelning hittades på vinden
an early beatles-in.play.NING found.PAST.PASS on attic.DEF
'An early Beatles-recording was found in the attic.'

In (24a), the subject could have chained himself to the fence, and in (24b), the Beatles might have recorded themselves. However, as soon as you add more functional structure, the reflexive readings disappear, as in the following two examples:

(25) a. Aktivisten blev fastkedjad
activist.DEF was stuck.chain.DE
'The activist was (being) chained'
b. Fastkedjningen av aktivisten
stuck.chain.NING of activist.DEF
"The chaining of the activist"

A reflexive interpretation is impossible in both examples above. If we assume that it is stated in the verbs lexical entry that its initiator argument is not co-referent with the verbs undergoer argument, we know that the verb cannot be inserted in a context where the initiator and undergoer are co-referent. Explicit co-reference marking is the only way to get the reflexive reading. If only one head is present however, a reflexive interpretation is compatible with the structure, because nothing is specifically expressed at all about the initiational event.

Given the unavailability of simple reflexives in nominalizations and participles it is possible that they are merged fairly high, just like the passive *-s* (as in Chierchia 2004). I will not give any final conclusion for the height of the simple reflexive. One thing is clear though, and that is that simple reflexives are only licit in contexts where there is Subject syntactically present, as will be further discussed in next chapter. As was proposed above, *nde*-nominalizations and *nde*-participles do not contain a syntactic subject.

Note that both a subject position (PRO) and a simple reflexive can be present in small clause gerunds, however:

(26) med en smärta spridande sig ut i alla leder
with a pain spread.INF.NDE REFL out in all joints
'with a pain spreading out into all joints'

I will argue in next chapter that the small clause gerunds always have a syntactic subject present. Note also that the complex reflexive *sig själv* can surface in nominalizations.

(27) hans berömmande av sig själv
his praise.INF.NDE of REFL self
His praising of himself'

In general, the complex reflexive seems to have the distribution of a full DP internal argument (e.g. it does not undergo pronoun shift).[8]

[8]The verbs of grooming show a very messy behavior with respect to reflexives, and possibility of reflexive interpretation in nominalizations and participles. Their weird messy behavior has its origin (I think) in the fact that they can either surface as reflexive marked or

We now have a better tool for determining the presence of functional structure in participles and nominalizations. I will return to the issue of reflexivity in chapter 5 where I discuss passive participles in detail. Summing up: the *-nde*-forms of a verb can never receive a reflexive or inchoative interpretation, unless the infinitive and the tensed forms of the same verb also can receive a reflexive interpretation. This follows from the fact that the *-nde*-forms have to realize as big a part of the vP as the infinitive/tensed forms. On the other hand, the forms in *-(n)ing* and *-de* of a verb can in certain contexts receive reflexive or inchoative interpretations even though the corresponding finite form cannot get a reflexive/inchoative interpretation without an overt reflexive. This follows from the fact that *-de* and *-(n)ing* can attach to something smaller than the whole vP. In some contexts though, all the sub-eventual verbal heads *are* present even in the *-de* and *-(n)ing*-forms (which is predicted given that the verbal stem itself can realize the sub-eventual heads)- and the restrictions on the reflexive interpretation are then the same as for *-nde* .

Next section discusses aspect, and I will propose that many of the claimed correlations between aspect and choice of nominalizer/participle are a result of the height of attachment of the suffix. Hence no aspectual information is encoded in the suffixes themselves.

3.4 Correlations with Aspect

My aim is to show that all the differences between the two nominal forms on the one hand, and the two participles on the other, fall out from the height of attachment of the suffixes. Other linguists have claimed that the true difference between the forms discussed here (or corresponding forms in other languages) is a result of their aspectual value. I will show below that there is no straightforward correlation between any of the suffixes and an aspectual value. Instead, as will be explained below, the aspectual differences that actually exist follow from the attachment site of the different suffixes.

3.4.1 Different types of aspect

If we are searching for a candidate head that will positively define the size of structure that is contained in an *-nde* form, one obvious avenue to investigate is aspect. However, to make a concrete claim, something more needs to be said about the analysis of aspectual distinctions and where they reside in the

with full DP internal arguments, and still mean the same thing, as in the following pair: *han tvättade sina händer / han tvättade sig* (‘he washed his hands’ / ‘he washed refl’). Both the reflexive version and the full DP version could be used in the same context.

phrase structure. It will be especially important to be clear about the difference between inner aspect (or aktionsart) and outer aspect in making these claims.

Both for Swedish and English, it has been proposed that the present participle/nominalizing morphology *-nde* and *-ing* respectively encodes imperfective or progressive aspect (see Thurén 2007 for Swedish, and e.g, Pustejovsky 1991 for English). The passive past participle has on the other hand been claimed to encode some kind of perfective aspect. The difference is most clearly seen for unaccusative verbs, as shown below:

(28) a. den sprick-a-nde isen
the crack-INF-NDE ice.DEF
'the crack-ing ice'
b. den spruck-na isen
the crack-DE ice.DEF
'the cracked ice'

The present participle in (28a) refers to an ongoing event, whereas the passive participle refers to a result state of an event.

A similar observation has been made for the opposition between the nominalizing *-nde* and *-(n)ing*. Loman (1964) observes that *-nde* has some sort of "durativity" associated with it, while *-(n)ing* tends to refer to bounded, closed events. This difference can be most clearly seen with typical semelfactive verbs, where *-nde*-nominalizations get an iterative interpretation, and *-(n)ing* refers to one instantiation of the relevant event, as shown below (examples from Loman 1964):

(29) a. blink-a-nde - blink-ning
blink-INF.NDE - blink-NING
'blinking' - 'blink'

b. bug-a-nde - bug-ning
bow-INF.NDE - bow-NING
'bowing' - 'bow'

Despite this, I will claim that the suffixes under discussion are highly underspecified for aspect-related information. First I will give a short introduction to aspect/aktionsart.

There is claimed to be a sharp division between what has been called lexical aspect or aktionsart and regular aspect. There are usually claimed to be four or five types of Lexical aspect/aktionsart: States, activities, achievements and accomplishments (see e.g. Vendler 1967 and Dowty 1979). States

and activities are atelic, i.e. they don't have an inherent end-point. Acheivements and accomplishments on the other hand are telic, i.e. they do have an end-point. States and activities differ from each other in that activities are dynamic, while states are not. Accomplishments and achievements differ from each other in that achievements are punctual, while accomplishments are durative. Examples of each class are given below:

(30) He owned the company. (**State**)

(31) He chased the rabbit for five minutes. (**Activity**)

(32) He lost his watch. (**Achievement**)

(33) He built the house in one week. (**Accomplishment**)

The lexical aspect of the verb is represented in the verb phrase. In a decomposed verb phrase, the different types of aktionsart will have different representations. In a Ramchandian system, the presence of different subevental structure, will correspond to aktionsartal differences within verbs. In other frameworks e.g. DM, the aktionsart can be determined by the nature of v_0 (i.e. light verbs like "do", "become" and "be" will determine the aktionsart). Regardless of differences in implementation, this kind of information is most commonly encoded within the vP, and the aktionsart will be primarily determined by the lexical content of the verb.

There is a strong connection between aktionsart and aspect. Telicity/endpoint is a crucial notion for describing the different aktionsarts (separating states and activities from achievements and accomplishments), and for describing different types of aspect by means of the closely related notion of completed vs. non-completed event (see e.g. Giorgi and Pianesi 1997). At the same time, however, there are a number of ways to make achievement verbs and accomplishment verbs imperfective, and a number of ways to make states and activity verbs perfective. Imperfective aspect covers a lot of other events that are somehow unbounded, or cannot be seen as completed. A list is given below:

Imperfective:

1. States (Lexically encoded)
2. Activities (Lexically encoded)
3. Progressive/ongoing events

   (34) He is building a house

4. Habitual events

   (35) He eats a bowl of ice cream every day.

5. Iterated events

   (36) He hiccuped for five minutes.

6. Generics

   (37) It's bad to lose too many matches.

The last four items on the list above are all examples inherently telic verbs that in certain context get an unbounded reading. Similarly, endpoints (or starting points) can be given to states and activities, so that they also can turn into perfectives. I give three examples of that below:

1. Preposition phrases:

   (38) He ran to the house in five minutes

2. Secondary predicates:

   (39) He ran himself tired

3. Phasal verbs:

   (40) He stopped loving his wife.

Work on aspect in in particular the Slavic languages has shown that the aspectual value of a predicate can be changed either within the the verb phrase, or above the verb phrase, (i.e. in the IP) (see e.g. Romanova 2006, Svenonius 2004, Ramchand 2004 etc.). For example, most verb particles, secondary predicates and end-point inducing PP's attach within the vP, and can change the aktionsart of a verb. Habitual, iterative and generic operators and phasal verbs on the other hand attach outside the vP. I will from now on use inner and outer aspect to refer to the different strategies. Note that inner aspect covers aktionsart as well as the outcome of the interaction between aktionsart and e.g. verb-particles, as long as they are inside the vP.

It's important to separate two types of imperfectives: (i) the ones that give rise to the imperfective paradox, and (ii) the ones that don't give rise to the

imperfective paradox. The imperfective paradox arises most saliently with accomplishment verbs, but also to some extent with achievement verbs. The paradox arises when a verb that is inherently telic (i.e. has an endpoint) is made imperfective, and thereby loses it's end-point (see Dowty 1979 for extensive discussion). The "paradox" is illustrated below, with an accomplishment/achievement verb in (41) and an activity verb in (42):

(41) "He was crossing the street" doesn't imply "he has crossed the street"

(42) "He was running" implies "he has run"

As will be shown in the next section, passive past participles can get an imperfective reading, but only if the verb is a state or an activity. Present participles on the other hand can make telic verbs imperfective.

There are two questions that must be kept apart when one discusses the aspectual information of a certain morpheme (in this case, participle forming and nominalizing morphemes). The first one is: "does the morpheme in question provide a certain aspectual value to the verb?", and the second one is: "is the morpheme in question compatible with the aspectual value carried by the verb (plus modifiers)". I will claim for Swedish that participial and nominalizing morphemes do not provide any special aspectual value to the verb, and further that these morphemes are actually all compatible with both imperfective and perfective aspect on the verb. This could vary from language to language, as can be seen in e.g. many Slavic languages, where the present participle is incompatible with perfective verbs, though it does not in itself provide the imperfective value.

Given the fact that the *-nde* participles and nominalizations spell out the whole vP, and possibly more than that, and that the passive participle and the *-(n)ing* -nominalizations spell out only subpart of the vP (the lower subpart, informally speaking), we might expect the following correlations:

1. The different participles and nominalizations should be equally compatible with different types of aktionsart/aspect encoded within the vP.

2. Only the *-nde* participles/nominalizations should be able to express aspectual values that do not originate within the vP.

This turns out to be true, as shown below.

3.4.2 Participles

As was shown above, attributive present and passive participles in Swedish differ with respect to which argument they modify: present participles modify subjects, and passive participles modify internal arguments. Note that this

is only one of many possible oppositions between two participles: one could equally well have one participle that always is oriented towards the structural direct object, and another one that only is oriented towards agents. The system we have in Swedish, I claim, has its source in the fact that the present participle contains the infinitival, and the infinitival is in itself sensitive to grammatical roles rather than argument structure.[9]

In addition to the difference in argument orientedness between the two participles, it has also been claimed that they are different with respect to their aspectual value as well, as was shown in (41). It has been claimed that the present participle is either imperfective or progressive in e.g. English and Swedish (the two languages that I will focus on here). First, it can quite easily be shown that the English and Swedish present participle is not progressive per se, since stative verbs easily form present participles:

(43) a. de återstående två frågorna
the remain.INF.NDE two questions
'the remaining two questions'
b. de forfarande existerande motståndsrörelserna
the still exist.INF.NDE resistance-groups
'The resistance groups that still exist'

These verbs cannot appear in the progressive construction in English, showing that the participle must be clearly distinguished from the progressive construction that contains it:

(44) a. *These two questions are remaining
(c.f. 'These two questions remain')
b. *Resistance groups are still existing
(c.f. 'Resistance groups still exist')

As been noted above, attributive participles cannot assign accusative case, which makes the intransitive stative verbs the most clear case for present participles formed from stative verbs. However, for transitive verbs, the internal argument can be prefixed/incorporated, as in (45):

[9]In many Slavic languages (at least Serbian and Czech), the present participle suffix attaches to the present stem, while the passive past participle attaches to the past/infintival stem. However, the present participle suffix can also attach to the past/infinitival stem with the following result: "type"-reading - "instrument" external argument (non-volitional), no accusative case assigning to internal argument (internal arguments get incorporated) (Pavel Caha and Monica Basic p.c.).

(45) a. det markägande bolaget
the land.own.INF.NDE company.DEF
'The landowning company.'
b. det sverigeälskande partiet
the sweden.love.INF.NDE party.DEF
'the sweden-loving party'

In chapter 6 I discuss in some detail another group of transitive stative verbs that seem to describe a spatial relation, and whose present participles behave in some sense like prepositions in Swedish and English (e.g. *containing* and *suiting*). There is also the group of object-oriented psych-verbs that systematically form stative present participles with very adjectival behavior, like *fascinating*, *worrying* and *appealing*. They will also be discussed in greater detail in chapter 6 as well.

Transitive stative verbs also productively and systematically form passive participles (with the exception of some of the verbs that give rise to prepositional-like present participles). The passive participles formed from stative verbs are - just like the present participles - stative. There is in other words no aspect-related difference between present and passive (past) participles. They differ only with respect to which argument they modify, as shown in the following examples:

(46) a. det landägande företaget
the land.own.INF.NDE company.DET
'the landowning company'
b. det statsägda företaget
the state-own.DE company.DET
'the state-owned company'

(47) a. den fascinerande tavlan
the fascinate.INF.NDE painting.DEF
'the fascinating painting'
b. den fascinerade mannen
the fascinate.DE man.DEF
'the fascinated man'

In other words, the lexical aspect (i.e. akionsart) of the stative verb survives in both the present and passive participles.

The intransitive stative verbs (*exist*) and the "prepositional" verbs (*contain*) can in general not form passive participles (see chapter 5 and 6). However, the examples above show that the participial ending doesn't add any aspectual information; the aspect/aktionsart of the verb survives in the participial forms, at least for stative verbs. They also show that the participial endings

are not incompatible with stative verbs. However, the examples above are still compatible with an analysis that says that the present participle is in general imperfective, since stative verbs are typical instances of imperfective/atelic verbs, but they are not compatible with an analysis that says that the passive (past) participle are always perfective. Below I give another couple of examples that show that stative transitive verbs easily form passive participles:

(48) a. Han är älskad av sina grannar
He is love.DE of his neighbours
'He is loved by his neightbours' (Subject-oriented psych-verb)

b. Huset är omgivet av skog
House.DEF is surround.DE of forest
'The house is surrounded by forest.' (Stative, relational)

c. Företaget är ägt av staten
company.DEF is own.DE of state.DEF
'The company is owned by the state.' (Stative, relational)

d. Jag är fascinerad av människokroppen
I am fascinate.DE of human-body.DEF
'I am fascinated by the human body' (Object-oriented psych-verb)

When looking at transitive punctual change of state verbs (achievements) it is possible to see that present participles can get perfective interpretations as well. Looking first at English, where postnominal participial reduced relative clauses are abundant, one can see the difference between postnominal participial phrases and participles in the complement of *-be* (i.e. the progressive construction):

(49) a. [Only the climbers reaching the top] got seriously ill. (Perfective reading possible)

b. Only some climbers were reaching the top. (No perfective reading)

The examples above once again show that the lexical aspect of the verb survives in the present participle. The progressive reading is only triggered once the participle combines with the verb *to be*. Transitive achievement verbs can in general not drop their internal argument, which makes it hard to investigate them in prenominal position in Swedish, as shown below:[10]

[10]These internal arguments don't incorporate easily into the present participial form either, for unknown reasons.

(50) a. de nådde *(toppen)
they reached *(top.DEF)
'they reached the top'
b. de klarade *(testet)
they passed *(test.DEF)
'they passed the test.'

However some achievements can drop their internal argument:

(51) a. de vann (matchen)
they won (match.DEF)
'they won the match'
b. de överlevde (katastrofen)
they survived (catastrophe.DEF)
'they survived the catastrophe'

As expected, a telic reading is possible for these verbs when they occur prenominally as present participles:

(52) Första året röstade medlemmarna i det förlorande
first year.DEF voted members.DEF in the lose.INF.NDE
laget bort någon av medlemmarna.
team.DEF away some of members.DEF
'The first year, the members in the losing team voted out some of the members. (i.e., the team that lost, not the team that was losing)'

(53) De överlevande passagerarna
the survive.INF.NDE passengers.DEF
'the surviving passengers (i.e., the passengers who survived, not the passengers who are surviving)'

Once again, the lexical aspect is not affected by the participial morphology. As with the stative verbs, the passive participle and the present participle only differ with respect to argument selection:

(54) a. det förlorande laget
the lose.INF.NDE team.DEF
'the losing team'
b. den förlorade matchen
the lose.DE match.DEF
'the lost match'

It should be noted that more than one reading is possible for the present participles in e.g. (54a). Most saliently, a habitual reading is possible (a team

that often loses), but also a progressive or near future reading is possible ("the team that is about to lose"). These readings are not available for the passive participles.

In Swedish, transitive activity verbs are usually aspectually unaffected by the particular participial form used, as shown below, once again differing only in the argument they target for modification:

(55) a. den jagande hunden
the chase.INF.NDE dog.DEF
'the chasing dog'
b. den jagade katten (håller på att bli tagen).
the chase.DE cat.DEF (holds on to become caught)
'the chased cat is about to get caught'

In (55b), the passive participle seems to express something that looks like progressive aspect. In English, the passive participle can in general not easily denote an in progress event, unless it is supported by a copula in the present participle. This can be seen in the contrast between Swedish and English in (56), where a progressive reading can be obtained in Swedish, in the periphrastic passive, while English requires the second participial copula:

(56) katten är jagad av en hund
cat.DEF is chase.DE of a dog
'The cat is ??(being) chased by a dog.'

In reduced relative clauses, again, the progressive reading seems to be easier to obtain for a passive participle in English, though the judgements aren't completely clear:

(57) the cat (being) chased by the dog is about to get caught

This shows that the passive participle in Swedish is in principle compatible with a progressive reading, as long as the progressive interpretation arises within the verb phrase. It should be noted that passive participles formed from accomplishment verbs never get a progressive, or in any sense imperfective, reading, as shown below:

(58) en målad vägg
a paint.DE wall
'a painted wall'

(58) cannot mean something like "the wall that is being painted". This is the case for all the verbs that have to give rise to the imperfective paradox

in progressive contexts. There could be many reasons for this unavailability. For example, it could be the case, following Dowty (1979), that progressives that give rise to the imperfective paradox contain some type of modality, and this modality is not available within the vP itself. Another reason is that an accomplishment contains sub-events that are not temporally overlapping. It could be the case that some kind of temporal head (T(ense)) is required for these predicates to get a sensible interpretation. In absence of the T, only the non-complex result sub-event will be temporally interpreted.

Iterative and habitual readings seem to be available in general for present participles, though more rarely so for passive participles. There are many interacting factors though, like the interpretation of the noun itself (type, generic etc.) and temporal modifiers, so the judgments are a bit tricky. However, the following unaccusative pair shows that the iterative reading is not available in the passive participle:

(59) den ständigt försvinnande/försvunna flickan
the constantly disapper.INF.NDE/disappear.DE girl.DEF
"The constantly disappearing/missing girl"

With the present participle, we get an iterative reading, i.e., the girl that often disappears. With the passive participle, the interpretation is different - it could only mean the girl that it is constantly missing, i.e., the adverb can only modify the final resulting state.[11]

Summing up the pattern from transitive stative verbs, achievement verbs, accomplishment verbs and activity verbs, we have seen that the aktionsart/lexical aspect of the verbs survives in both the passive past and present participle (though some quirks possibly remains for the accomplishment verbs). Most importantly, we have shown that the present participles aren't necessarily imperfective (54). Further, we have seen that the passive participles aren't necessarily perfective (48). However, as also was shown above, an aspectual difference does emerge for unaccusative verbs. Thus, it seems clear that the *nde* suffix or the passive participial suffix do not themselves impose a consistent outer aspect classification on the resulting participle. Rather, the behaviour of the resulting form seems to result from an interaction between the basic aktionsart of the base verb and the suffix. What is consistent about each suffix is that the *nde* form is always targets the subject for modification, while the passive participial form targets the internal argument. The hope is that this property interacts with the event structure decomposition of the verb to pro-

[11] Sometimes even adjectives can get an iterative reading if the right adverb is present, as in *his far too often dirty t-shirt*.

duce certain inner aspect effects where they are found.

The difference in aspect between the two participles that is apparent for unaccusative verbs also deserves an explanation. For now, I will only say that the difference could follow from a simple economy rule ("insert as few morphemes as possible"). In such case, a perfective reading of the present participle in examples like *the sinking ship* is only ruled out due to the presence of a simpler form that can encode the perfective reading, i.e., the passive perfective form (*the sunken ship*). The absence of a progressive/imperfect reading of the passive participle should on the other hand has its origin in the fact that some kind of "outer"/VP-external aspect is needed in order to get a progressive reading of the achievement verbs.

3.4.3 Nominalizations

While the present and passive (past) participles are clearly different in their meaning and use, the same is not true for *-nde* and *-(n)ing* nominalizations. The two nominalizations are often close in meaning, sometimes even indistinguishable. Since both of them can denote an event, or possibly the result of event, there is no straightforward difference in which argument they modify. However, there is some evidence that there still might be a difference in how much verbal structure is present in the two nominalizations.

No claim has straightforwardly been made in the literature that *-(n)ing* encodes a special aspectual value. The most specific claim comes from Loman (1964) (see also references in Loman 1964 for earlier proposals along this line) to the effect that *(n)ing*-nominals somehow refers to a bounded part of the event. For nominal *-nde* , Thurén (2007) claims that it always encodes imperfective aspect, actually even progressive aspect, as she claims that even states are bad as *-nde*-nominalizations. This claim is false, as shown by the examples from Swedish below:

(60) a. denna plan förusätter existerandet av ett redan
this plan presupposes exist.INF.NDE.DEF of an already
fungerande kommunikationsnät
functioning communication.net
'This plan presupposes the existence of an already functioning communication network.'

b. statens ägende av vinstdrivande företag
state.DEF.POSS own.INF.NDE of profit.INF.NDE company.PL
ses inte som ett stort problem
see.PASS not as a big problem
'The state's owning a profitable company isn't seen as a big problem.'

c. Satan står för älskandet av självet
Satan stands for love.INF.NDE.DEF of self.DEF
'Satan represents the loving of the self.'

As will be returned to in the next chapter, many stative verbs are impossible in nominalizations. I will claim however that this is not related to aspect per se.

Just as present participles in *-nde* can get perfective readings with certain punctual verbs, some *-nde* nominalizations can get perfective readings as well, as shown below:

(61) a. Gripandet av gangsterledaren ledde till kaos i
arrest.INF.NDE.DEF of gangster.leader.DEF led to chaos in
den undre världen
the under world.DEF
'The arresting of the gangster boss led to chaos in the underworld.'

b. sångarens plötsliga försvinnande förvånade
singer.DEF.POSS sudden disappear.INF.NDE surprised
fansen
fans.DEF
'The singer's sudden disappearance surprised the fans.'

(61a) implies that the gangster was actually arrested, and (61b) implies that the singer actually disappeared.

It is in general quite hard to determine the aspectual value of a nominalization in Swedish, given that we don't have overt aspect morphology (compare to e.g. Slavic languages where nominalizations can show aspect morphology). Otherwise, the test that most standardly is used to determine the aspect of a clause is temporal PP-modifiers, most typically *-i en timme-*'for an hour' (imperfective) vs. *-på en timme-*'in an hour' (perfective), as in (62):

(62) He built the house in an hour/??for an hour. (PERFECTIVE)

(63) He chased the cat for an hour/*in an hour. (IMPERFECTIVE)

Temporal modifiers , however, usually feel a bit clumsy within nominaliza-

tions, though the temporal PP's pattern in the way we expect them to:

(64) a. ?byggandet av huset på en timme/*i en timme
building.INF.NDE.DEF of house.DEF on an hour/in an hour
'the building of the house in an hour/ for an hour'
b. ?jagandet av katten i en timme/*på en timme
chase.INF.NDE.DEF of cat.DEF in an hour/on an hour
'the chasing of the cat for an hour/in an hour'

It's in general hard to say anything conclusive about the relation between *(n)ing* and aspect. Some activity verbs can clearly get an imperfective interpretation, as shown below:

(65) uppvaktningen av drottningen pågick i flera timmar
court.NING.DEF of queen.DEF on.went in several hours
"The courting of the queen went on for many hours"

The *(n)ing*-nominals otherwise easily get result interpretation or simple event reading, and it's not obvious that they in such case can be said to carry any type of aspect/aktionsart. I will discuss the different readings of *(n)ing* in chapter 7.

The one place where the nominalizations in *-(n)ing* and *-nde* differ is in the ability of the latter to get iterative interpretations. Consider the examples in (66) below.

(66) a. arresterandet av oskyldiga människor
arrest-INF.NDE.DEF of innocent people
'the arresting of innocent people'
b. arresteringen av oskyldiga människor
arrest-ING.DEF of innocent people
'the arresting of innocent people.'

While both examples are grammatical, the (a) example can refer to multiple arrestings of different single innocent people, while the (b) example can only refer to one single event of arresting a lot of people. The nominalizations of certain semelfactive verbs shown earlier also show the same pattern (repeated here).

(67) a. blink-a-nde - blink-ning
blink-INF.NDE - blink-NING
'blinking' - '(one) blink'

b. bug-a-nde - bug-ning
bow-INF.NDE - bow-NING
'bowing' - '(one) bow'

The fact that we actually get differences in temporal/aspect interpretation between *-nde* and *-(n)ing* in certain nominalizations should, like in the participial case, have it's explanation in an economy principle. If a verb has a corresponding *(n)ing*-nominal, this one should surface in case no outer aspect is present, given that it is a morphologically simpler form. This seems to be basically the case, given that the *nde*-nominals that easily get a perfective reading usually are formed from verbs that lack a *(n)ing*-nominal (or an event-denoting zero-derived/irregular nominal). The *nde*-nominal is the only nominalization that can contain "outer" aspect, most commonly iterative aspect. If outer aspect projections are present, the *-nde*-form will be the only one available.

Summarizing, I have argued that neither the present participle morpheme (as used in both nominals and participles) nor the passive participle morpheme can be said to carry any aspectual value. The temporal interpretation rather falls out from the amount of functional structure present at the time of attachment of the morpheme. *-Nde* , attaching outside the verb phrase can contain aspectual values that corresponds to outer aspect, while this not true for *-de* or *-(n)ing* .

3.5 Summary

In this chapter we have seen three cases that all point to the conclusion that the *-nde* forms are structurally richer than the *(n)ing*-nominals and the passive participles. In short, the *-nde*-forms semantically correspond to a "full" vP, just like the infinitive and the tensed forms. They can also encode certain vP-external aspectual values. The vP-external aspectual features can never be realized by the *(n)ing*-nominals and the passive participle, since they in general spell out lower parts of the verb phrase, though sometimes just reaching the top.

We have in other words showed that the morphological difference has repercussions in the semantic domain, which is predicted in a system where the syntactic, morphological and semantic computations take place in the same module. In the next chapter I discuss the difference in syntactic shape between participles/nominalizations and full verbs.

Chapter 4

An apparent syntax mismatch

4.1 Introduction

From a morphological point of view, the participles and nominalizations formed with *-nde* seem to be built upon an infinitival, as was shown in chapter 2. The semantic/argument structure related facts in the last chapter further strengthened the relationship between the *nde*-nominalizations/participles and the infinitival. However, looking at word order and case-assigning, the *-nde*-forms show the typical behavior of other nominalizations/adjectives, rather than the infinitive. In other words, there seems to be a mismatch: where morphology and semantics match, syntax treats the *-nde*-forms and infinitives quite differently (a rather surprising split, one might think). Most notably, we will see that all the nominals and most participles allow or require particles to incorporate, and allow internal arguments to incorporate. This is never allowed for the infinitive. Further, the infinitive always assigns accusative case to its internal argument, while the nominalizations don't (and the participles only do it in special cases). I will go through the differences systematically, focusing first on the nominals/participles, and then on the infinitive, which I argue always shows active (as opposed to passive) verbal syntax in Swedish (though not always in some other closely related languages like Norwegian and German).

After that, I argue that there's always a syntactic subject present in infinitives, while there is no syntactic subject in the nominalizations. Without giving any deeper explanation, I propose that the absence of a subject argument is somehow related to the absence of accusative case in nominalizations, as has been argued in e.g. Kratzer (1996) and Alexiadou (2001) (i.e., the absence of accusative case is just another instantiation of Burzio's Generalization).

4.2 Prefixation and Incorporation

First of all, verb particles prefix to the *-nde* form, but never to the infinitive.[1] The particle always immediately follows the infinitive. This difference is seen in both the *-nde*-nominalizations (1) and the attributive present participles (2):

(1) a. nedfallandet av radiosonder - *fallandet
down.fall.INF.NDE.DEF of radio.probes - fall.INF.NDE.DEF
ned av radiosonder
down of radio.probes
'The falling down of radio probes'

b. bortspringandet av hundar - *springandet bort av
away.run.INF.NDE.DEF of dogs - run.INF.NDE.DEF away of
hundar
dogs
'the running away of dogs'

(2) a. De nedfallande radiosonderna - *de fallande
The down.fall.INF.NDE radio.probes.def - the fall.INF.NDE
ned radiosonderna
down radio.probes.DEF
'The falling down radio probes'

b. De bortspringande hundarna - *De springande bort
the away.run.INF.NDE dogs.DEF - the run.INF.NDE away
hundarna
dogs.DEF
'The dogs running away'

(3) a. Att falla ned - *att nedfalla
to fall down - to down.fall

b. att springa bort - *att bortspringa
to run away - to away.run

The *nde*-nominalization and participle share this behavior with all types of passive participles (4), *(n)ing*-nominalizations and zero-derived nominalizations:

(4) a. Vakterna kastade ut Johan
guards.DEF throw.PAST out John
'The guards threw John out.'

[1] So called "bound" particles are excluded from the discussion below.

b. Johan blev utkastad
John was out.throw.PASSPTCPL
'John was thrown out'

c. ut-kastningen av Johan
out-throw.NING.DEF of John
'the throwing out of John'

d. ett ut-kast
a out-throw
' A throw, or sketch'

The supine (i.e. the active past participle), present tense, past tense and imperative on the other hand do not allow particle prefixation. It should though be noticed that the *-nde* form in more "verbal" contexts (e.g. very rare gerundic constructions) does allow a particle to follow it:

(5) a. Med beväpnade tonåringar springande(s) runt på gatan
with armed teenagers run.INF.NDE-(s) around on street.def
är det ingen som går säker
is there nobody who goes safe
'With armed teenagers running around in the street, no one is safe'

b. Vi vill inte ha beväpnande tonåringar springande(s)
we want not have armed teenagers run.INF.NDE(s)
runt på gatan
around on street.DEF
'We don't want armed teenagers running around in the street'

Given the examples above, we can conclude that the *-nde*-form itself is not unable to license free particles. Note that particles are preferably prefixed when present participles appear in the complement of certain light/aspectual verbs as in (6), so that these present participles seem more like the attributive participles than the small clause complements in (5):

(6) Han kom inrusande i rummet
he came in-rush.INF.NDE in room.DEF
'He came rushing into the room.'

Note that other Scandinavian variants that only very restrictively have particle incorporation in the passive participle (most notably Danish) seem to disallow particle incorporation in present participles in contexts such as (6), which suggests that particle placement for both passive and active participles

is determined by the same rules. In my dialect of Swedish, present participles in the complement of a light/aspectual verb rarely or never assign accusative case to an internal argument, and most clearly refuse to do so when a particle is incorporated, as shown below:[2]

(7) a. Katten släpade in en mus
cat.DEF drag.PAST in a mouse
'The cat dragged in a mouse'
b. Katten kom insläpande med/?på/*∅ en mus
cat.DEF came in.drag.NDE with/on a mouse
'The cat came dragging in (with) a mouse'

I take this to indicate that present participles that truly occur in the complement of light/aspectual verbs never assign accusative case. Accusative case is possible in certain small clauses though - more specifically, the ones that take post-participial particles, so that these two facts are clearly correlated. (see Thurén 2007 for a discussion about the differences between present participles in complex predicates (i.e., occurring after light verbs) and free adjuncts/small clause participles.)

It seems to be a general tendency in Swedish that predicates with incorporated particles don't assign case. This can be seen for passive participles as well. Passive participles formed from a di-transitive verb can assign case to an internal argument, and further, a particle always prefixes to a passive participle. However, indirect objects are in complementary distribution with verb particles, and there are therefore no typical passive ditransitive particle verbs:[3]

[2]Accusative case is licit for certain speakers more easily, as reported in Thurén 2007. Speakers who more consistently use the present participle with the ending *-s* in more verbal contexts seem to allow a bare DP complement even when the particle is incorporated, especially in written, high-register contexts. Examples of this kind are presumably very rare, and googling for this construction gives zero hits.

[3]There is however one type of construction where two objects and a particle can co-occur, and that is when the indirect object is interpreted as a source (most typical in "manner-of-losing-body-parts-or clothes"-verbs, as in (i):

(i) a. De sparkade AV honom hans högra ben
They kicked off him his right leg
'They kicked off his right leg.'
b. De slet AV honom tröjan
they tore off him sweater.DEF
'They tore the shirt off him.'

(8) a. Han gav (*bort) Johan (*bort) boken.
He gave (*away) John (*away) book.DEF
(intended: 'He gave away the book to John.')
b. Han gav bort boken till Johan
He gave away book.DEF to John
'He gave away the book to John'
c. Boken blev bortgiven *(till) Johan
book.DEF was away.given *(to) John
'The book was given away to John.'

-Nde also differs from the infinitival in that it sometimes can incorporate an internal argument, in both participial and nominal uses, as can be seen in the following contrast:

(9) a. ätandet av godis - att äta godis
eat.INF.NDE.DEF of candy - to eat candy
'the eating of candy'- 'to eat candy'

b. godisätandet - *att godisäta
candy.eat.INF.NDE.DEF - to candy.eat
'candy eating/*to candy eat.'

(10) de ständigt godisätande ungarna
the constantly candy.eat.INF.NDE kids.DEF
'The kids constantly eating candy.'

Incorporation of internal arguments in passive participles is somewhat more marginal, but can be found in for certain double object verbs:

The passives formed form these constructions are slightly marked, though still acceptable to my ear. The particle do actually end up prefixed in these cases, and the direct object follows the verb:

(ii) a. (??)Den drabbade eleven blev avsparkad/??sparkad av sitt högra ben.
The affected student BLI.PAST off.kicked/??kicked off his right leg.
'The student victim got his right leg kicked off.'
b. (?)han blev avsliten tröjan
he BLI.PAST off.torn sweater
'He was torn off his sweater.'

In the (a)-example above the so-called *få*-passive is highly preferred, where the direct object ends up in a pre-participial position. (b) is quite OK in the regular periphrastic passive though, and is thereby possibly the only construction in (my type of) Swedish that allows both particle incorporation and a post-participial argument.This type of construction is discussed in Lundquist and Ramchand (To appear).

(11) ?de grammistilldelade artisterna
the grammy.award.DE artists.DEF
'the artists who were awarded grammies'

However, there is a clear contrast with more "verbal" contexts, where such incorporation is impossible:

(12) a. *De blev grammistilldelade
They were grammy.award.DE
(intended: 'They were awarded a grammy.')
b. De blev tilldelade en grammis
They were award.DE a grammy
'They were awarded a grammy'

Incorporation of both particles and internal arguments into the *(n)ing*-forms is highly frequent, and completely unmarked. Particles and internal arguments can be incorporated at the same time, with the particle necessarily ending up closer to the verbal stem. In other words, we see the typical mirror order in incorporation (see e.g. Julien 2002 and Baker 1985 etc.):

(13) a. att hyra ut bilar
to rent.INF out cars
'To rent out cars'
b. bil-ut-hyrning
car-out-rent.NING
'car-rental'

4.3 Accusative Case Assignment

The second, most obvious respect in which forms in *-nde* differ significantly from the infinitival is that the infinitival in Swedish always assigns accusative case to its internal argument while the *nde-* nominalization never does so.

For nominalizations, the internal arguments turn up with the preposition *-av* (the genitive), just like in English *-ing of*-nominalizations.

(14) a. de grep/griper/ska gripa/har gripit (*av)
they arrested/arrest/will arrest/have arrested (*of)
gärningsmannen
culprit.DEF

b. gripandet *(av) gärningsmannen
arrest.INF.NDE.DEF *(of) culprit.DEF
'the arresting of the culprit'

Attributive participles in *-nde* can never assign accusative case to an internal argument, but they also never take genitive marked internal arguments, though they are able to take other PP arguments[4]:

(15) a. Han drack en öl
He drank a beer
'he drank a beer'
b. ?*den (av) en öl drickande mannen
the (of) a beer drink.INF.NDE man.DEF
'The (of) a beer drinking man'

(16) a. Han drack direkt ur flaskan
He drank directly from bottle.DEF
'He drank straight from the bottle'
b. ?den direkt ur flaskan drickande mannen
the directly from bottle.def drink.INF.NDE man.DEF
'the straight from the bottle drinking man'

In a theory where syntax, morphology and argument structure are dealt with in the same module, we might expect the morphological and semantic patterns to match up with the "syntactic" patterns (taking case-assignment to be fall into the category of "syntax" rather than morphology). To make the syntax/semantic/morphology patterns fall out, we have to assume that whatever projection is responsible for the assigning of accusative to the direct object, is located higher up than the *-nde* -morpheme, as sketched below (the more verbal participles found in small clauses are ignored for now, but will be returned to later):

(17) [ACC [-nde [-a $_{inf./f2}$ [VP/vP]]]]

I don't want to make any strong claims about the actual existence of a specific projection that is responsible for accusative case assigning. The very value of the case might follow from more complex interaction between e.g. tense and argument structure. Anyway, given the structure above, we expect to find infinitives in other contexts that do not assign accusative case, i.e., structures like (18):

[4]Even some temporal/aspectual modifiers that surface as DP's can occur prenominally: *-Det tre gånger vinnande laget* ('the three times winning team')

(18) [-a$_{inf.}$ [VP/vP]]

However, the only context in Swedish where an infinitive fails to assign accusative case is in the *-nde*-forms. As we have seen above, the infinitive can never incorporate its internal argument, and it cannot assign genitive case to its complement (unless the other tensed forms also assign genitive). One could think of one more potential case where an infinitive (or a finite verb) fails to assign case, namely where it gets a passive reading, without any passive morphology being present. Below I will show examples from various languages of morphologically active infinitives that seem to behave like passives, i.e. where the internal argument A-moves to a higher (subject-like) position to receive structural case, and the external argument is dropped or surfaces as an oblique. I will show that there are no such cases at all in Swedish, i.e., that the Swedish infinitive shows unambiguously active syntax.

If we first consider the situation of infinitives in German, there are a number of environments where the infinitival form could plausibly be argued as failing to assign accusative case, and thereby getting a more passive flavor. These examples include among others long passives (cf. Wurmbrand 2000), modal infinitives and nominal infinitives. In these cases, however, the corresponding Swedish examples using the infinitive are ungrammatical, as shown in (19), and (20).

(19) **Long Passive**

a. weil der Traktor zu reparieren versucht wurde
since the.NOM tractor to repair tried was
'Since they tried to repair the tractor'

b. *eftersom traktorn blev försökt/försöktes att reparera
since tractorDEF was tried/tried.PASS to repair.INF
'Since they tried to repair the tractor.'

(20) **Modal Infinitival Usage**

a. weil diese Pilze nicht zu essen sind
since these mushrooms not to eat are
'Since these mushrooms cannot be eaten'

b. *eftersom dessa svampar inte är att äta
since these mushrooms not are to eat.INF
(intended: 'Since these mushrooms are not to eat')

5

[5]There is some exceptions here, that I take to be idiomatic, though highly intriguing.

Another obviously "passive" use of the German infinitive is found inside present participles, that, as we have seen above, contains the infinitive. German present participles can be used attributively with the prefix/infinitival marker *zu*, whereby the internal argument will end up as the head of the NP (just like passive participles, but in contrast to *zu*-marked present participles). The external argument can optionally surface as a *by*-phrase (all German data from Haiden (2005):

(21) der (von uns) zu schmückende Balkon
the (by us) to decorate-ing balcony
'the balcony that ought to be decorated by us'

Without the *zu* prefix the present participle obligatorily predicates over the external argument, and assigns accusative case to its internal argument.

(22) ein schöne Lieder singendes Kind
a beautiful songs.ACC singing child
'a child singing beautiful songs'

This passive use of the present participle is clearly impossible to get in Swedish (and English).[6]

Basically, some verbs with the prefix *för* get passive interpretations under the copula *vara*, if further there is a negation present, as shown below:

(i) detta är inte att förglömma/förakta/förväxla med....
this is not to for.forget/despise/confuse with
'This not to be forgotten/despised/confused with...'

There are two things that suggest that the example are just idiomatic: first, the verb *glömma* can not take the prefix *för-* in cases other than the one above. Secondly, other verbs that are close to synonymous with the once above, are not allowed this construction. Take for example the verb *hata* ("hate") that is, I think, syntactically and semantically close to *förakta* ('despise'), is completely ungrammatical:

(i) *detta är inte att hata
this is not to hate.INF
'This not to be hated.'

Even if this construction exists in Swedish, it still doesn't show that we have passive infinitives in Swedish, since the examples above involve A-bar movement (like in *tough*-construction), as can be seen e.g. in a wider allowance of preposition stranding in these constructions than in passives. The corresponding German examples are however claimed to be instances of A-movement.

[6]It should be noted that even Norwegian and Icelandic have certain passive present participles, as in the following Norwegian example: *denna vei er ikke kjøranes* (i.e. "this road is not driving", meaning "this road can not be driven on"). No apparent infinitive morphology

Moreover, in German (and many other languages), infinitives can be used directly as nominals. Usually the internal argument gets realized post-nominally with genitive marking, though it can also surface pre-nominally with accusative marking. (Further, sometimes the internal argument can compound with the infinitival, like *-Briefeschreiben* ("letter-writing"), just like in Swedish *-nde* forms). Nominalized infinitivals with internal arguments alternating between genitive and accusative are also found in Spanish. The following German examples are from Alexiadou and Schäfer (2007):

(23) a. Das Heilen der Wunde
the heal.INF the.GEN wound
'The healing of the wound'
b. Das eine Wunde Heilen
the one.ACC wound healing
'The healing of the wound/the wound healing'

An interesting speculation is that there might be a general correlation between infinitives being used as nominals and infinitives that are non-accusative case assigning. For the time being it is clear that Swedish infinitivals do not fall into this category. In particular, for our purposes, they cannot be argued to ever lack the accusative case marking functional structure.

Thus, for Swedish, infinitivals *always* have typical verbal internal behavior. Most importantly, they have to assign accusative case to their internal argument, i.e. their direct object argument cannot surface with genitive case, compound with the infinitival or undergo A-movement across an external argument.[7] Hence the infinitivals always have the internal syntax of tensed verbs. Another context where this can be seen is absence of certain types of causative construction where the infinitive shows passive behavior (i.e., *Faire par*-constructions, as described by Kayne 1993). The difference can be seen even when compared to Norwegian, which is very closely related to Swedish but which actually allows more passive-like ("smaller") infinitivals. The most striking difference is seen with infinitives in the complement of the verb *låta* ('let'), and in particular when the subject of the infinitival is co-referent with the subject of *låta*. In Swedish, the infinitival needs to be passive marked to receive a passive reading (24a), while it can or must surface in the active form in Norwegian (24b):

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can be seen in the Norwegian or Icelandic present participle though.

[7]The last point can be seen in difference in behavior between Tough-construction in German and Swedish, where Swedish seems to need to use A'-movement, while in German a construction similar to the modal infinitive can be used. Swedish also does not use active verb forms to form middle constructions. Instead we have to use a passive participle (see Klingvall 2007 for a discussion).

(24) a. Han lät sig lura*(s) av den svenska propagandan
he let REFL fool.PASS by the Swedish propaganda.DEF
'He let himself be fooled by the Swedish propaganda.'
b. Han lot seg lure(??s) av den svenske propagandaen
He let REFL fool(??PASS) by the Swedish propaganda
'He let himself be fooled by the Swedish propaganda.'

Returning to *-nde*, the free adjunct uses of the gerund/participle can assign accusative case. In that case, the participle most naturally carries the suffix *-s* (see Thurén 07 for discussion), which never turns up on the attributive participles:

(25) Jag spenderade sommaren läsande(s) böcker i
I spent summer.DEF read.INF.NDE(s) books in
hängmattan.
hammock.DEF
'I spent the summer reading books in the hammock.'

This is correlated with the fact that while *-nde*-nominalizations and attributive participles never allow overt reflexives, *-nde* participles in small clauses are like infinitives in allowing the reflexive in object position.

(26) med en smärta spridande sig ut i alla leder
with a pain spread.INF.NDE REFL out in all joints
'with a pain spreading out into all joints'

It should be remembered though that free adjunct small clause uses of the participle/gerund don't allow negation or auxiliaries either, which shows that accusative assignment isn't directly dependent on higher functional material (i.e., TP). In that sense, these big present participles look a little bit like a subclass of bare infinitives in Swedish, namely the ones that are embedded under low/root modals and ECM/object control "låta" ("let") that also cannot contain negation and/or auxiliaries, as shown below:

(27) a. Hon lät honom inte äta upp maten
she let him not eat up food.DEF
'She didn't let him finish the food' (*she allowed him to not eat all of the food)
b. *Hon lät honom ha köpt boken
she let him have bought book.DEF
'*She let him have bought the book'

Wiklund (2007) collapses all the bare infinitives into one class that she

calls "tenseless", which she takes to instantiate Asp. I however suspect that the bare infinitives that occur in the complement of higher (i.e., epistemic) modals are slightly different from the ones embedded under lower modal/ECM verbs, which can be seen in the fact that bare infinitival complements of high modal verbs allow the perfect auxiliary *ha* in its complement, and also sometimes negation (though not all of the high modals allow complements containing negation).[8] Infinitives preceded by the infinitival marker *att* can in general contain negation and auxiliaries. We can thus split the infinitives into three major classes (though a more fine grained distinction might be needed). Below I give the basic properties of the classes, and add the passive participle and *-(n)ing* as well.

1. Infinitives with infinitival marker and bare infinitives in the complement of high modals/temporal verbs:

   OK: Negation, auxiliaries, accusative objects, free particles, simple reflexives.
   Not OK: Incorporated internal arguments, genitive internal arguments, bound particles, "passive" interpretaion.

2. Low infinitives without infinitive marker and infinitive+*-nde* in small clauses: OK: accusative objects, post-verbal particles, simple reflexives.
   Not OK: Negation, auxiliaries, incorporated internal arguments, incorporated particles, genitive internal arguments, "passive" interpretaion.

3. *nde*-nominalizations, attributive *nde*-participles and *nde*-participles in complex predicates:

   OK: Bound particles, incorporated internal arguments, (genitive internal arguments)
   Not OK: Negation, auxiliaries, accusative internal arguments (see below for exception) ,"passive" interpretaion, simple reflexives.

4. Passive participles and *(n)ing*

   OK: Bound particles, incorporated internal arguments, (genitive internal arguments), "passive" interpretation.
   Not OK: Negation, auxiliaries, simple reflexives, accusative internal arguments (see below for exception).

[8] A high modal with a bare infinitive containing the perfect and negation is exemplified here: *han* **lär** *visst inte ha köpt böckerna* ('he apparently did not buy the books') (the modal *lär* is a high "hearsay"/evidential modal). Many thanks to Anna-Lena Wiklund for discussing these issues with me!

The difference between the first and the second group is probably tense - more specifically, the infinitives in the first group can be embedded directly under a tense node, whereas the second group cannot. The difference between groups 3 and 4 has already been extensively discussed: group 3 realizes a full vP and some aspectual projections above the vP, while *(n)ing* and *-de* realize something smaller than the *-nde* (something from the top of the vP and downwards). The hard question is to determine what the difference is between group 2 and 3, i.e., between the groups that assign accusative/object case and the groups that don't assign accusative/object case. I will in the next section claim that the crucial difference is the absence of a syntactic subject (overt, trace, pro or PRO) in class 3 and 4. A syntactic subject is always present in class 1 and 2. I will base my argumentation mainly on the difference between *-nde*-nominalizations and infinitives. I will hypothesize in the final section that the presence of a syntactic subject always triggers the licensing of accusative case, simple reflexives and post-verbal particles.

Before moving on, let me just point out that there are two simplifications in the list above, located in the last two entries: the two participles *can* in fact license what looks like accusative case, even in non-small clause contexts. This is obvious in double object passives (28a) and the present participles that I have called "prepositional" present participles (28b).

(28) a. Han blev tilldelad uppgiften
he BLI.PAST assign.DE task.DEF
'He was assigned the task.'

b. Vi marknadsför en glass innehållande tre sorters nötter
We market an icecream contain.INF.NDE three types nuts
'We market an ice cream containing three kinds of nuts'

The two constructions share a very crucial property: The two arguments in both constructions presumably originate in a stative locative/possessive predicative relation, that is in many senses similar to that of a prepositional structure.[9]

[9] I will not go into exact details about the structural configurations, but a collapsing of locative and possessive structures a la Freeze (1992) could do for now:

(i) a. The book was on the table ([PP. [DP book] P'. on table]])
b. I have a sister ([PP, [DP. Sister] at/poss me]])

(ii) a. Ice cream containing nuts: [[PP. [DP nuts] P'. in Ice cream]]

Exactly what the reason is for the availability of accusative case in these PP like structures is not clear at the moment, but one could argue that whatever is the source of accusative case in PP's should be the source of the accusative case in the constructions in (28) as well. Another strategy would be that the accusative case in the constructions above is not "real" structural accusative case, but something else (Larson 1990 goes in this direction for the double-object constructions. There are also reasons to believe that the internal argument in many of the prepositional participles is not a true accusative). This issue will be returned to in chapter 6.

4.4 The External Argument in Infinitives and Nominalizations

To approach the problem from a different angle, the next section discusses the presence of the 'external argument' in these forms in more detail. It will be shown that here again infinitivals differ from *-nde* forms in that they always include a syntactic subject position (filled by PRO). No PRO is present in *-nde* -nominals. This conclusion has been reached by e.g. Kratzer (1996) and Alexiadou (2001), and they try to connect the absence of an external argument with the absence of accusative case - i.e., it's just another instantiation of Burzio's Generalization (in Kratzer's analysis, nominalizations lack the Voice head - in Alexiadou's analysis, the nominalizations come with an unaccusative v). One of the strongest arguments for PRO or pro in nominalizations is the absence of reflexive interpretations. In the last chapter I showed that it is possible to account for the absence of reflexive readings without making reference to a PRO or pro in nominalizations. Basically I claimed that since the verbal roots already carry information about the co-reference relations of their arguments (as in Ramchand 2008), we don't need to actually add an argument. The reflexive interpretation is absent since you need to morphologically mark the verb reflexive if you want to change the co-reference relations among the arguments (in the vein of Reinhart and Reuland 1993).

While both *-nde* forms and infinitives are similar in being oriented towards the 'subject' position, there are nevertheless differences between the two with regard to control. Specifically, while infinitivals can be argued to always pos-

b. Man offered job: [[PP. [DP job] P'. at/poss him]]

Further, Holmberg and Platzack (1995) discusses the function of incorporated prepositions in double object verbs. As they note, only ditransitive verbs that contain a prefixed preposition allow passive formation where both the internal arguments surfaces as DP's.

sess a syntactically visible subject position (filled by PRO or DP trace), this does not seem to be straightforwardly the case for *-nde* forms. (This topic is also discussed in length in e.g. Abney 1987, without any satisfactory conclusion being reached.)

The most obvious reflex of the difference comes in control contexts, the implicit agent of the *-nde*-nominal in (29) is not obligatorily interpreted as the same as the experiencer argument.

(29) a. [Detta ständiga läsande av skräplitteratur] gör mig galen.
This constant read.INF.NDE of crap-literature does me crazy
'This constant reading of crap-literature drives me crazy'

b. [Detta ständiga festande] gör mig galen.
This constand party.INF.NDE does me crazy
'This constant partying drives me crazy'

In (29a) and (b) above, the object of the main clause (me), is not necessarily interpreted as the external argument of the nominalized verb in the subject DP (rather, it sounds like something an annoyed parent would say about his kid's habits). If we compare this to the following sentences, where an infinitival clause has been used, control by the object pronoun is obligatory[10]:

(30) Att $PRO_{1,*2}$ ständigt läsa skräplitteratur gör mig_1 galen.
To $PRO_{1,*2}$ constantly read.INF crap-literature does me_1 crazy
'It drives me crazy to constantly read crap literature.'

(31) Att $PRO_{1,*2}$ ständigt festa gör mig_1 galen.
To $PRO_{1,*2}$ constantly party.INF does me_1 crazy
'It drives me crazy to party constantly.'

The same distinction shows up in English in the difference between PRO-*ing* nominalizations, that crucially obligatorily assign accusative case to the internal argument, and *-ing of* nominalizations, that never assign accusative case to the internal argument (see e.g. Wasow and Roeper 1972, Abney 1987 and Baker 2005).

[10] I will not here discuss the infinitive marker *-att*. It should be noted that the infinitival marker is more likely to show up in typical control environments rather than in typical raising environments, but the pattern is not completely clear. It is however true that even "raising" infinitives without the infinitival marker also necessarily assign accusative case to the internal argument, which can be seen in the fact that Swedish lacks long passives (with or without the infinitival marker)

(32) a. The reading of crap literature drives me crazy.
b. PRO$_i$ reading crap literature drives me$_i$ crazy.

(33) a. The killing of his dogs upset John (From Wasow and Roeper 1972)
b. PRO$_i$ Killing his dogs upset John$_i$.

Verbs that take subjects that cannot be realized as PRO (being non-human, non-mental) show the same restrictions with respect to infinitivals, PRO--*ing* and *-ing-of*, as can be seen for weather verbs (the star outside the parenthesis in (35) indicates that the dummy subject is obligatory):

(34) a. Det ständiga snöandet gör mig galen.
The constant snow.INF.NDE.DEF does me crazy
'The constant snowing drives me crazy.'
b. *Att ständigt snöa gör mig galen.
To constantly snow.INF does me crazy
'*To constantly snow drives me crazy.'

(35) *(it('s)) snowing constantly drives me crazy
(based on examples from Abney (1987))

This indicates that we are not just talking about the absence of *obligatory* control in the *-nde*-nominalizatons, but rather the absence of an empty position that needs to be controlled (or interpreted as PRO$_{arb}$).

It should be noted that infinitives also take PRO$_{arb}$ (or logophorically controlled PRO) subjects (36) or a trace of a DP (37):

(36) PRO att täcka hela gräsmattan tog bara fem minuter.
PRO to cover.INF whole lawn.DEF took just five minutes
'To cover the whole lawn only took five minutes/ covering the whole lawn only took five minutes (only human subject reading possible)'

(37) a. Snön$_i$ kommer att t$_i$ täcka hela gräsmattan på fem
snow-the$_i$ comes to t$_i$ cover.INF whole lawn.DEF on five
minuter
minutes
'The snow will cover the whole lawn in five minutes'
b. Vi$_i$ kommer att t$_i$ täcke hela gräsmattan (med sand) på
We come to t cover.INF whole lawn.DEF (with sand) on
fem minuter
five minutes
'We will cover the whole lawn (with sand) in five minutes'

Abney (1987) (pg 67) notes that both PRO-*ing* and *ing-of* phrases are noun phrases, but they are distinct in their control properties: *ing-of* patterns with noun phrases, PRO-*ing* patterns with infinitives. Thus, Abney states:

> " . . . the generalization is that VP requires a subject to predicate of; whereas NP is capable of predicating of a subject, but does not require a subject.".
> (pg 72)

Thus, it appears that *nde*-nominals in Swedish are parallel to *-ing of* nominals in English in their control properties in addition to their case assigning properties. While we found evidence from the causative inchoative alternation earlier that *-nde* forms preserve information about the full argument structure of the predicate that they attach to, the evidence here is that there is nevertheless no obligatory 'subject of predication' position projected in their syntax.

Another context where the absence of PRO in nominalizations become apparent is in object control sentences. Swedish behaves like English, and unlike Italian (see Rizzi 1986 for discussion) in that direct objects in general cannot be dropped in object control sentences, as shown below:

(38) a. de vill förbjuda ?*(folk) att sprida rasistisk
they want forbid.INF ?*(people) to spread.INF racist
propaganda
propaganda
'They want to forbid people spreading racist propaganda'

b. De tillåter ?*(folk) att använda kondom i särskilda fall.
They allow ?*(people) to use.INF condom in certain cases
'They allow people to use a condom in certain cases.'

c. De gör allt för att hindra *(någan) att
They do everything for to hinder.INF *(someone) to
föra in kärnvapen i Mellersta Östern
bring.INF in nuclear-weapons in the Middle east
'They do everything to hinder people bringing in nuclear weapons to the Middle east.'

nde-nominalizations are however fine in these contexts, without any overt controller:

(39) a. De vill förbjuda spridandet av rasistisk
They want forbid.INF spread.INF.NDE.def of racist
propaganda.
propaganda
'They want to forbid the spreading of racist propaganda'

b. De tillåter användandet av kondom i särskilda fall.
They allow use.INF.NDE.DEF of condom in certain cases
'They allow the use of condom in certain cases.'

c. De gör allt för att hindra införandet
They do everything for to hinder.INF in.bring.INF.NDE.DEF
av kärnvapen i Mellersta Östern
of nuclear weapons in the Middle east
'They do everything to hinder the bringing in of nuclear arms in the Middle east'

The object control verbs above could also take *(n)ing*-nominalizations, as well as other event-denoting nominals (i.e. 'they want to forbid rave parties'). I will take it to be the case that the object can't be dropped in object control sentences because the PRO in the infinitival clause couldn't find its antecedent in that case. In nominalizations, no PRO is present, and therefore no controller is needed.

The nominalized phrase cannot contain any reflexives bound by the implicit subject/agent, which shows that there is no PRO or pro present in the structure. This is shown in the contrast between the object control sentence and the verb + nominalization. Sentence ((40b) is one question mark on the reading where the reflexive is bound by the matrix subject, and ungrammatical in the reading where the reflexive is bound by the implicit subject) :

(40) a. de vill förbjuda *(folk) att sprida sina egna
They want forbid.INF *(people) to spread.INF their.REFL own
åsikter.
opinions
'They want to forbid people to spread their own opinions.'

b. ?/*de vill förbjuda spridandet av sina egna
They want forbid.INF spread.INF.NDE.DEF of their.REFL own
åsikter.
opinions
'They want to forbid the spreading of their own opinions'

If we assume that nominalizations lack an external argument, we wouldn't expect to find binding from a PRO external argument in nominalizations. Since there's always an external argument in infinitival clauses, we expect that the implicit external argument should have the same controlling properties as explicit subjects in finite and non-finite contexts.[11]

[11] I found one instance on the internet with a reflexive object where no controller is present:

There are two other classic arguments that people have used in favor of assuming PRO in nominalizations and eventive passives: control into purpose clauses and Condition C effects. The former is discussed and dismissed in e.g. Williams 1985, Grimshaw 1990 and Alexiadou 2001. In Swedish, it is in general hard to force implicit control into purpose clauses, so I do not attempt to construct such examples here. The two examples below show though that implicit control is a bad test for PRO:

(41) a. The boat was sunk by the torpedo [PRO to prove a point] (from Lasnik 1988)
b. The thermostat is on low [PRO to save money] (from Williams 1985

In (41a) it is not the torpedo who controls the PRO in the purpose clause. In (41b) there is no external argument present to begin with, so there couldn't be any control from any implicit argument. The Condition C argument comes from Ross (1967), (and has been further discussed in Abney (1987) and Williams (1985)):

(42) a. PRO$_i$ the realization that he$_i$ had broken the law (c.f. He$_i$ realized that he$_i$ had broken the law.)
b. PRO$_{j,*i}$ the realization that John$_i$ had broken the law (c.f. He$_{j,*i}$ realized that John$_i$ had broken the law)

In (42b), *John* cannot be the external argument of *realize*. I have no explana-

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(i) det ständiga hyllandet av sig själva på sina egna ledarsidor - the constant cheer.INF.NDE.DEF of REFL self on their.REFL own editorial pages - det är det som irreterar mig mest
it is it that irritates me most
' The constant cheering of themselves on their own editorial pages - that is what irritates me the most'

The example above is far from perfect, and some of my informants find it ungrammatical. Notice also the possessive reflexive in the locative adjunct - this one would be equally good (or bad) in a regular noun phrase in a similar context, where no controller is syntactically present:

(ii) de otäcka bilderna på sina egna ledarsidor - det är det som stör the scary pictures.DEF on their.REFL own editorial pages - it is it that bothers mig mest
me most
'The scary pictures on their own editorial pages - that is what bothers me the most'

I can therefore not see that the sentence above should be an argument for PRO in nominalizations.

tion for this, and I will not have anything more to say about this here.

For now I will simply assume that there is no external argument position present in nominalizations. This is the conclusion reached by Alexiadou (2001) and Grimshaw (1990) as well.

4.4.1 Difference between group 2 and 3?

Above we have shown that there is no syntactically present subject in the passive participles and the *nde*- and *(n)ing*-nominalizations, and further that there is a syntactically present subject in infinitives, but so far only in infinitives containing the infinitival marker *att*. We have said nothing about group 3 infinitives. Neither have we said anything about the present participles of class 2.

First, it's fairly hard to say anything about the external argument of infinitives of class 2 (i.e., the ones that assign accusative case, but don't allow negation and auxiliaries). They are found in typical raising contexts, i.e., in the complement of low modals and ECM verbs. Everyone who believes in Raising in these contexts, should of course also believe that there is a subject present in these infinitives (that raises to a higher subject position). I will not have anything deep to say about these infinitives, except that they syntactically behave like other types of infintives and tensed verbs with respect to (1) particle placement (43a), (2) accusative case-assignment (43a) and (3) reflexives (43b):

(43) a. Jag kan sätta i en glödlampa på 5 seckunder
I can put in a lightbulb on 5 seconds
'I can put a lightbulb in in 5 seconds'

b. Han kan vända sig ut och in
he can turn REFL out and in
'He can turn himself inside out'

When it comes to participles in attributive position and in the complement of light verbs, again it's hard to tell whether there is a subject there or not. It depends on what one's view is about the subject position of adjectives. If one follows the line of Baker (2003), and claims that adjectives actually lack specifiers/subject positions, in such case one should probably choose the same strategy for present participles. There is no conclusive evidence for the absence of subjects in class 3 present participles, thought given that they show the similar syntactic behavior as *-nde* -nominals and passive participles with respect to (1) particle placement, (2) reflexives and (3) accusative assignment, I will take them to be subject-less as well.

I would like to point out that some dialectal/idiolectal variation may exist. Thurén (2007) gives the following example of a present participle in a small clause that take a reflexive:

(44) han$_i$ kom stödjande sig$_i$ på sin$_i$ bror
he came support.INF.NDE REFL in REFL.POSS brother
'He arrived supporting himself on his brother'

For me (44) is only possible with a prosodic break between the light verb and the participle. The prosodic break indicates that what follows is a free predicative, where bigger, gerundive present participles occur.

Otherwise, the most plausible example of subject-less infinitivals would probably be the ones that occur in the complement of *låta* ("let"). *Låta* has both the flavor of an ECM-verb and a causative verb (see Lundin (2003) for a long discussion of this verb). In certain contexts, the causee/embedded subject can be missing, as in (45):

(45) Vi lät renovera huset
we let renovate house.DEF
'We had the house renovated'

The dropped subject couldn't be taken to be PRO, given that it doesn't license any kinds of reflexives:

(46) *Vi lät renovera sitt hus
we let renovate REFL house
'We had (him/someone) renovate his house'

I will instead take *låta* with a dropped causee to be a raising verb, where the matrix subject starts as the subject of the infinitive, and it should be compared with sentences like the following:

(47) Han klippte sig igår
he cut REFL yesterday
'He cut his hair yesterday.'

Here, the subject clearly isn't the agent of the verb, but still it surfaces as the subject. Similarly, it is possible to say "we renovated the house last year", even though we didn't do the renovating ourselves, but hired a couple of carpenters. Notice though that most verbs require that the overt subject actually is physically and/or mentally active throughout the whole event. For example, the sentence 'I ate the cake.' cannot mean that I had someone else eating the

cake. Verbs that don't allow the subject to be interpreted as anything else than the true agent (and possibly undergoer) cannot appear in the causee-dropped *let*-construction, as shown below:

(48) *Han lät äta kakan
he let eat.INF cake.DEF
'*he let eat the cake.'

The arguments for the absence of subjects in the class 2 participles are admittedly not conclusive, and neither are the arguments for the presence of a syntactic subject in class 3 infinitives. I will for now pursue this line anyway, assuming that the following syntactic facts systematically cluster together in Swedish: (i) assignment of accusative case, (ii) non prefixed particles, (iii) the availability of the simplex reflexive *sig*, and (iv) the presence of a syntactic 'subject' position.

4.5 Conclusions/summary

I proposed four macro classes of infinitives/participles/nominalizations:

1. "Tensed" infinitives (or rather "tense-able" infinitives), with subject present: infinitives in complement of a high modal/temporal verb or the infinitival marker (which is likely to be T as well, following Wiklund 2007).

2. "Non-tensed" infinitives with subjects: Infinitives in the complement of low modals/ECM-verbs, and infinitives+*nde* in most free small clause/gerundive contexts.

3. "Non-tensed" infinitives without subjects: *nde*-nominals and *nde*-participles in attributive position and complex predicates. (i.e., the infinitive needs to take the -*nde*-suffix when not taking a subject).

4. "Non-tensed", reduced vP forms: passive participles and *(n)ing*-nominals.

The question why no bare infinitives with the syntactic properties of the class 2 participles/nominalizations ever surface still remains though. I will propose the following: When the whole vP is built the function/head that spells out as the infinitival /a/ (i.e. f2) is merged. As proposed in chapter 3, this head presumably establishes the syntactic argument structure, i.e. maps vP internal positions to case-positions. Once f2 is merged, two things could happen: either a subject is merged, or *nde* is merged. Only when the true

subject is merged, the typical “active” syntax arises. I will not speculate here how this happens. Notice that after the subject has been merged, *-nde* can again merge outside the subject, giving rise to the big gerundive participles.

Next three chapters discusses each of the suffixes separately.

Part II

The three suffixes in detail

Chapter 5

The passive participle

5.1 Introduction

This chapter focuses on the passive participle in Swedish. In the previous chapters, I have so far only said that the passive participle requires an internal argument. I will take the passive participle morphology to create a predicative element, and that predicate must be over an argument that is introduced within the verb-phrase, i.e., an "internal" argument. In the terminology of Chierchia and Turner (1988), the passive participle is a predicable individual, that needs to be located in another individual, (i.e. the internal argument) in the terms of Beyssade and Dobrovie-Sorin (2005).

So far I haven't defined what it takes to be an internal argument though. In a system such as the one in Ramchand (2008), the classical two-way distinction between external and internal arguments is to some extent abandoned (with positive side-effects in most cases). That system possibly gives three "internal" argument positions. However, the restrictions on the passive participles are more or less impossible to capture, even if we count the highest argument position (the specifier of Init^0) as an "external" argument. Take for example the following three lexical items:

(1) a. Arrive: $< Init_i, Proc_i, Res_i >$
b. Run: $< Init_i, Proc_i >$
c. Chase: $< Init_i, Proc_j >$

Only two of them form passive participles:

(2) a. the recently arrived guests
b. *the (recently) run man
c. the chased cat

The unergative verb in (2b) is the odd one out. However, in the lexical entry for *run* the single argument is claimed to originate in the specifier of Proc, which is the very same position where the "internal" argument of *chase* originates. What counts as the internal position for a transitive verb is apparently not the same as what counts as the internal argument for an intransitive verb. Given that *arrive* easily forms a passive participle, we can conclude that only arguments of intransitive verbs that originate in the Res-projection are "internal enough" for passive participle formation. This is not a very satisfying conclusion. What we want is a system in which it naturally follows that the "object" of *chase* patterns together with the single argument of *arrive*, but not the single argument of *run*, at least when it comes to participle formation. [1] We will suggest, building on ideas in Ramchand (2008), that the temporal and co-indexing relations between the different sub-events play an important part in ruling out passive participle formation from certain structures. This idea will be further eleborated on in section 5.4.

I will focus on intransitive verbs and passive participle formation in this chapter, though I will also give a general sketch of the passive participle. I will look at its interaction with active past participles and non-derived adjectives. I will show that there really are at least two qualitatively different types of passive participle (possibly three), as has been proposed by a wide array of linguists. The first type of passive participle only realizes the ResP, while the second one contains the whole verb phrase. The first one corresponds to a stative, or target state participle, that doesn't carry any event implications. This type of participle is basically identical to regular adjectives. These are truly stative participles, and there seem to be two further two subgroups of them, one group that is easily gradable, and one group that isn't. The group of passive participles that contain the whole verb phrase (InitP) are what we know as verbal passive participles.

I will claim that it is hard to actually prove that there exists yet another type of passive participle, i.e., a resultative or resultant state participle, as been claimed by Embick (2004) and Kratzer (2000). Rather, the differences between so called eventive/verbal passives and resultative/resultant state passives are triggered by higher level temporal/aspectual projections, and probably encoded in the auxiliary rather than the participle itself.

My analysis of *-de* will then look very similar to that of *-nde*, with the difference that f2 is not present when *-de* is merged. In short, you can merge *-de* straight on top of Res^0, instead of merging an internal argument, or you

[1] Ideally we want a system that captures the fact that unergative verbs and unaccusative verbs pattern together in other contexts, for example in existential constructions (in Swedish), and possible also in nominalizations.

can merge *-de* on InitP, instead of an external argument. If you merge it on top of InitP, an internal argument has presumably already been merged in object position. This mirrors the structure of the big gerundive present participles, where the participial morphology is merged after the subject has been merged. The structures are given below:

(3) a. [-de [ResP]] Stative passive participle
b. [-de [initP.....]] Verbal passive participle

It might seem intuitively incorrect to include InitP in the verbal passive, given that the outcome is a predicate over the internal argument. As we will see below though, it is clear that the verbal passive participle contains exactly the same sub-evental heads in the first phase as an active verb. The difference between the active and the passive rather depends on which argument is picked to be the subject of the clause, and this type information is presumably encoded above the verb phrase (i.e., f2, or Voice).

First I will review a couple of previous attempts to capture the restrictions on the passive participle.

5.2 What is the passive participle?

During the last 20-25 years, a couple of theories of the passive have arisen that are meant to fit systems where a lot of the morphological processes are handled in the syntax. There are at least three types of suggestion that try to capture the morphosyntactic properties of the passive participle:

1. The passive participle affix is an incorporated external argument, as suggested by Baker et al. (1989).

2. The passive participle affix is an aspect morpheme, as proposed in most detail by Embick (2004) (see also Gehrke and Grillo 2007 for a similar proposal).

3. The passive participle is basically meaningless, and it only serves to license the absence of verbal inflection, a view taken by e.g. Kratzer (2000)

I have in the previous chapters already presented some evidence that bears on the analysis. I will go through all the proposals briefly below.

The story given by Baker et al. (1989) can not straightforwardly cover the passive participles formed from unaccusative verbs. The authors have to claim

that the unaccusative participles are adjectival, or "lexical", and therefore governed by different rules (alternatively stored as adjectives in the lexicon). As I will argue below, most unaccusative participles do not behave like adjectives (Kratzer (2000) also points out that "adjectival" participles are fairly well-behaved). Rather, they do behave very similarly to other types of verbal/eventive passive participles. Whatever story is given for transitive verbs should ideally cover the unaccusative participles as well. Further, many researchers have pointed out the morphological similarities between the passive participle and the active past participle in many languages. If one wants to give a unified account for the passive and active participle, Baker et al. (1989) are probably not on the right track. However, given that the Swedish active participle is morphologically different from the passive participle, I will not try to give a unified account of the passive and active participle.

The second proposal has been fairly popular in contemporary analyses of the passive, and was presented already in the introduction chapter. I will go through Embick's system once again here. The main idea is that what spells out as *-ed* is an aspectual head (ASP), and the outcome will have different interpretations depending on the nature of the complement of ASP. If ASP is merged directly on top of the root phrase, you get a stative passive (e.g. "the TV is still broken"); if the complement consists of root + (inchoative, or in his term, "fientive") *v*, you get a resultative (e.g. "The door is opened"), and if the complement consists of root + *v* + [AG] (agentive feature) you will get an eventive passive (The door was opened by Carl). The patterns are sketched below:

(4) a. The door is still locked.
-ED merged directly on top of rootP ("lock") = **Stative** or **Target state participle** = adjectival properties

b. With the door locked, the janitor could go home/ The metal is already/*still flattened
-ED merged on top of fient^0 = **Resultative** or **Resultant state participle**

c. The door was locked by the janitor at six p.m..
-ED merged on top of vP = **Eventive passive** (verbal properties)

Possibly, though Embick is not very explicit on this point, you may get an active participle by adding some more feature(s). However, Embick leaves

open the exact semantics of the ASP^0 that spells out as a past participle, and also suggests that the semantic value of the ASP^0 may vary depending on the size of its complement. This is a fairly problematic solution though, as he wants to unite all the different uses of *-ed*, though he still wants to say that the *-ed* might have different semantic values depending on context. If we don't want to treat the different instances of *-ed* as accidental homophony, we should preferably find a feature that is present in all *-ed*'s, and absent in e.g. all present participles and infinitivals. I will agree with him that the difference between different kind of participles should be explained to some extent by the size of the set of functional structure that the participle contains. I disagree with him about the claim that the past participle morpheme is an aspectual head. Given the aspectual heterogeneity among the past participles, it's hard to see how the language learner would identify a common aspectual feature. In chapter 3, I showed that the aspect/aktionsart oriented solutions for both the nominalizing morphemes and the participial morpheme could not account for the relevant data-patterns. The list below gives a quick view of the aspectual/aktionsartal heterogeneity of the passive participle:

(5) a. He is still very interested in politics/ the gate is still closed (State)
b. The metal is flattened (resultant state/perfect)
c. The house was built by John ((past) perfective)
d. The cat chased by the black dog (is about to get caught) (progressive)
e. He is loved by his neightbours (state)

The most obvious reason why the aspect solution is on the wrong track, especially for Swedish and English, is that verbal passives and their corresponding active verbs seem to have the same properties with regards to aspect and aktionsart. The only possible reason to suspect that the passive participle is somehow sensitive to aspect/aktionsart, is the fact that *some* stative verbs do not form passive participles. As has been shown by Postal (2008), a lot of non-stative verbs have problems forming passive participles as well. Further, the same stative verbs often have problems forming nominalizations as well, and in this case, aspect/aktionsart isn't necessarily the deviant ingredient. Some of these quirks will be looked at in chapter 6, where I discuss *-nde* .

The third option, that participle morphology is meaningless and only licenses the absence of verbal inflection, is highly interesting, and in many senses more in line with the overall picture in this dissertation, though it's probably not a sufficient solution. Kratzer proposes that the verbal inflection is responsible for introducing the external argument (see arguments in Kratzer

1996). When no verbal inflection is present, no external argument is present. Weakening Kratzer's proposal slightly, it could rather be said that the verbal inflection provides a syntactic position for the subject. The main idea of the participial morphology being meaningless could however be maintained. This idea, though, takes us back to some of the initial questions of this dissertation: the nature of and the difference between the participial and nominalizing morphemes in Swedish. The morphology used in the present and past participle, and the two nominalizations, could all be said to be meaningless morphemes, only serving to license the absence of verbal morphology. The problem is how to tell the difference between them. To do that, you will need to take height of attachment, and predicative relations into considerations.

5.2.1 Sorting out Passive vs. Unaccusative

Passive and unaccusative structures share some crucial traits. Most notably, the "internal" argument ends up as the syntactic subject in both cases. I have argued in Part I, that no syntactic subject position is present in nominalized or participial forms in *-de*, and I tentatively correlated that position with the presence of a syntactic specifier of f2/Voice (which dominates the whole initP). In the case of the passive participle, it is commonly assumed that the semantics of the agent position survives, but is never expressed as a DP argument. I will therefore assume that the verbal passive participle contains init^0, though not a filled specifier position.

A general question that I have not addressed in this dissertation is how the DPs corresponding to the specifiers of the first phase get either (i) expressed overtly with tensed verbs, or (ii) saturated by other means when participial/nominalizing morphology is used. I leave open the possibility that overt expression of arguments follows the spell out of the first phase even in the verbal case, possibly when case assignment takes place. What is important for the patterns I am examining is the evidence concerning the presence of *heads* in the structure, although in some cases it needs to be notated when a particular first phase argument is no longer accessible to further syntactic operations. In the case of the verbal passive participle, the INITIATOR is not present, and must be "inaccessible" in this sense. However, the fact that the init head and its co-indexing properties *are* present, means that even the verbal passive participle contains information about the argument structure of the full verb.

So far we have only looked at verb phrases that clearly contain InitP. If all verb phrases actually contain an InitP, then we can easily state that the infinitive and the tense suffixes select for InitP (and that selection is a result of the functional sequence). Ramchand (2008) proposes that some verb phrases

have ProcP as their highest layer, for example verb phrases that correspond to unaccusative verbs that have causative counterparts, e.g. *melt* and *sink*. If that is true, we have to state that the infinitive and the tense suffixes select for either InitP or ProcP. Note however that it is very clear that you could not put tense/infinitival suffixes straight on top of a ResP, since in that case you would get things like *the TV still breaks* meaning *the TV is still broken* or *He still chained to the wall*, meaning *he is still chained to the wall*. For a language like English, where you productively derive inchoative verbs from transitive verbs (or the other way around) without adding/taking away any morphology, Ramchand's proposal might be right - i.e., tense/infinitive suffixes attach straight to Proc in the cases where the inchoative reading arises, and to Init when the causative reading arises, as sketched below (ignoring the argument positions):

(6) a. spread - $<$ Init, Proc$_i$, Res$_i$ $>$
b. He spread the rumor - [TP *spread* [InitP. *spread* [ProcP *spread* [ResP *spread*]]]]
c. The rumor spread - [*the rumor* [TP *spread* [ProcP *spread* [ResP *spread*]]]

Clearly Swedish doesn't have this possibility, since we don't have zero-derived inchoative variants of verbs like *sprida* ('spread'). Instead, the only way to get an inchoative reading of a verb like *sprida* is, as we have seen, to insert a reflexive pronoun, that overtly marks the co-reference relations. Given that we can't do *sprida* as zero-derived inchoative, we must conclude that tense/infinitive suffixes never can attach straight to ProcP in Swedish, i.e. InitP is always present in tensed verbs and infinitives. This means that even verbs like *dö* ('die') and the inchoative version of *smälta* ('melt') contain Init.

As for English, the solution sketched in (6) is still possible, though not that plausible. Although morphologically non-marked causative-inchoative alternations are very common in English (see Levin 1993 for extensive lists of verbs and verb classes that allow this alternation[2]), not all verbs allow it. Many of the verbs that don't allow the alternation are verbs for which one possibly could claim that the subject is both an initiator and an undergoer, though some of them have typical "abstract cause" subjects, as shown in (7):

(7) a. That mix-tape ruined my life

[2]Only around 20 percent of the verbs that undergo this alternation in English also do so in Swedish.

b. *My life ruined because of that mix-tape

I think it could be fairly safe to say that the verb *ruin* has a lexical entry that is similar to that of *spread*, at least in the sense that the argument of Proc and the argument of Res are co-referent. If English allows Tense to select for Proc, we would expect (7b) to be fine.[3] I will, from this one simple example, conclude that Tense/Infinitival selects for InitP in English as well as in Swedish.

This forces me to go for an analysis of unaccusatives in the spirit of Chierchia (2004), where unaccusative and reflexive verbs involve some kind of "self-causation". A sentence like *the ship sank* means in that case something like "the ship was in such a state that it caused itself to sink". To capture the zero-marked causative-inchoative alternations in both English and Swedish, one could assume that all verbs that allow this alternation are stored twice in the lexicon, as sketched below:

(8) a. break$_1$ - $<$ Init, Proc$_i$, Res$_i$ $>$
b. break$_2$ - $<$ Init$_i$, Proc$_i$, Res$_i$ $>$

Though it's hard to rule this scenario out, it's hardly likely to be the correct one, given the generality of the pattern. A think you can get a more appealing result if you allow yourself to tinker a little bit with the lexical entries. Instead of having two lexical entries, I would like to propose that some verbal lexical items have heads with non-specified indexes. For our purposes here, we could assume that a verb like *break* looks like this:

(9) a. break - $<$ Init$_{i,j}$, Proc$_i$, Res$_i$ $>$

In Swedish there are going to be three types of unaccusatives, as illustrated below:[4]

(10) **Three Classes of "Unaccusatives" in Swedish**

A. Reflexive-marked (*sig*-marked) Verbs
sprida (*sig*) 'spread' : $<$ Init$_i$, Proc$_j$, Res$_j$ $>$

B. Non-reflexive marked Verbs

[3]Below I discuss verbs that cannot freely under-attach, more specifically, verbs with Res-features that cannot form stative passives. The reasons I will give for the failure of under-attachments cannot explain the possible failure of under-attachment for a verb like *ruin*, given that it can under-attach in other contexts, as in *my life is still ruined* .

[4]I have not decided what to do with the inchoative verbs that have umlaut-derived causative alternations. I wouldn't mind putting them in separate entries. There are also some reflexive marked unaccusatives that never surface in causative frames. I take that to be strictly accidental.

(i)Lexically reflexive Verbs
försvinna ('disappear'): $<$ Init$_i$, Proc$_i$, Res$_i$ $>$

(ii)Lexically underspecified Verbs
välta ('turn/topple over'): $<$ Init$_{i/j}$, Proc$_j$, Res$_j$ $>$

The class A verbs will alternate in 'transitivity' on the surface, with the "intransitive" version containing *sig*. The class B(i) verbs will not alternate at all, since the arguments are all specified as coindexed so these verbs will be surface intransitive. Class B(ii) will be either surface transitive or intransitive depending on whether the co-indexed or non-co-indexed Init version is chosen.

Even though we have to learn the co-indexation relations for each individual verb, the encyclopedic content of the verbs probably gives the language learner a clue about which group each verb belongs to. Cross-linguistic data also show that certain concepts are more likely to be lexically stored as e.g. an alternating verb, as been shown by Haspelmath (1993). I will leave open the possibility that some of the verbs in class B(ii) (and possibly B(i) as well) aren't really reflexive, but rather have a "natural cause"-subject, that can surface as zero.

5.3 Different types of passive participles

As has been seen above, it has been proposed that there are three different types of passive participles: stative/target state participles, resultative/resultant state participles and verbal/eventive participles. As Embick (2004) showed, the stative/target state participle can surface in a different form, sometimes looking like an underived adjective, while the resultative/resultant state participle and the verbal/eventive participle always surface in the same form, which in English and most other languages is identical to the form used in perfects (i.e., the active participle) as well. In Swedish, the target state participle sometimes comes out as an underived adjective as well, as shown in the following pairs:

(11) a. dörren är fortfarande öppen/??öppnad
door.DEF is still open.$_{adj}$/??open.DE
'The door is still open'

b. en redan öppnad/??öppen dörr
an already open.DE/??open.ADJ door
'an already opened/??open door'

(12) a. Dörren är fortfarande stängd
door.DEF is still close.DE
'The door is still closed'
b. en redan stängd dörr
an already close.DE door
'an already closed door.'

In the (a)-examples above, we see typical target state participles, as is diagnosed by the presence of the adverbial 'still'.[5] As seen, an underived adjective is used in (11) (*öppen*), while in (12a), we see a participle (*stängd*). In the (b)-examples, the we see true participial forms for both predicates, just like in English. As we will see in the discussion of the participles formed form unaccusative verbs, a clear distributional difference is seen between the stative participles and the "resultative" participles.[6] In short, we have both morphological and distributional evidence that the target state participle is different from the eventive/resultative passives. I will argue that the difference between the stative and the other types of passive participles is located within the verb phrase: the stative participle only realizes the ResP, while the other ones also contains an eventive/verbal projection[7]

It's less obvious that the eventive and the resultative really are internally different from each other. As discussed in Kratzer (2000), the resultative/resultant state reading in German is triggered when the participle appears in the complement of the stative copula *sein* ("be") while the "eventive"/verbal reading

[5]I'm going to take the "still"-test to be the most reliable of the target state diagnostics. Note though that this test only works for accomplishment/acheivement verbs, since events without inherent endpoints of course can be modified by "still".

[6]From Wasow (1977) and onwards, linguists have looked at the extent to which the different participles are dependent on a copula in typical predicative contexts. As we saw in the introduction, the most adjectival participles are not dependent on a copula, and can be embedded directly under e.g. a raising verb like 'seem'. As was pointed out, the "seem"-test seems to diagnose gradability rather than "adjectival-ness" (Matushansky 2002). In Swedish, the typical target state participles are less dependent on copulas when used predicatively than other participles, though the judgments aren't that sharp. Note however that the gradability reasoning extends to other categories as well, for example adverbs: The adverb *borta* ('away') most naturally has a spatial, non-gradable meaning. It can also mean something like "mentally absent", and in such case it's gradable. Only the gradable reading survives when the copula is absent: *han verkar (vara) borta*("he seems (to be) absent").

[7]Certain stative verbs seem to form unambiguously "verbal" passive participles, most notably subject experiencer verbs. I will take these to be higher up in the structure, presumably around Ramchand's Init (which is the proposal given in Ramchand 2008). Stative object experiencer verbs and stative relational verbs like "cover" seem to form more adjective like passive participles, These are also the stative verbs that can get causative interpretations, which indicates that they are low, i.e. Res^0 .)

arises when the participle appears in the complement of the eventive/change of state copula *werden* (note that the copula *werden* is used in all typical verbal passives in German, even the ones formed from stative verbs, when no eventive/change of state reading is present.). In English, the resultative/resultant state reading is triggered most saliently when a passive participle of an accomplishment or achievement verb appears in the present tense of a stative copula. In Swedish, the reading is triggered when the stative copula *vara* is used instead of the usual "eventive" copula *bli* . A "perfective" or "perfect" reading is triggered in these contexts, and we call the type of perfect/perfective passive a resultative passive.

Focusing on English and Swedish now, this type of perfective passive differs from the eventive passive in two apparent ways. First, agentive *by*-phrases are hard to license, and secondly, past tense adverbials modifying the event time are not available, as shown in (13):[8]

(13) a. Jag blev utslängd av vakten igår
I BLI.PAST out-thrown by guard.DEF yesterday
'I was thrown out by the guard yesterday'
b. Han är utslängd (??av vakten) (*igår)
he VARA.PRES out-thrown (??by guard.DEF) (*yesterday)
'He is thrown out (??by the guard)(*yesterday)'

The absence of past modification seem to mirror the behavior of present perfects, where an active past participle is embedded under the present tense auxiliary "have":

(14) Vakten har slängt ut honom (*igår)
guard.DEF have throw.DE out him (*yesterday)
'The guard has thrown him out'

The absence of past time modification in resultative passives is therefore probably not triggered by anything inside the structural representation of the participle, but rather involves the interaction between the participle and the auxiliary. The present tense auxiliary and copula focuses on the state holding at speech time (or possibly reference time), and no temporal modification of the event time can take place. Notice that event time modification is licit if the state holding at speech/reference time carries clear evidence of when the event took place, as in (15) (English is different from Swedish in this respect). Some type of epistemic modification is highly preferred though (possibly due

[8]English seem to have stricter restrictions on this construction in general than Swedish. Not all speakers of English allow the resultant state passives like "He is thrown out". I have nothing to say about this here.

to the fact that you can't be completely sure when the event took place):

(15) Svamparna är nog plockade igår
mushrooms BE.PRES probably pick.DE yesterday
'These mushrooms were probably picked yesterday'

The sentence in (15) can be uttered if you have the mushrooms in front of you, and if you from the shape or taste of the mushrooms can conclude that they must have been picked yesterday. Similar effects can be seen in the perfect, though in my dialect much more restrictively.[9]

It seems like agent *by*-phrases also are licensed if it is possible from the result state to conclude who is the agent . Most notably this is seen verbs of creation, where *by*-phrases are available:[10] [11] [12]

(16) Den här tavlan är målad av Picasso
it here painting.DEF is paint-DE by picasso
'This painting was painted by Picasso.'

It could be argued that the availability of *by*-phrases is also determined by the way the copula interacts with the participle, rather than by the participle itself. It should be noted, that *by*-phrases can be licensed in clauses with truly

[9]The classic example is if you e.g. see tracks in the snow, you can conclude from the freshness how long time ago someone/something passed by, as in e.g. *räven har nog gått förbi här igår)* ('The fox has probably passed by here yesterday'). For me the last sentence is highly marked, though accepted by other Swedish speakers (and it seems available in some variants of Norwegian). See Izvorski (1997) for discussion of modality and the perfect.

[10]Again, things are slightly different in English, where the past tense copula has to be used in this context. My impression is that the resultative passive in English corresponds to what has been called the "recent past" perfect in Iatridou et al. (2001), while Swedish also can form resultative passives that correspond to the experiential passive.

[11]See also Muriungi 2005, where different types of passives in the Bantu language Kitharaka are discussed. Some of the passives only allow by-phrases like "by an idiot", indicating that something is poorly done (or in the moda/-*able*-passives, that something is very easy to do).

[12]There's a quite interesting correlation between these constructions and the present perfect: present perfects show so called "life time effects", i.e. the present perfect is infelicitous if the subject is no longer alive, as can be seen in examples like ?? 'Einstein has visited stanford', as discussed by Chomsky (1971). Similar effects appear in Swedish. However, under some "artist readings" this effect disappears, as in *Shakespeare has written Hamlet*. However, the life time effect appears again when the object is not a definite DP, or a name, as can be seen in: **Shakespeare har skrivit poesi (under flera år av sitt liv)* ('Shakespeare has written poetry (during many years of his life)'. If the author is still alive, the indefinite object is fine ('Paul Auster has written poetry for many years'). And connected to stative passives, the sentence *Hamlet är skriven av Shakespeare* ('Hamlet is written by Shakespeare') is fine, while **Poesi är skrivet av Shakespeare* ('Poetry is written by Shakespeare') is not.

adjectival predicates as well, but usually only with the "eventive" copula, as shown below:

(17) a. Jag blev glad av filmen
I BLI.PAST happy by movie.DEF
I got happy by the movie, "The movie made me happy"

b. Jag är/var glad (*av filmen)
I VARA.PRES/VARA.PAST happy (*by movie.DEF)
I am/was happy (*by the movie)

We have no good reasons to believe that there is any difference in the AP's in the two examples above - rather, the difference lies in the copula.

Embick (2004) argues that the feature AG is absent in the resultative passive. Instead there is an inchoative/fientive verbalizing head in resultative passives. However, my English informants claim that Resultative passives have a clearly transitive/causative flavor. (18a) corresponds to (18c) rather than (18b):

(18) a. The surface is flattened now!
b. The surface flattened.
c. We flattened the surface.

I have gone through a list of the most common reflexive-marked verbs in Swedish, and systematically, neither "resultative" nor eventive passives are compatible with reflexive interpretations, which is shown below. Both the particle verb *kedja fast* ('chain (stuck)') and *hänga* ('hang') are equally commonly used in reflexive and non-reflexive contexts when active.[13] The stative (target state) passive on the other hand *can* get a reflexive interpretation.

(19) a. Han är (fortfarande) fastkedjad
He is (still) stuck.chain.DE
'He is (still) chained' (Stative passive, he could have chained himself up)
b. Han blev fastkedjad
he BLI.PAST stuck-chain.DE
'He was chained' (eventive passive, no reflexive interpretation)

(20) a. Han är (*fortfarande) hängd (nu)
He is (*still) hang-DE (now)
'He is hanged now' ("Resultative" passive, no reflexive

[13] In my initial investigation I focused only on reflexive particle verbs, and the result was the same, i.e. the reflexive interpretation only survived in the target state passive.

interpretation)

b. han blev hängd
he BLI.PAST hang-DE
'He was hanged' (Eventive passive, no reflexive reading)

Going back to the discussion in chapter 3, the unavailability of a reflexive reading diagnoses the presence of two non-co-indexed verbal heads. Verbal participles and resultative participles always pattern together with respect to reflexivity in Swedish (and In English too, as far as I'm aware), which indicates that they presumably of the same structural size.[14] The passive participles in attributive position show the same behavior, indicating that they as well are of the same size as the verbal/resultative passives. In other words, a verbal/resultative passive must contain all three sub-eventual heads. The difference between a target state passive and a verbal/resultative passive is given below. I have put indexes in the sub-eventual heads that correspond to the lexical entry of ***kedja (fast)*** ('chain') (i.e., $< Init_i, Proc_j, Res_j >$)

(21) a. [-de [$Init_i[Proc_j[Res_j$]]]] (Verbal participle, *Reflexive)
b. [-de [Res_j]] (Stative participle, OK Reflexive)

Note that (21b) is compatible with a reflexive interpretation, but the reflexive interpretation is not required. The stative participles carry no information about the external argument, so the form is compatible with either a transitive/causative or reflexive/inchoative interpretation.

Below I will discuss passive participles formed from intransitive/unaccusative verbs, and show that they can be interpreted as "eventive" in attributive position, and therefore show a different behavior from the the reflexive-marked verbs, which is predicted in the theory sketched here, since unaccusative verbs don't need overt reflexives to mark co-indexation between arguments. In other words, an unaccusative verb could be inserted in the following context, receiving a "reflexive" interpretation:

(22) [-de [$Init_i[Proc_i[Res_i$]]]] (Verbal unaccusative participle, "Reflexive")

This will be discussed in greater detail section 5.2. To get a truly reflexive/inchoative reading from a verb that is stored as $< Init_i, Proc_j, Res_j >$,

[14] Kratzer (2000) claims that this is not the case for German, where resultative passives can receive a reflexive interpretation in cases where the verbal passive can't. The verbs she uses to illustrate this point is verbs of grooming, which are tricky in the sense that they can get a reflexive interpretation without having a true reflexive internal argument, as was discussed in footnote 8 in chapter 3.

you need to insert a reflexive pronoun. As we have seen, at least the simple reflexive pronouns can only be inserted once you have a subject (i.e., a specifier of f2), and since there is no f2 present in the passive participles, no true reflexive reading can be obtained, unless the verb is lexically specified as "reflexive" (i.e., all the heads are co-referent).

Before taking on the mono-transitive verbs I will just say a couple of words about the active participle/supine.

5.3.1 Difference between the active and the passive participle

Earlier discussions of unaccusative participles in English (see Levin and Rappaport 1986 and Levin 1993) have posed the question whether unaccusative participles are active or passive participles. Given that they have the same argument structure as the corresponding active verb, it doesn't make much sense to call them "passive". In Swedish, however, the active participle (called "supine" in traditional grammars) has a slightly different form from the passive participle. This is only seen for the strong verbs, i.e., the ones that deploy ablaut to form past tenses. The difference is seen in the ending, that comes out as *-it* in the active participle, and *-et* for the passive (observe, the last *-t* marks singular neuter agreement for the passive participle), as shown in (23):

(23) a. Han har skjut**it** djuret.
he has shoot.SUP animal.DEF
'He has shot the animal.'
b. Djuret blev skjut**et**.
animal.DEF became shoot.DE.
'The animal was shot.'
c. Ett skjut**et** djur
A shoot.DE animal
'A shot animal'

In (24) I show that the active participle is identical to the singular neuter passive participle in form for first and second declension verbs

(24) a. Vi har slakt**at**/stek**t** lammet
we have slaughter.SUP/fry.SUP lamb.DEF
'We have slaughtered/fried the the lamb'
b. ett slakt**at**/stek**t** lamm
a slaughter.DE/fry.DE lamb.DEF
'a slaughtered/fried lamb'

The difference shown in the strong verbs however clearly tells us that unaccusative participles have the passive form, as shown for the two strong unaccusative verbs *sjunka* (‘sink’) and *försvinna* (‘disappear’):

(25) a. Skeppet har sjunk*it*/försvunn*it*.
ship.DEF has sink.SUP/disappear.SUP
‘The ship has sunk/disappeared.’
b. ett sjunk*et*/försvunn*et*skepp.
a sink.DE/disappear.DE ship
‘a sunk/disappeared ship’

The active participle patterns with the full verbal forms (infinitive, present tense and past tense) in all relevant aspects, as pointed out by Platzack (1989). For our purposes, there are two important differences between the active participle and other full verbal forms on the one hand, and the passive participles, present participles and nominalizations on the other: (1) the internal argument in transitive clauses surfaces as typical direct object (i.e. it cannot be incorporated or surface as a PP, unless the other verbal forms also allow this to happen), and (2) verb particles are never incorporated (unless the other full verbal forms allow prefixed particles). Further, active participles can never be used attributively. The active participle never shows any kind of agreement either, just like the other full verbal forms.

The active participle has in general a very restricted distribution - it mainly occurs in the complement of *ha* (‘have’). One could on that basis argue that the active character of the active participle has its origin in the auxiliary rather than the participle itself, as has been proposed most prominently by Richard Kayne (see e.g. Kayne (1993)) for some Romance languages (see also Christensen and Taraldsen 1989 and Taraldsen to appear for the Scandinavian languages). Given that the active participle differs in form and particle placement from the passive participles in Swedish, there is probably something else going on. I will claim that the active participle actually spells out the full verb phrase, and like the infinitive and the tensed forms, contains a subject in some form. Note that most other variants of Scandinavian have no specific active participle form, clearly less syntactic differences between the active and passive participle (i.e., particle placement and agreement). In general, other Scandinavian languages, and e.g. German and Italian, don’t seem to have any voice specification for their non-finite forms (i.e., the infinitival and the past participle), while the Swedish infinitive and supine are clearly set for active voice.

One fact that supports the claim that the Swedish supine is clearly active is the slightly marginal *få*-passive ("get passive") in Swedish (see Taraldsen 2008 and Taraldsen to appear for an account of the Norwegian corresponding construction). As Taraldsen (2008) points out for Norwegian, at least two possible readings are possible, which can be partly disambiguated by changing the word order, as shown below:

(26) a. Storeulv fikk endelig blåst taket av huset
big.wolf got finally blown roof.DEF off house.DEF
'The big bad wolf finally got the roof blown off the house.'
b. Storeulv fikk taket blåst av huset
big.wolf got roof.DEF blown off house.DEF
'The big bad wolf got the roof blown off the house.'

In (26a), the subject can either be interpreted as either an agent (meaning roughly 'The big bad wolf managed to blow the roof off the house') or as a benefactive or malefactive, with a strong possessive link to the direct object, (meaning roughly, 'The big bad wolf got his roof blown off'). In (26b), when the object appears in a position before the participle, only the benefactive/malefactive reading is possible. Taraldsen further notices that only the agentive reading is possible for unergative verbs in this construction. For Swedish, the patterns aren't as clear, and there seems to be a lot of individual and regional variation. However, there are some relatively clear sub-patterns. First, unergative verbs preferably come out as supines (a quick google search for the verb *sova* ('sleep') in this construction yielded 281 hits for the active participial form, and 14 for the passive):

(27) Jag fick sov**it**/??sov**et** lite inatt.
I got sleep.SUP/sleep.DE little last.night
'I managed to sleep a little last night.'

As in Norwegian, this can only have the agentive reading (it's not clear what the benefactive/malefactive reading would be, but see Taraldsen (2008) for suggestions). Further, when a verb-particle follows the participle, only the agentive reading is possible, and in these cases, when it is possible to tell the active form from the passive, the active form seems to be preferable (for me, it's the only one possible when a particle follows). When the particle follows, also the direct object follows. When a verb-particle is prefixed, the active form is impossible. The active form is also impossible when the direct object appears before the participle. In short, the active participle goes together with: (1) agentive reading of the subject, (2) verb particle following the participle, and unergative verbs. (It's possible that the passive participle can give rise to

an agentive reading, but it's hard).

This tells us that the subject of an "active" get passive, can only receive it's thematic role from the agent position of the verb. In the passive cases, the subject might rather receive its interpretation from somewhere below in the structure, most likely a possessor slot associated with the direct object.

The above facts point to a solution where the active participle necessarily spells out a head that creates a subject-predicate relation between whatever turns out to be the subject (the highest argument) and the verb phrase. Given that we also see accusative objects in the complement of the active participle, we could tentatively conclude that a subject also is present, following the reasoning from chapter 4. This makes the active participle look structurally similar to the big gerunds, or possibly the tenseless infinitives, The passive participle on the other hand does not do this, and neither do adjectives, or most present participles.

5.4 Passive participles formed from intransitive verbs

As mentioned above, most transitive (and ditransitive) verbs can form passive past participles. When it comes to intransitive verbs and reflexive verbs, we see that only some of them form passive participles, and further, that the distribution of them is quite restricted. One big difference between passive participles formed from intransitive verbs and passive participles formed from transitive verbs is that the ones formed from intransitives obviously have no "passivizing" function, i.e. no external argument is demoted. The same thing can be said about participles formed from reflexive verbs: the valency of the predicate is not reduced, i.e., no argument is demoted. As was pointed out above, the reflexive interpretations only survive in target state participles. As was further pointed out above, unaccusative verbs give rise to both event-denoting participles and target state participles.

As we will see, the inner aspectual properties of the verb will determine whether you even can form a participle, and, if you can, how this participle can be used. We will end up with four major classes of intransitive verb. These classes will later be split into finer subgroups, based on their syntactic and semantic properties. The four clear groups are the following:

Intransitive verbs and the *de*-participle

1. Verbs that never form passive participles. This group consists mainly of verbs that lack an inherent endpoint (atelic verbs).

2. Verbs that form participles that can be used attributively, but that cannot occur in the complement position of a copula. This class consists mainly of telic verbs that cannot form target state participles. These participles behave like verbal participles according to all tests.

3. Verbs that form participles that can be used both attributively and predicatively, but not in the complement of the eventive copula *bli*. When appearing in predicative position these participles behave like adjectival participles. In attributive position, they have both an stative and an eventive reading.

4. Verbs that form participles that can be used attributively and predicatively, both under the stative copula *vara* and the eventive copula *bli*. These participles share most properties with true adjectives. This group is small, but as we will see, reflexive verbs with a certain psych-character also form participles of this kind.

I will focus mainly on intransitive verbs that lack a homophonous causative counterpart. The expectation is that intransitive verbs with causative alternations in general will behave like the ones without causative alternations, and possibly end up in either of the groups, but sharp judgments are in general hard to get. Although the terms unergative and unaccusative are commonly used in the literature, it is often not clear how to define the two groups. The unergative verbs are in general said to have a single argument that is subject-like, while the unaccusative verbs are have a single argument that is more object-like. Typically, subject are agents, and unergative verbs are sometimes considered to be different from unaccusative verbs in that they assign the thematic role agent to the subject, while the the subject of an unaccusative verb is a typical patient, or theme (Perlmutter 1978). Another view, mostly associated with Borer (see e.g. Borer 1998) is that unaccusative and unergative verbs mainly differ in terms of aspect, more specifically, unergative verbs are atelic, while unaccusatives are telic. The question is basically if unergativity/unaccusativity should be defined in terms or argument structure, or in terms of event structure. I will show that it's not necessarily possible to separate argument structure from event structure (as has been shown in many recent works on argument/event structure see for example Ramchand 2008). However, both agentivity and telicity will influence the possibility of forming

participles. Further, other factors will be equally important, as e.g. whether the verb denotes a change of location or change of state, and whether telicity is triggered by a particle/PP, or if it originates in the verb + argument. I will therefore refer to all verbs under discussion as monotransitive, leaving the unergative/unaccusative distinction aside for now. Further, it's hard to find any good tests for diagnosing unaccusativity in Swedish. The only available test is the participle test, i.e. whether the verb in question can form a participle (without demoting any argument). However, as we will see, there are at least three different groups of unaccusative verb with respect to this diagnostic, showing that this natural grouping is not a unified one but probably needs to be deconstructed into several factors.

I will show that the unaccusative participles occurring in predicative position all are target state participles, and behave in many ways like true adjectives. The participle occurring in attributive position on the other hand are more verbal.

All intransitive verbs can form present participles, that can be used attributively. As has been pointed out above, for some verbs, the only difference between the present and passive participle will be in tense/aspect. As all intransitive verbs form participles in *-nde*, while only a subset of them with certain aspectual/argument structural properties form passive participles, we again see how the *-nde* participle isn't sensitive to these factors, while the passive participle is.

5.4.1 A note on dialectal/idiolectal variation

In what follows I will demonstrate that there is a strong correlation between the availability of a target state participle and distribution for participles formed from intransitive verbs[15], namely that only unaccusative *target* state participles can occur in the complement of *vara* ('be'). There is dialectal and idiolectal variation however, and some speakers allow other types of unaccusative participles to larger extent after *vara* than I do. This is due to the fact that some Swedish speakers allow *vara* to be used as a perfect auxiliary for certain unaccusative verbs, for certain types of the perfect. *Vara* is used in many other Scandinavian variants for unaccusative verbs in so called target state perfects[16] (28a) , but not for experiential perfects (28b) (see Parsons

[15] I will call them "intransitive participles" in the running text.

[16] Note that target state perfect is not the same thing as target state passive, as the target state perfect necessarily has full event implications, while this is not true for target state passives, where the event structure is reduced. Further, basically all accomplishment and achievement verbs can get target state readings in the perfect. The forming of target state passives is however much more lexically constrained.

1990 and Iatridou et al. 2001 for discussion about different types of perfects. See Sandøy 1988, Svenonius 1996 and Larsson forthcoming for more discussion on auxiliary choice in the Scandinavian languages). This is illustrated for Northern Norwegian below (data from Kristine Bentzen, p.c.):

(28) a. Bildet har/er dotte ned
painting.DET has/is fallen down
'The picture has fallen down'. (painting lies on the ground)
b. Bildet har/*er dotte ned tre gang denne uka
painting.DEF has/is fallen down three times this week
'The painting has fallen down three times this week.'

As shown, both 'have' and 'be' can be used for the target state perfect in (28a), while only 'have' can be used in the experiential perfect in (28b). Note that in languages where the have/be-alternation is more pervasive, the reading of the perfect doesn't affect the choice of auxiliary, as is shown in the following examples from Dutch (from Marleen van de Vate, p.c.):

(29) a. Het schildery is/*heeft dit jaar drie keer gevallen
The painting is/*has this year three times GE-fallen
'The painting has fallen down three times this year'
b. Het schildery is/*heeft gevallen
the painting is/has fallen
'The painting has fallen down' (lies on the ground)

Some Swedish speakers allow the Norwegian patterns for some unaccusative verbs (and when they do, the "passive" participle form is always used). In my Swedish, only truly stative unaccusative participles, i.e. the ones that can be modified with "still", are allowed, as exemplified below ((30b) has to come out as perfect, just like in English for me):

(30) a. Nycklarna är fortfarande försvunna
keys.PL.DEF are still disappeared.PL
'The keys are still gone/missing'
b. *Lampan är fallen ner/nerfallen
lamp.DEF is fallen down/down.fallen
int. 'The lamp has fallen down' (lies on the floor)

The following cline emerges, that ranks the availability of *be* in different unaccusative participial constructions: (note that the two first steps correspond to true "perfects", while the last step is not really a perfect, i.e., (30a) cannot be considered a present perfect construction):

(31) **Likelihood of *Be* as a "Perfect" Auxiliary**
All unaccusative perfects (Dutch) > Target state perfects (Dutch, Norwegian, (Swedish 1)) > Stative participles (Dutch, Norwegian, Swedish 1, Swedish 2)

I have put a parenthesis around Swedish 1 in the target state perfect position, given that far from all unaccusative verbs even in the most liberal *be*-perfect dialects allow *be* in target state perfects.[17]

When I go through the different classes below, I will go mainly on my own judgments, but I will note the cases where there are some disagreements.

5.4.2 Class 1: Intransitives that don't form passive participles

Intransitive verbs that denote an event that lack an endpoint can never form *de*-participles. Three classes of intransitive verb will therefore never form *de*-participles, namely (1) activity verbs (2) stative verbs and (3) semelfactive verbs. I will have a quick look at each of the three classes, plus a fourth group that is harder to classify. Statistically it's clear that the majority of all monoargumentals belong in this group, i.e. that most intransitive verbs don't form *de*-participles.

Activity verbs

Intransitive activity verbs will never form *de*-participles. Whether the argument is "agentlike" (unergative), or "patientlike" (unaccusative) doesn't seem to matter.

(32) a. *Den sprungna mannen
the run.DE man.DEF
'*The run man'
b. *Han är sprungen
He is run.DE
'*He is run.'

[17] My impression is that speakers that allow non-stative unaccusative participles after *vara* also have a more liberal use of the passive participle in both periphrastic passives and get-passives, allowing for example particles to follow passive participles, and impersonal periphrastic passives formed form unergative verbs.

(33) a. *Den rostade bilen
the rust.DE car.DEF
'*The rusted car'
b. *Bilen är rostad
Car is rust.DE
'*The car is rusted (compare: *Bilen rostar*-the car is rusting).'

Instead of the passive participle, the *-nde* participle of these verbs will be used when an inherently atelic predicate is used as a modifier:

(34) a. Den springande mannen
the run.INF.NDE man.DEF
'The running man'
b. Den rostande bilen
the rust.INF.NDE car.DEF
'The rusting car '

It should be noted though that intransitives formed from atelic intransitive verbs with patient-like arguments may form 'passive' participles when they are combined with a particle:

(35) a. uppflutna döda fiskar
up.float.DE dead fishes
'up-floated dead fishes'
b. en sönderrostad bil
an apart.rust.DE car
'an apart-rusted car'

When more typical "unergatives" form participles together with particles that denote an endpoint, they seem to obligatorily get a transitive reading:

(36) a. söndersprungna skor
apart.run.DE shoes
'apart-run shoes (c.f. I ran these shoes apart)'
b. de hitflugna representanterna
the here.fly.DE representatives.DEF
'the representatives flown (that we flew) here'

There is some dialect variation here, and some speakers allow agentive activity verbs with end-point particles, and some speakers allow a non-passive interpretation of (36) (see Larsson forthcoming for judgments going in that direction). In my Swedish, I know of only two counterexamples: *utflugna* ('out-flown'), which is typically used for referring to kids having left the home

(*Båda mina ungar är utflugna* = both my kids are out-flown (='both my kids have moved away from home') I will treat this an idiosyncratic (and probably idiomatic) exception; *hit-resta* ("here-travelled"), which can be used both predicatively and attributively as well. I take this to be an idiosyncratic exception as well. There is a certain amount of idiosyncrasy here once it comes to the behaviour of these verbs with particles, but the thing that is absolutely clear is that without end-point particles, both types of atelic monotransitive verb are clearly bad.

Other verbs of this kind are: *gå*-'walk, go', *skratta*-'skratta', *flyga*-'fly', *skrika*- 'scream', *rinna*- 'run' (about fluids), *sväva*- 'hoover', *dansa*- 'dance' etc.(observe that I'm only concerned with the intransitive uses of these verbs here.)[18]

While telicity seems to be a factor in determining whether a monotransitive verb will have a passive participle, it is important to note here that activity verbs in general do form participles, as long as they are transitive:[19]

(37) a. den jagade mannen
the chase.DE man.DEF
'the chased man'

b. Han var/blev jagad av polisen
he was/became chase.DE of police.DEF
'He was chased by the police'

As was pointed out in the introduction, the end-point requirement only holds for the intransitive verbs. Further, as expected, reflexive-marked activity verbs can never form passive participles, nor attributive present participles:

[18]Some of these verbs can marginally form participles that can occur in impersonal passives, like *Det blev dansat en hel del igår*-'It was danced a lot yesterday', though the morphological *s*-passive is highly preferred *det dansades en hel del igår*-'It danced-s a lot yesterday'. Since I take the impersonal periphrastic passives to be marginal at best, I will not worry about them too much here. It should also be noted that the periphrastic impersonal passives seem to require a nominal like measure phrase in their complement position (like "a whole lot"), as was is seem in the example given above, while this is not true for *-s*-passives. Further, as been noted earlier in the literature, impersonal passives can in general only be formed if the demoted subject of the verb is animate, which is why verbs like *rosta*-'rust' and *rinna*('run' (about fluids)) are impossible.

[19]Borer 1998 claims that participles formed from transitive activity verbs in general get an accomplishment interpretation, e.g. *the cart was pushed* means something like *the cart was dislocated*, that is, an accomplishment. In the example *Han blev/var jagad* it's clear that it's not an accomplishment, since it clearly denotes an ongoing activity, which can also be seen in the fact that it allows temporal modifiers of the type "for x time".

(38) a. han rörde sig långsamt
he moved REFL slowly
'He moved slowly'
b. *den långsamt rörda mannen
the slowly move.DE manDEF
'*The slowly moved man'
c. *den långsamt rörande mannen
the slowly move.INF.NDE man.DEF
'The slowly moving man'

Stative verbs

Intransitive stative verbs are in Swedish hard to tell apart from intransitive activity verbs, and for this survey, the difference isn't really important since both classes behave the same, i.e. neither of the classes forms passive past participles. Below I give some examples from different groups of stative verbs (I only give examples with participles in attributive position. They are equally bad in all other uses)

(39) a. *det liggda glaset
the lie.DE glass.DEF
'*the lain glass'
b. *det blänkta smycket
the shine.DE coin.DEF
'*the shined coin'
c. *den illasmakade maten
the bad.taste.DE food.DEF
'*the bad-tasted food'
d. *den sluttade bergssidan
the slope.DE mountain.side.DEF
'*the sloped mountain side'

As with the activity verbs discussed above, the *-nde* participle of the verb will be used in attributive position ('the lying glass', 'the shining coin', 'the bad-tasting food', 'the sloping mountain side' etc.) And as with the activity verbs, it doesn't seem like the aktionsart is responsible for the impossibility of forming passive participles. Transitive stative verbs quite freely form passive participles, that can be used both attributively and predicatively.

(40) a. den älskade mannen
the love.DE man.DEF
'the loved man'

b. han är älskad av alla
he is love.DE of all
'he is loved by everybody'

(41) a. den stats-ägda egendomen
the state.own.DE property.DEF
'the state-owned property'
b. Egendomen är ägd av staten
property.DEF is own.DE of state.DEF
'The property is owned by the state.'

(42) a. det av skog omgivna huset
the of forest surround.DE house.DEF
'the house surrounded by a forest'
b. Huset är omgivet av skog
house.DEF is surround.DE of forest
'The house is surrounded by a forest'

There are few or no truly stative reflexive-marked verbs, which is expected given that stative verbs are sub-eventually simplex. The only one I can think of is *känna sig* ('feel' as in 'feel sorry'). This verb obligatorily takes a secondary predicate in it's complement, and it's likely that the reflexive pronoun originates within the secondary predicate. No participles can be formed from this verb, except for the small clause/subject licensing present participle.

Semelfactives

As semelfactives I will count punctual verbs with an end state that is the same as the pre-event state (see Rothstein 2004).

(43) a. *den (ständigt) hostade mannen
the (constantly) cough.DE man.DEF
'*The (constantly) coughed man'
b. *Han är hostad
he is cough.DE
'*He is coughed'

(44) a. *den (ständigt) blinkade mannen
the (constantly) blink.DE man.DEF
'* The (constantly) blinked man'
b. *Han är blinkad
he is blink.DE
'*He is blinked'

No particles seem to be able to save these participles. Here as well, the present participle can be used.

It's hard to tell whether the impossibility of forming participles from intransitive semelfactives is due to their aktionsart or their valency. As shown above, intransitive activity verbs seem to be unable to form participles because of their valency (that is, transitive and activity verbs and stative verbs freely form participles). As far my judgments in Swedish are concerned, there are no true semelfactive verbs that take DP-objects. Instead, the internal argument of a semelfactive gets realized as a PP:

(45) Hon klämda på mig under hela kvällen
she squeezed on me under whole evening.DEF
'She (repeatedly) squeezed/touched me throughout the night'

Pseudo-passives are in general quite bad in Swedish, but pseudo-passives formed from semelfactive verbs seem to be exceptionally bad. Compare the following two sentences, where the first one implies that the derived subject undergoes a change of state (accomplishment), and the second one doesn't (semelfactive) (examples adapted from Platzack 1998):

(46) (?)Han har redan blivit bytt på
he has already become.SUP changed on
'someone has already changed diapers on him'

(47) ?*Jag blev klämd på under hela kvällen
I become squeeze.DE on under whole evening.DEF
'I was squeezed/touched at during the whole night'

The semelfactives might therefore differ from the stative verbs and activities in that they resist all sorts of passivization, independent of the valency of the verb. This gives further support to the claim that iterativity is encoded above the vP. Passive participles never get bigger than vP, and can therefore not express iterative aspect.

The definition I've used for semelfactive verbs (based on Rothstein (2004) is perhaps not the standard one. More common is to define semelfactives as instantaneous atelic events (see Smith (1991)), and the standard test to pick them out is to see whether they naturally get iterative readings in imperfective contexts, as "he was blinking" or "she was kicking him in the head".

There are some intransitive verbs that seem to have endpoints, or endpoints that differ from the pre-event state, that still don't form participles so that they would be classed as semelfactive by Smith's definition, though not by Rothstein's. Two examples are the almost synonymous *trilla* -'tumble'/fall'

and *ramla*-‘tumble/fall’:

(48) *En ramlad/trillad man
a tumble.DE man
‘*A tumbled man’

These are slightly better with a prefixed locative particle, though they are still highly marked.

(49) ??en nerramlad/nertrillad man
a down.tumble.DE man
‘*a down-tumbled man’

They should also be compared with the almost synonymous *falla* (‘fall’), that does form a participle (to be discussed in next section). One big difference between *falla* and *ramla* and *trilla* is that the latter two only seem to denote the punctual inceptive part of an event, while *falla* also can denote a following process part. Compare:

(50) Han föll i fem minuter
he fell in five minutes
‘He fell for five minutes (Can be uttered about a man jumping from a plane)’

(51) ??Han ramlade i fem minuter
he tumble.DE in five minutes
‘*He tumbled for five minutes.’

If the latter sentence is good, it can only get an iterative interpretation, though under that interpretation the sentence is still highly marked compared with the real semelfactives discussed above. It should also be noted that in a language with have/be-alternation like dutch, the verbs in corresponding to ‘tumble” will only occur with ‘have’ as a perfect auxiliary, just like semelfactive verbs, and most unergative verbs in general. The participles get better with an end-point particle, like *ner/ned* (‘down’), and if the argument is non-animate, like *en nedramlad hylla* (‘a down-fallen shelf’), though it is still not perfect.

5.4.3 Class 2: Participles occurring only in attributive position

Here I will discuss intransitive verbs that can form passive participles, though they cannot be used predicatively, but only attributively (and in certain small clauses). This group is also fairly big, and it consists of participles that lack a

target state reading an have only an eventive reading. I will claim that all the verbs in this class necessarily identify the whole verb phrase (up to InitP) in their *-de* participial form.

I will divide the verbs in this group into several subgroups depending on their other characteristics.

Verbs of locational change

In the first group, we will find verbs of change of location like *falla-*'falla' and *sjunka-*'sink' are clear members of this group:

(52) a. de fallna löven
the fall.DE leaves.DEF
'the fallen leaves'
b. ?*Löven är fallna
leaves.DEF are fall.DE
'The leaves are fallen'

(53) a. Den sjunkna ubåten
The sink.DE submarine.DEF
'The sunken submarine'
b. ?*ubåten är sjunken
submarine.DEF is sink.DE
'The submarine is sunken.'

The incompability of the attributive participles with the adverbial "still" shows that they lack a target state reading (see Kratzer 2000):

(54) den (*fortfarande) sjunkna ubåten
the (*still) sink.DE submarine.DEF
'The (*still) sunken submarine'

(55) de (*fortfarande) fallna löven
the (*still) fall.DE leaves.DEF
'The (*still) fallen leaves'

Further, these participles seem to be "verbal". They resist degree modification, and combine easily with adverbs like *nyligen/nyss* ('recently')[20], to pick out the event time:

[20]I will not go into the difference between *nyligen* and *nyss*, but it seems like *nyss* is a diminutive form of *nyligen*, referring to time points closer to the present than *nyligen*.

(56) a. *Den mycket/väldigt/fullständigt sjunkna ubåten
the much/very/completely sink.DE submarine.DEF
'The much/very/completely sunken submarine'
b. *De mycket/väldigt/fullständigt fallna löven
The much/very/completely fall.DE leaves.DEF
'The much/very/completely fallen leaves'

(57) a. De ville bärga den nyligen sjunkna ubåten
they wanted salvage.INF the recently sink.DE submarine.DEF
'They wanted to salvage the recently sunk submarine (= the submarine that had recently sunk)'
b. De nyligen fallna löven täckte gräsmattan
the recently fall.DE leaves.DEF covered lawn.DEF
'The recently fallen leaves covered the lawn (= the leaves that had recently fallen)'

As will be shown in the next subsection, the target state participles differ from the ones discussed here with respect to both these properties.

However, the past participles formed from *sjunka* and *falla* can occur in the complement of the posture verb *ligga*-'lie' (though maybe a bit marked), as:

(58) löven ligger/*är fallna överallt
leaves.DEF lie/are fall.DE everywhere
'The leaves lie fallen everywhere'

(59) mer än 50 vrak ligger/*är sjunkna på denna plats
more than 50 wrecks lie/*are sink.DE on this place
'More than 50 wrecks lie sunken on this spot.'

Modification with 'still' is still marked here, though not totally out:

(60) ?löven ligger fortfarande fallna överallt
leaves.DEF lie still fallen.DE everywhere
'The leaves still lie fallen everywhere.'

(61) ?mer än 50 vrak ligger fortfarande sjunkna på denna plats
more than 50 wrecks lie still sink.DE on this place
'More than 50 wrecks still lie sunken on this spot'

Other verbs in this class are *spåra ur*-'derail'[21], *stranda*-'strand'[22] and *välta*-turn over'[23].

The verbs *anlända*-'arrive', *ankomma*-'arrive', *emigrera, utvandra*-'emigrate', *immigrera, invandra*-'immigrate' and *desertera*-'desert' also belong to this class, though they differ from the ones discussed above in that they cannot occur in the complement of *ligga* -'lie', *sitta*-'sit' or *stå*-'stand'.

For this group of verbs there is admittedly huge dialectal/ideolectal variation, and some speakers claim to allow all or a subset of the verbs discussed above in the complement of *vara*. A google search gives about 50 hits on present tense of *vara* plus the passive participle of *sjunka* (in all its inflectional forms). Most of them are from archaic poetry. The present tense of *ha* plus the supine of *sjunka* on the other hand gives around 200 000 hits on google (though these numbers should be taken with a grain of salt). A search for the passive participle alone gives a couple of thousand hits. I checked the first one hundred hits of *sjunket* (sink.PASS.NEUT), and found it in no predicative contexts. The other verbs discussed in this section give similar results, which indicates that non-stative unaccusative participles are basically not allowed in the complement of *vara* in present day standard Swedish.

Just as with the stative verbs and the activity verbs, verbs of change of location form passive participles when they are transitive, that easily occur in predicative (and attributive) position:

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[21]This verb has some metaphoric/extended uses, from which the participle will behave differently. For example, a party or a discussion can be "derailed", and here the participle can be used predicatively, and it can be modified both with "still" and a degree modifier like "completely". In this extended use, the verb expresses an internal change in the subject referent, and not a change in location.

[22]In some extended/metaphorical uses, the participle formed from *stranda* will have the properties of the class 3 participles. For example it can be used as a psychological predicate, like *jag känner mig fortfarande fullständigt strandad* ('I still feel completely stranded/stuck/locked in'). Here, we are clearly not dealing with a predicate that expresses a change of location. A sentence like *Jag är strandad i Paris"* (' am stranded in Paris') is also fine, and makes a up an almost minimal pair with the sentence *båten ligger/??är strandad på stranden* ('the boat lies/??is stranded on the beach'). There are two factors that might be to blame for the difference between the two sentences: (1) The subject of the first sentence is human (a person IS in Paris, but a boat LIES on the beach), (2) You can get stranded in Paris from, for example, running out of money (not a change in location, but rather an internal change), but a ship necessarily ends up stranded as a result of physical change of location.

[23]This verb has an transitive alternate. As a transitive verb, it will be able to turn up in predicative position (with passive semantics). Under *ligga*, the intransitive variant is still available: *Alla glasen är välta* ('all the glasses are turned over') = only transitive; *Alla glasen ligger välta på bordet* ('all the glasses lies turned over on the table') = transitive or (preferably) intransitive

(62) Datorn är placerad i det andra rummet
computer.DEF is place.DE in the other room.DEF
'The computer is placed in the other room'

(63) Skeppen är sänkta
ships.DEF are sink.DE
'The ships are sunk(trans)'

Reflexive change of location verbs without target state participles can not form participles either, as exemplified below:[24]

(64) a. Han tog sig in (i rummet)
he took REFL in (in room.DEF
'He got into the room'
b. Den (i rummet) intagna mannen
the (in room) in.take.DE man.DEF
'The man taken into the room'

(64b) is only OK with a transitive interpretation, i.e., someone took him into the room.

The intransitive participles in this class are equally bad or worse in the complement of the eventive copula *bli*, as shown below:[25]

(65) a. *Gästerna **blev** anlända klockan 5.
guests.DEF BLI.PAST arrived clock.DEF 5.
(intended: 'The guests arrived at five o'clock")
b. *Skeppen blev sjunkna
ships.DEF BLI.PAST sink_{trans}.DE
(intended: 'The ships sunk')

The periphrastic eventive passive has certain restrictions, mostly related to animacy. There are however contexts where almost all transitive verbs can occur in the periphrastic *bli*-passive. Participles formed from transitive verbs

[24]It should be noted that the reflexive pronouns precede the particle in these cases. For reflexive particle verbs that form target state passives, the reflexive follows the particle, just like all pronominal or DP objects. The difference can be seen in the minimal pair *ställa sig up*('stand up' and *ställa upp sig* ('line up'). The second one forms a target state passive, as in *de var fortfarande uppställda framför slottet* ('they were still lined up in front of the castle'), which, I think is compatible with a reflexive interpretation. The first one has no corresponding reflexive participle form.

[25]In some dialects (southern Swedish), the stative *vara* copula is OK in some contexts with this type of verb, giving rise to a subset of the perfect readings. No Swedish dialects allow the intransitive participles of this type in the complement of *bli* however.

corresponding to the ones in (65) are given in (66) (for me, (66a) is perfect, while (66b) is slightly degraded, probably due to the inanimate subject):

(66) a. Gästerna blev hämtade klockan fem
guests.DEF BLI.PAST picked-up clock.DEF five
'The guests were picked up at five o'clock.'
b. Skeppet blev sänkt av en missil
ship.DEF BLI.PAST sink.DE of a missile
'The ship was sunk by a missile'

Another potential subclass of verbs consists of the two verbs *inträffa*-'occur' and *upphöra*-'cease'. They also seem to belong to class 2:

(67) a. en (*fortfarande) inträffad olycka
a (*still) occur.DE accident
'*an occurred accident'
b. ?*En olycka är inträffad
an accident is occur.DE
'An accident is occurred'

(68) a. den (*fortfarande) upphörda striden
the (*still) cease.DE fight.DEF
'the ceased fight'

b. ?*Striden är upphörd.
fight.DEF is cease.DE
'*The fight is ceased'

These verbs are clearly punctual. In the case of 'occur', the subject referent only exists in punctual moment of the 'occur'-event, in the case of 'cease', the subject referent stops existing at the punctual 'cease'-event.[26][27]

[26] Just as with the other participles in this group, *inträffa* is incompatible with degree modification (**den fullständigt inträffade olyckan* (*'the completely occurred accident')). *upphöra* is fine with degree modification, especially with *helt*-'whole, completely'. However, even in the active form, *upphöra* can take this degree modifier: *Striden upphörde helt* ('The fight ceased completely').

[27] Note that the verb *hända*-happen' doesn't have a passive participial form, though semantically close to *inträffa*-'occur'. *hända* however doesn't readily take an internal DP argument, but rather a CP, or a pronoun/demonstrative referring to a full clause.

Verbs with non-reversable endstates

Examples in this group are *omkomma*-'die in an accident', *svälta ihjäl*-'starve to death', and *drunkna*-'drown'. These are also punctual, and clearly non-reversable. These verbs are distinguished by the fact that the subject undergoes some internal change, and is the holder of a target state. These verbs contain a manner part that is associated with the process/eventive part of the predicate, an idea that will be further developed in section 5.4.

(69) a. ett (*fortfarande) ihjälsvultet barn
a (*still) to-death-starve.DE child
'a child who has starved to death'
b. ?*Barnet är (fortfarande/nyligen) ihjälsvultet
child.DEF is (still/recently) to-death-starve.DE
'A child (still/recently) starved to death.'

(70) a. Den (nyligen/*fortfarande) omkomna mannen
the (recently/*still) decease.DE man.DEF
' The (recently/*still) deceased man'
b. ?*Mannen är (fortfarande/nyligen) omkommen
man.DEF is (still/recently) decease.DE
' the man is (still/recently) deceased'

It is not likely that it is the semantic irreversibility of these predicates that make them incompatible with 'still', since the adjective 'dead' easily is modified with 'still'. [28]

(71) Han är fortfarande död
he is still dead
'He is still dead.'

One relevant factor may be that the verb *dö* is not connected to any specific manner, which may enable the eventive part of the verb to drop in forming a target state participle. Larsson (forthcoming) notes that some of the participles above can appear in the complement of *vara*, and gives the following example:

(72) Han är omkommen i strid
He is deceased in battle

[28] It's not clear that *död* is a participle (as a participle it should spell out *dödd*). This doesn't affect this argument anyway. Both *död* and *deceased* have target states that from a common sense view are irreversible.

(72) is acceptable for me only in an archaic register, but I doubt that it is a construction that is part of my active grammar (though that is of course a tricky issue - note though that *har omkommit* (the perfect) gives about a thousand times more google-hits compared to *är omkomna/omkommen/omkommet*)).

As with the other verbs discussed so far (except maybe semelfactives), transitive counterparts of these verbs do form participles that occur under *vara*:

(73) a. Katten är dränkt
cat.DEF is drown$_{trans}$.DE
'The cat is drowned '

b. Huset är sprängt
house.DEF is blow-up.DE
'The house is blown up'

class 2.4: Morphological Reasons

Instead of looking at the semantic properties of the different verbs, one can look for common morphological traits. It turns out that most verbs that are formed from adjectives with a visible inchoative suffix (*-na*) will end up in class 2, for example *gul-na* ('yellow'), *tjock-na* ('fatten'). Another morpheme that often occurs on class 2 intransitives is the the prefix *an*, as in *antända* ('catch fire'). It is possible that these affixes by themselves identify the head of the process phrase, or that they are inchoative v^0, depending on what framework you use. This has been proposed by Hale and Keyser (2002) for English *-en* (in e.g. *redd-en*).
The judgments are tricky, since some of the participles formed from these verbs seem to have developed into true, gradable adjectives. Some speakers have problems forming passive participles from these verbs altogether. To my ear, these verbs can form passive participles, but they cannot easily occur in the complement of the copula *vara*. Given the shakiness in the judgments, I will not dwell on their properties as participles. They are of course fine as present participles, just like all other monotransitive verbs.

One very interesting aspect that is worth mentioning is that this group of verbs quite productively forms nominalizations with the common gender passive participle morphology, as is exemplified below:

(74) a. svull-na - svull-na-d
swell$_{verb}$ - swell$_{noun}$ (i.e., a swollen part)

b. avsmal-na - avsmal-na-d
narrow - narrowing

c. mog-na - mog-na-d
mature - maturity

d. rod-na - rod-na-d
blush$_{verb}$ - blush$_{noun}$

The /d/-forms to the left are in other words ambiguous between passive participles and result nominalizations, in a way parallel to the *-nde* -forms, that are ambiguous between present participle and event nouns. Given that only the /na/-verbs behave this way, it's tempting to take the /n/ in /na/ and /nde/ to be the same one. However, I will not pursue this further here.

Summing up

The different subtypes of verbs that have been discussed in this section seem to resist appearing in the complement of *vara*, though there is some dialectal variation and idiosyncratic exceptions. This should be compared to the copula *bli*, which is used in eventive passives and talso with adjectives (in the meaning "become"). The unaccusative class 2 participles are always bad in the complement of *bli*. As far as I'm aware there is no dialectal variation here, nor any idiosyncratic exceptions (no translation is given below, since it is not clear what they would mean.):

(75) a. *Han blev hitsprungen/omkommen/drunknad/anländ etc.
He BLI.PASThere-run/deceased/drowned/arrived etc.
b. *Det blev sjunket/fallet/inträffat etc.
It BLI.PASTsunk/fallen/occurred etc.

This shows again that the class 2 participles are different from both regular, underived adjectives, and participles formed from most types of transitive verbs. The reasons for the defective distribution will be discussed in section 5.5.1.

All the verbs belonging to class 2 presumably carry a Res^0 in their lexical entry, though they necessarily surface in contexts where the whole verb phrase up to Init^0 is present. The reasons for this will be discussed in section 5.3.

5.4.4 Class 3. Participles that show up in predicative position

In this group we find intransitive verbs that form target state participles. Here we find verbs of change of state, which have reversible end-states. Passive participles formed from these verbs will occur both in attributive and predicative position. Their compatibility with the adverb *fortfarande* ('still') shows that these are target state participles:

(76) a. Nycklarna är fortfarande försvunna
keys.DEF are (still) disappear.DE
'The keys are still disappeared (gone)'

b. Vasen är fortfarande sprucken
vase.DEF is still crack.DE
'The vase is still cracked'

c. Mitt hjärta är fortfarande brustet
my heart is still break.DE
'My heart is still broken'

d. Ljuset är fortfarande bara halvt nedbrunnet
candle.DEF is still just half down.burn.DE
'The candle is still only halfway burnt down'

e. Han är fortfarande avsvimmad/avtuppad
He is still faint.DE/pass-out.DE
'He is still fainted/passed out.'

f. Försäljningen är fortfarande avstannad
sale.DEF is still stop.DE
'The sale is still stopped'

These verbs also differ from the degree achievement verbs that will be discussed in next section in that they are inherently telic. (They might even be punctual).

Interestingly, when appearing in attributive position, two different readings are available. The first is equivalent to the reading that is available for the verbs in the second class, i.e. a verbal, eventive reading. Combined with the adverb 'recently', this reading is the most prominent reading:

(77) a. hans nyligen brustna förhållande
his recently break.DE relationship
'his recently broken relationship (The relationship that recently ended)'
b. nyligen försvunna arter
recently disappear.DE species
'recently disappeared species (species that has recently disappeared)'

The stative reading is triggered by 'still' or degree modifiers:

(78) a. de fullständigt försvunna nycklarna
the completely disappear.DE keys.
'the completely disappeared keys'
b. den fortfarande avsvimmade mannen
the still faint.DE man.DEF
'the still passed out man'

When 'recently' is combined with a degree modifier, the stative reading is still the only reading available:

(79) den nyligen fullständigt avsvimmade mannen
the recently completely faint.DE man.DEF
'the recently completely passed out man'

This can only mean "the man who recently WAS completely passed out (but probably isn't anymore). That is, you get a stative past tense reading In predicative position, only the stative reading of the participle is possible, and therefore, modification by 'recently' is only possible with a past tense copula:

(80) Han var/*är nyligen försvunnen (i fem dagar)
he was/*is recently disappear.DE (in five days)
'He was/*is recently gone (for five days)'

To get the eventive reading, a present perfect or one of the simple tenses has to be used.

As shown above, these participles behave to a large extent like adjectives: they (1) combine with degree modifiers, and (2) can be modified by 'still'. Appearing in the predicative position is a typical adjectival property as well, though shared with verbal participles formed from transitive verbs. The target state participles belonging to this class differ from true adjectives and most verbal participles in that they can never occur in the complement of the even-

tive copula *bli*, just like the participles in class 2[29] Compare:

(81) a. Skorna blev torra
shoes.DEF BLI.PAST dry
'The shoes became dry (Adjective under *bli*)'
b. Jag blev skjuten (av polisen)
I BLI.PAST shoot.DE (of police.DEF)
'I was/ shot (by the Police) (Verbal passive)'
c. ?*Nycklarna blev försvunna
keys.DEF BLI.PAST disappear.DE
'*The keys were disappeared'

To express the meaning 'become disappeared', one has to use a simple tense form (or an infinitival):

(82) Nycklarna försvann
keys.DEF disappear.PAST
'The keys disappeared'

This holds for all verbs in this class, and will be discussed in section 5.5. It should be noted that many of the unaccusative target state participles are not as strikingly bad in the complement of *bli*as the participles in class 2. Sometimes they can be coerced into a 'stay/remain"-reading, a reading that also arises when locative particles/adverbs and some present participles occur in the complement of *bli* , as shown below (note that (83c) is still highly marked):

(83) a. Han blev borta i några dagar
He BLI.PAST away in some days
'He was away for a couple of days'
b. Han blev stående framför fönstret i fem
he BLI.PAST stand.INF.NDE front.for window.DEF in fem
minuter
minutes
"He ended up standing in front of the window for a couple of minutes"
c. ?Han blev avsvimmad/försvunnen i tre timmar
He BLI.PAST off.faint.DE/disappear.DE in three hours
'He ended up being fainted/gone for three hours.'

[29]Some "verbal" passive participles are problematic under *bli*, probably because the morphological *s*-passive is often preferred to periphrastic passive.

This seems to be a reading that arises in when *bli* takes a complement that is stative and non-gradable, though surprisingly not when the complement is a predicative noun or a stative verbal passive participle ('owned', 'loved' etc.), where only the 'become'-interpretation is available.

Reflexive-marked verbs that have target state interpretations as participles show a behavior that is completely parallel to the unaccusative verbs discussed above with respect to the interaction with the auxiliaries. As pointed out in footnote 21 above, the reflexive pronouns in these cases must appear after a particle, just like regular pronominal/DP arguments. I will not try to give an explanation for the word order facts here. What is important here is that the reflexive reading disappears in the context of the eventive copula *bli* :

(84) a. Han klädde (*sig) på sig innan han gick på festen
he dressed (*REFL) on REFL before he went on party.DEF
'He dressed before going to the party'

b. Han är fortfarande påklädd
he is still on.dress.DE
'He is still dressed' (He could have dressed himself)

c. Han blev påklädd (av någon)
he BLI.PAST on.dress.DE (by someone)
'He was/got dressed (by someone)'(necessarily non-reflexive, with or without by-phrase)

(85) a. Han kedjade (*sig) fast sig (vid ett träd)
he chain.DE (*REFL) stuck REFL (to a tree)
'he chained himself to a tree'

b. Han är (fortfarande) fastkedjad
He is stuck.chain.DE
'He is chained (to something)' (possible reflexive interpretation)

c. Han blev fastkedjad
he BLI.PAST stuck.chain.DE
'He got chained (to something)' (necessarily non-reflexive)

This means that only a 'large' full initP reading of the *-de* participle is available under *bli* for these verbs.

Other particle verbs in this group is *sminka upp sig* ("put make up on"), *klä ut sig* ("dress oneself up as, masquerade") and *låsa in sig* ("lock oneself in").

The participles under *vara* make no reference to the event leading up to the state, and it's therefore left open who/what has caused the state. Thus,

in the complement position of *vara*, a "small" target state reading of the *-de*-participle must be possible.

When the *-de* participles of these verbs are used prenominally, they are ambiguous between a reflexive and a non-reflexive reading indicating that both eventive passive and target state passive structures are available in prenominal position. When modified by a temporal adjective that picks out the event time, the reflexive reading is no longer available:

(86) a. Den fastkedjade mannen
the stuck.chain.DE man.DEF
"The chained man"

b. Den nyligen fastkedjade mannen
the recently stuck.chain.DE man.DEF
"the recently chained man" (non-reflexive, unless it refers to a recent state that doesn't hold any longer.)

To reiterate, the absence of the reflexive reading under the eventive/resultative reading is predicted, given that we take eventive participles to correspond to the whole verb phrase. If a verbal entry marks two of it's arguments as disjoint, the non-reflexive reading can not be obtained, unless it is reflexive marked. No reflexive marking is present in (86b), and no reflexive reading is there. This confirms that the relevant two heads that surface in the eventive attributive passive are not co-indexed in the lexical entry for the reflexive-marked verbs (10). For the unaccusative verbs, an eventive reading is possible for the pre-nominal participles, which is predicted given that the heads are co-indexed in these cases.

In next section, I'll look at participles that seem to be acceptable under *bli*. These seem to behave just like adjectives.

5.4.5 Class 4. Monotransitive participles occurring under *bli*

Some participles seem to show a behavior that is identical to non-derived, gradable adjectives when they appear in the complement of *bli* It's hard to find participles like this that are formed from unaccusative verbs, though judgments are tricky and idiolectal variation is abundant. Some speakers allow some of the participles discussed in last section in the complement of *bli* (I do too in certain readings). In general, complementation under *bli* is possible when a participle is easily gradable, allowing grade-modifiers that are not available for verbs. Here, keeping to colloquial register, I will use the modifier *så jävla* ('so damn'), as in e.g. *jag är så jävla trött* ('I am so damn tired'

). The particle verb *torka ut* (‘dry out’), easily takes this modifier, and then easily embeds under *bli*, as shown below:

(87) Min hy blir så jävla uttorkad när jag tar långa bad
my skin become so damn out.dry.DE when I take long baths
‘My skin gets so damn dried out when I take long baths’

The particle verb *torka ut* can be used both as a transitive and an inchoative when active. The modifier *så jävla* can not be used in either cases, as shown below:

(88) Min hy torkar ut (*så jävla) när jag badar
my skin dries out (*so damn) when I bathe
‘My skin dries out when I bathe’

(89) Det starka solskenet torkar ut min hy (*så jävla)
the strong sunshine.DEF dries out my skin (so damn)
‘The strong sunshine dries out my skin.’

Some clearly transitive verbs can also have similar properties when they surface as participles. This is most clearly seen for object experiencer verbs. Below a participial “passive” and a synthetic -*s*-passive are given for an object experiencer verb. As seen, the relevant modification is only available for the participial passive.

(90) a. Jag blev så jävla fascinerad av henne
I BLI.PAST so damn fascinate.DE by her
‘I was so damn fascinated by her’
b. Jag fascinerades (*så jävla) av henne
I fascinate.DE (so damn) by her
‘I was fascinated by her’

A further indication that these participles are different from the ones discussed in last section comes from certain reflexive-marked verbs - typically those with psych-implications. Here, the “reflexive” reading survives both under *bli* and *vara*, as compared to the reflexive-marked verbs that were discussed in last section:

(91) a. Vi riktade in oss på att lösa problemet
we aimed in 2.PL.REFL on to solve problem.DEF
‘We aimed at solving the problem’

b. Vi är fortfarande inriktade på att lösa problemet
we are still in.aim.DE on to solve problem.DEF
'We are still aimed at solving the problem'

c. Vi blev mer inriktade på att lösa det andra problemet
we BLI.PAST more in.aimed on to solve the other problem.DEF
'we got/became more focused/aimed at solving the other problem'

Other reflexive-marked verbs that behave in this way are *köra ut sig* ('drive oneself out, exhaust oneself'), *ställa in sig på* ('prepare onself'). As shown in (91c), modifiers that usually just go with adjectives are allowed for these verbs as well. Note that in English also, this group of participles is probably different from other types of participles. Take for example the verb *focus*, which as a passive participle can be used in the progressive, and still retain an intransitive interpretation. This doesn't happen for participles that belong either class 2 (92b) or class 3 (92c) :

(92) a. We are being extremely focused on solving the problem ("intransitive" reading)
b. These diseases are being spread throughout the world ("transitive" reading)
c. He is being chained to the fence ("transitive" reading)

I will claim that the difference between Class 3 and Class 4 lies in their scalar properties. While Class 4 verbs form open scale participles, that can be modified by e.g. the comparative *mer* ('more'), the Class 3 verbs only form closed scale adjectives, that don't easily take grade modifiers like *mer* , but only modifiers like *fullständigt* ('completely'), that focus on maximum (or minimum) value of a scale (see Kennedy and McNally 1999 and Kennedy and Levin 2002 for discussions on gradability of participles).

5.4.6 Summary

The behavior of the four different super-groups of monotransitive verbs is summarized in the following table:

TABLE 1: MONOTRANSITIVE VERBS				
	1	2	3	4
Participle	*	OK	OK	OK
Comp. *vara*	*	*	OK	OK
Comp. *bli*	*	*	*	OK

The first column just indicates whether it is possible to form a passive participle at all from the verb. I've mostly focused on participles formed from these verbs occurring in attributive position, but even other uses are of relevance, as e.g. participles in the complement of posture verbs.

The difference in behavior between the second and the third class of verbs shows that the two types of "adjectival" passives are structurally different. The general difference between participles and non-derived adjectives shows that these participles can't be seen as regular adjectives, but rather that they interact with the verbal system in the syntax in a way that adjectives do not.

The four classes can be given the following characteristics:

- Class 1: Verbs without a ResP (i.e., verbs lacking an inherent endpoint)
- Class 2: Verbs with a ResP which can only be inserted once the full verb phrase is built up.
- Class 3: Verbs with ResP, that can surface in contexts where only ResP is present, which further give closed scale participles.
- Class 4: Verbs that give rise to open scale participles. Presumably they correspond to ResP as well.

Interestingly, the four different semantic classes that make a difference to the behavior of unaccusative verbs, make no difference to the behavior of transitives. As was shown above in the various sections, transitive verb passive particles can occur in the complement of *bli* and *vara* regardless of verb class. The corresponding table for transitive verbs is given below.

TABLE 2: TRANSITIVE VERBS				
	1	2	3	4
Participle	OK	OK	OK	OK
Comp. *vara*	OK	OK	OK	OK
Comp. *bli*	OK	OK	OK	OK

There are a few exceptions to the forming of passive participles from transitive verbs, as in English (e.g. *kostar*-'cost'), but I will assume that there are

independent reasons for this and I will not discuss them further. Another important factor in passive usage for Swedish is that the *s*-passive competes with the passive in *bli*, and is strongly preferred in many contexts (Sundman 1987, Engdahl 2006). In general, though, verbs from all the four classes easily can be used attributively, and in the complement of both *vara* and *bli*.

Below I give the table for reflexive-marked verbs. Here, the table looks more like that for the unaccusative verbs, with one major difference i.e. there is no difference between Class 1 and Class 2.

TABLE 3: REFLEXIVE-MARKED VERBS

	1	2	3	4
Participle	*	*	OK	OK
Comp. *vara*	*	*	OK	OK
Comp. *bli*	*	*	*	OK

The restrictions on transitive verbs are thus different from those on intransitives. As pointed out at the beginning of the chapter, the existence of a ResP is necessary for forming a passive participle at all when it comes to intransitive verbs, but transitives form passive participles in all aspectual classes. A statement of this generalization in terms of argument structure roles does not seem to be possible (at least in Ramchand's terms), since we want the UNDERGOER of *chase* to count as an 'internal argument' from the point of view of passive participle formation, as well as the INITIATIOR-UNDERGOER-RESULTEE argument of *arrive*, but we need to exclude the INITIATOR-UNDERGOER argument of *run*.

In fact, the generalization seems better stated at the level of event structure than argument labels. In stating the pattern, I will make use of the notion of event transition as found in Ramchand (2008) who notes that the conditions on event transition are different for Init and Proc than for Proc and Res. I quote from Ramchand (2008) below.

> *Init-Proc Coherence:*
> Given a decomposition e1 → (e2 → e3), e1 may temporally overlap e2 .
> *Proc-Res Coherence:*
> Given a decomposition e1 → (e2 → e3), e3 must not temporally overlap e2 . (although they may share a transition point).
>
> Since *init* leads to *proc* and *proc* is extended, *init* may either be a conditioning state that preexists the process, that coexists with the process, or is a continu- ous initiation homomorphic with it

(see also Svenonius 2002). Since intuitively, something that is conceived of as a result state does not preexist the process, the result state must not temporally overlap *proc*. However, if they are temporally dependent, then they abutt, giving rise to a transition point which links the end of the process with the beginning of the result state.

The intuition I wish to pursue is that while Proc to ResP *always* gives rise to a transition, Init to ProcP does not since the sub-events in question sometimes overlap. I will further assume, although this is not claimed in Ramchand (2008), that Init and Proc subevents always overlap if they are coindexed. Proc and Res subevents on the other hand always give rise to a transition.

With this in hand, we can state the semantic condition on the successful formation of the *-de*-participle as follows.

(93) **Condition on -DE Participle Formation**
The *-de*-participle can only be formed if the event structure contains a post transition sub-event. The participle then denotes that post transition sub-event.

This semantic selectional requirement will allow *-de* to form participles from all dynamic transitive verbs whether they have Res or not (since there can be a transition between Init and ProcP). It will also allow *-de* to form participles from any verb with a Proc ResP transition regardless of coindexing, so all ResP unaccusatives will form the participle but no non-ResP intransitives will. Rather than treating this as a selectional frame or binding frame for *-de*, I hope that the conditions for passive participle formation will fall out from some deeper principles that govern argument structure and participle/adjective formation.

I will assume that the *-de* when it attaches to Init (the so-called 'eventive' participle) makes a participle that refers to the Init to Proc transition, while when *-de* attaches to Res it makes a participle that refers to the final transition (the target state participle).

Next, I wish to be specific about what the two copulas in Swedish select for. Recall that transitive participles are always good in the complement of *Bli* and *Vara*, giving the periphrastic eventive passive and the resultative passive respectively. Recall that most reflexive-marked verbs in the complement of *Bli* can never receive a reflexive reading unless they are open scale and give rise to gradable participles (class 4) (example repeated as (94)).

(94) Han blev fastkedjad
he BLI.PAST stuck-chain.DE
'He was chained' (eventive passive, no reflexive interpretation)

This means that *Bli* here can combine with a full initP, and cannot combine with a non-gradable resP. *Bli* can also combine, as we have seen, with adjectives and open scale gradable participles. Thus, there are three relevant contexts to bear in mind when we consider combination with *Bli*

(95) *Bli* + InitP (periphrastic passive)
* *Bli* + Non-gradable ResP
Bli + AP/Gradable ResP

This contrasts with *Vara*, as we have seen, since it does give rise to a reflexive interpretation for participles like *fastkedjad* above. The minimal contrast with (95), is given below in (96).

(96) Han är (fortfarande) fastkedjad
He is (still) stuck.chain.DE
'He is (still) chained' (Stative passive, he could have chained himself up)

This means that in addition to combining with InitP, *Vara* can also combine with non-gradable ResP participles. Therefore, the relevant subcategorization possibilites for *Vara* are shown below.

(97) *Vara* + InitP ('resultative' passive)
Vara + Non-gradable ResP ('stative passive)
Vara + AP/Gradable ResP

While both *Bli* and *Vara* combine with InitP, they do have somewhat different meanings, but I assume that this is a consequence of the aspectual difference between *Bli* and *Vara* and not because of the difference in the size of their complement.

While this much is consistent with my data patterns, there are still two unresolved gaps that remain to be accounted for. Firstly, why can't Class 2 verbs (which by hypothesis have a Res^0)surface as stative/target state participles while those of Class 3 can? Secondly, why do neither Class 2 and Class 3 participles appear under *Bli* when *Bli* can take initP participles in its complement (as seen from the transitive verbs) and both Class 2 and Class 3 can form initP participles (as seen in attributive position)? The final question concerns *Vara*: why can it combine with Class 3 participles but not Class 2 participles? I will attempt to answers these questions in the next section.

5.5 Analysis

5.5.1 Restrictions on stative/target state participles

In a system that allows under-attachment, a lexical item should always be able to surface in a syntactic structure where only a subset of the lexical item's features are present, unless there exists another lexical item with a smaller subset of features that has exactly the same encyclopedic content (the elsewhere principle). If we take all the verbs in Class 2 to actually carry a Res feature, we would expect them to form stative/target state participles, unless they are "blocked " by an item with less superfluous features. Note that this is not only true for intransitive verbs, but for all verbs that have a Res feature. I will claim that many verbal roots carry encyclopedic content that is strongly associated with a specific kind of process. They could very well be said to contain some kind of "manner" of process. Take for example the different ways of "dying". As we saw, the verb *dö* ('die') has a corresponding target state adjective/participle. while a verbs like *drunkna* ('drown') and *svälta ihjäl*('starve to death') don't. It's likely that the result of these verbs denotes something that is equivalent to "dead", i.e., the same concept that is associated with the verb *die*. The verb *drown* could in such case only be used if a projection that encodes the manner of leading to death is also present. In other words, an eventive component is necessarily present. Otherwise, the manner neutral 'dead' is used. It's likely that the resulting sub-event of verbs of change of location is something that is more accurately described by using a spatial PP or a particle, for example 'here', in the case of verbs like *arrive*, or 'down$_{state}$' in the case of verbs like *fall* and *sink* . For the verbs that form target state passives, no specific "manner" information is present. For example, you don't need to have any information of a previous event to determine whether a door is open or closed. The state itself is enough.

As was briefly mentioned in chapter 4, it seems reasonable to assume that double object verbs have some kind of possessional result sub-event, that encodes a possessive relation between the indirect object and the direct object (see e.g. Pesetsky 1995 and Ramchand 2008 for an analysis of this kind). We could therefore assume that we have stative/adjectival passive participles formed from double object-verbs. However, as was pointed out already by Wasow (1977), double object-participles usually have only very verbal properties. I think that absence of stative participles from double object-verbs also depends on these verbs encyclopedic orientation towards Init or Proc, More specifically, the result state probably only has the value of possession, and will be spelled out by either the possessive *-s* or a preposition.

One could possibly speculate that it is specified in the verbal lexical entries

which particular sub-event the encyclopedic content is associated with. I will for now assume that this rather is a pragmatic issue, though I don't see any problem in itself to state in the lexical entry that certain sub-events are more crucial than others for each individual verb.

We have also seen for the reflexive verbs that the word order in the active syntax gives a clue about whether a stative/target state participle can be formed, i.e., stative participles can only be formed if the particle precedes the reflexive.[30] I am not going to give any analysis of this curiosity, but leave it for the reader to work out a solution. This fact however strongly implies that the "target state" is somehow also syntactically encoded in the active sentences.[31]

5.6 Interaction with copulas/Phrasal blocking

In a system that combines late insertion with spell out of non-terminals, it is no longer so clear that we must confine blocking contexts to terminal nodes in the DM sense. In principle, once we keep lexical encyclopedic content fixed, competition should occur for the spell out of larger chunks of the functional sequence. This has been proposed earlier in the literature, and has been dubbed "Poser-blocking", in a recent article by Marantz and Embick (Marantz and Embick 2005) after the discussion in Poser (92) about blocking of analytic comparatives by synthetic comparatives in English. In this section I will argue that the distributional patterns of the unaccusative passive participles can be explained by "blocking".

We have seen in the case of these unaccusatives, that something that can occur in attributive position cannot surface in a predicative position. Other-

[30]There is a sub-group of reflexive particle verbs that I have left outside the discussion, where the reflexive precedes a particle, and a participle can still be formed that maintains the reflexive reading in very specific contexts. That is cases like *pressa sig upp (mot något)* ('press oneself up (against something)'). In my Swedish, the reflexive reading survives when the participle occurs under a posture verb, like 'he stood pressed up against the wall', but the reflexive reading is absent in the complement of a copula, or in attributive position. These cases also semantically differ from the typical stative participle, since in the reflexive interpretation it is entailed that the subject actually is an agent, or at least the source of some type of force (i.e., he actively presses himself against the wall). Further investigation into this class of reflexive particle verb might force me to re-think some of the things I've said about restrictions on participle formation.

[31]It has been pointed out by Kratzer (see also recent work by Christopher Piñon) that the verbs that have corresponding target state participles also have a clear target state structure in the active voice. She claims that it is possible to measure out the target state, as in e.g., 'he opened the door for 5 minutes' or 'he disappeared for five minutes'. In Swedish, there is no straightforward correlation between having a target state participle and allowing temporal modification of the resultant state.

wise, attributive usage and predicative usage are two properties that go hand in hand, as been pointed out by a number of researchers, e.g. Embick (2000), Iatridou et al. (2001) and Bhatt (2000).[32]

In some cases, it has been claimed that semantic factors are at play in explaining why typically temporal or modal adjectives like *former* and *alleged*, for example, cannot be used predicatively. On the other hand, this type of explanation is unlikely in the case of unaccusative participles since we don't expect that they should have any different modal/temporal properties from the participles formed from transitive verbs.

Instead, I would like to propose that certain expressions never surface because of phrasal blocking. The very simple story I want to tell is the following: *Vara/Bli* + InitP is blocked a full verbal form in the case of unaccusatives because they compete for spelling out of the same structure. Note that blocking does not occur with transitive verbs and *Vara/Bli* since the structures are *not* the same, and in particular the subject that surfaces is not the same in each case.

The syntactic theory I'm using now has four important ingredients: Late insertion, spell out of non-terminals, the superset principle and no distinction between functional and lexical items. These ingredients taken together can quite easily handle blocking of phrases by single words. Features are merged together in an order determined, presumably, by a functional sequence. At some point in the derivation, the tree is sent to PF where lexical insertion takes place. Here lexical items can lexicalize the functional features. Given the fact that one lexical item can lexicalize many features, if that is specified in the lexical entry of the item in question, and that lexical items can underattach, there will presumably be many ways to lexicalize one and the same set of features. The lexical items that spell out less superfluous features will be chosen.

[32]Bhatt (2000) gives the following summary of the properties of reduced relative clauses. All of them I take to be true, with exception for property number 4, i.e., that

1. The relativized element is always in the subject position.
2. The subject position does not receive case (from the relative clause).
3. the relativization is very local - only the matrix subject can be relativized.
4. the clausal structure that functions as a reduced relatives can appear as the complement of predicative *be* (cf. Embick 1997, Iatridou et al. 2001).
5. no complementizer is permitted.
6. no relative pronoun is permitted.

Quirky patterns for unaccusative participles have been found in other languages as well. First, it has been noted that unaccusative passive participles rarely go in predicative position (see discussion in Pesetsky 1995 and references therein). Further, patterns similar to the Swedish ones have been found in Hindi and other south asian languages, as I will briefly describe below. All data come from a manuscript by Rajesh Bhatt (Bhatt 2008). Hindi has basically two morphological classes of adjectives: one class that ends in *-aa*, which show an agreement pattern similar to participles, and one class of adjectives that do not end in *-aa*, which are indeclinable. The first class is the one that is relevant in the following discussion. Bhatt shows that this class consists of two subclasses: one class that are "deverbal", and one class that is "underived". The deverbal adjectives are identical to the perfect participle of the corresponding unaccusative verb. Adjectives in Hindi frequently combine with the light verbs/auxiliaries *ho* ("be, become") or *kar* to form what looks like complex verbs. *ho* gives an intransitive verb phrase, and *kar* gives a transitive verb phrase. However, the adjectives that are de-verbal can not combine with relevant light verbs/auxiliaries, as shown in the following examples (from Bhatt 2008), involving the deverbal adjective *suukhaa* ("dry") and the underived adjective *gillaa* ("wet").

- verbalization with *ho* 'be':

  (98) kapṛe giile/*suukhe ho gaye
  clothes.M wet.MPl/dry.MPl be GO.Pfv.MPl
  "The clothes became wet/*dry."

- blocked by unaccusative *suukh* 'dry':

  (99) kapṛ suukh gaye
  clothes.M dry GO.Pfv.MPl
  'The clothes became dry/dried.'

- verbalization with *kar* 'do':

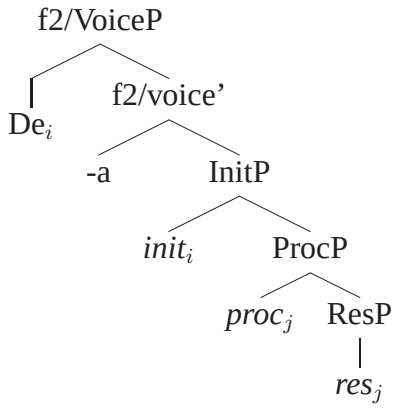
  (100) Atif-ne kapṛe giile/*suukhe kiye
  Atif-Erg clothes.M wet.MPl/*dry.MPl do.Pfv.MSg
  'Atif wetted/*dried the clothes.'

- blocked by transitive *sukh-aa* 'dry':

(101) Atif-ne kapṛe sukhaa-ye
Atif-Erg clothes.M dry$_{tr}$-Pfv.MPl
'Atif dried the clothes.'

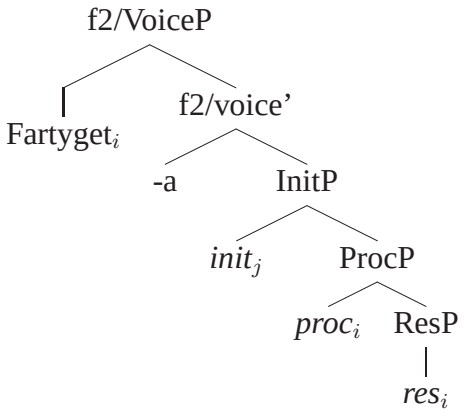
I will very briefly illustrate the different structures where blocking occurs or doesn't occur. I will be very vague about the architecture of the clause, and I will therefore only have the subject argument present in the trees.[33] First, compare the active transitive sentence in (102) with the corresponding passive sentence in (103). As clearly seen, these are different from each other, in that the subject argument carries the same index as Init in the active sentence, and as Proc in the passive sentence:

(102) De sänkte fartyget
They sank ship.DEF
'They sank the ship'



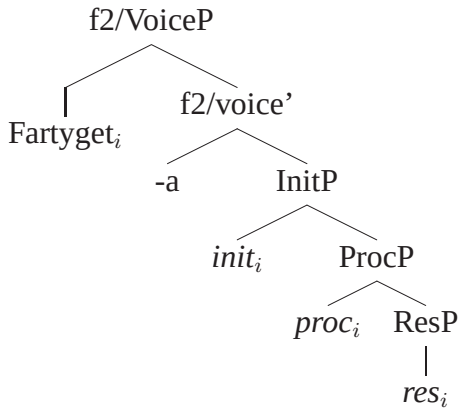
(103) Fartyget är/ blev sänkt
ship.DEF VARA.PRES/ BLI.PAST sunk$_{trans}$.DE
'The ship is/was sunk'

[33] I haven't been clear about when the arguments are actually introduced, though I think that my story is most compatible with a theory where arguments are introduced at a rather late stage, presumably when the verb-phrase is entirely built up. Given that bare DP objects are never introduced until the subject introduced, we would expect that the subject and the object are introduced at the same point.



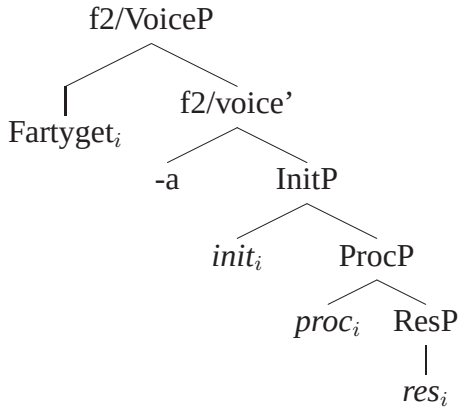
When it comes to the unaccusative verbs, we have seen that the "passive" version is ungrammatical, which we have taken to be a result of "blocking". Both the active and the passive version would be the spell-out of exactly the same underlying structure, i.e., the one depicted in the tree below, where the subject is co-indexed with all the sub-eventual heads in the first phase. A spell-out mechanism would chose the simpler form, presumably because it would spell out less superfluous features (if we take it that the copula presumably carries some extra features):

(104) Fartyget sjönk - *Fartyget är/ blev sjunket
ship.DEF sank.PAST - *Ship.DEF VARA.PRES/ BLI.PAST sink.DE
'The ship sank' - '*the ship is/was sunk'



Notice that if this scenario is correct, then the passive form is presumably entirely created at spell-out. When it comes to a verb that has a stative/target state participle, the eventive BLI-passive is ungrammatical too, because the eventive passive always contains the full vP. This is illustrated below (note that the tree below is identical to the one in (104))

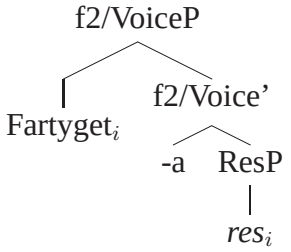
(105) Fartyget försvann - *Fartyget blev försvunnet
ship.DEF disappear.PAST - Ship BLI.PAST disappear.DE
'The ship disappeared - *The ship was disappeared



The target state passive is not blocked however, given that the process and

init sub-events are missing here.[34]

(106) Fartyget är (fortfarande) försvunnet
ship.DEF VARA.PRES (still) disappeared
'The ship is (still) gone'



5.7 Conclusion

Building mainly on the patterns of participles formed from unaccusative verbs, we have concluded that there are at least two types of passive participles in Swedish. We have also seen that unaccusative verbs form real "verbal" passive participles. They don't have the distribution of participles formed from transitive verbs, which we take to follow from restrictions on lexical insertion: a simple verbal form that can license a subject position by itself always block a periphrastic construction.

[34]It's likely that f2 is absent as well, given that the copula can be dropped when e.g. a raising verb like *seem* is present.

Chapter 6

The *nde*-participles and *nde*-nominals

6.1 Introduction

The suffix *-nde* has already been discussed in quite some detail throughout the dissertation. In this chapter I will try to explain some quirks mainly located in the nominal side of the infinitive+*nde* forms. As I have said so far, the suffix under discussion attaches to the infinitival, and it doesn't really care about thematic roles, and/or event structure. All verbs that have an infinitival are therefore predicted to have both a nominal and a participial *-nde*-form. This is however not true, as will become clear in this chapter. I will start this chapter going through some earlier proposals that unify different types of present participles and nominalizations. I then summarize quickly the findings so far in this dissertation, and present the final quirks, followed by a tentative solution. I will also look at the three types of participles that were introduced in chapter 2: verbal, adjectival and prepositional participles. As we will see, this division somehow mirrors the division of the passive participles made in previous chapter.

6.2 Unified accounts of *-nde*

As has been seen above, *-nde* in Swedish shares some properties with *-ing* in English. Most notably, both attach to something verbal, and turn it into something else - an adjective, a nominal or even a preposition. A couple of analyses have been put forth that try to give a unified account of the different types of *-ing* in English. First, a couple of researchers have tried to show that all the different *ing* 's are all progressive (Pustejovsky 1991, Borer 2005

etc.). In 3, we looked briefly at Thurén (2007), who proposed that even in Swedish, the different *-nde*'s are also progressive/imperfective. We showed that that could not be the correct analysis, given the fact that in a lot of cases, the output of verb + *-nde* is in fact something with a perfective or stative reading. In English, the situation seems to be like in Swedish, making the progressive/imperfective hypothesis hard to maintain:

(1) a. The very boring movie (prog?)
b. Only the people reaching the top got seriously ill (has a perfective reading)
c. the winning/losing team (has a perfective reading)
d. John('s) buying a new car really surprised his wife (perfective)
e. The wall surrounding the house was never torn down (state)

Another approach, which is more in line with this work, is presented in Milsark (1988). According to him, the suffix *-ing* has no semantic features. The following quotes summarizes his view: Milsark (1988:p. 614): "semantic intuitions are of no help here, as it is difficult or impossible to isolate a "meaning" for any type of *-ing* (...), let alone to describe some semantic relatedness (or lack of it) among them" . However, according to Milsark, there is still only one *-ing*, and it has the following properties: "it suffixes to verbs, and the resulting complex lexical item may be of any category" (Milsark 1988:p. 614).

My analysis is in many ways similar to Milsark's, though more restrictive. Milsark's analysis still misses a couple of crucial points, specially when it comes to what *-nde* /*-ing* can NOT do. Even though *-nde* in Swedish, and *ing* in English, are highly flexible, there are a couple of things that they systematically refuse to do. First, in the predicative domain, *-nde* cannot do what the passive participle is doing in most cases, i.e., predicate over the internal argument when the internal argument is not the subject of the active verb. In other words, *-nde* (and English *-ing*) doesn't have a passivizing function. In my analysis, this follows from the level of attachment of the different suffixes.

Another function/meaning that the *-nde* cannot carry is that of verb+*bar* ('able'), as in e.g. *kör-bar* ('drive-able'). *-Able*, just like *-ed*, has a passivizing function, and the absence of *-able*-readings could again be attributed to the fact that *-nde* attaches to high. This hypothesis is strengthened by the fact that the present participle actually can get an *-able*-interpretation in Icelandic and certain Norwegian dialects where there is no trace of any infinitival

morphology within the present participle.[1]

In conclusion, it seems like you need to state that *-nde* attaches to something of a particular structural size. More specifically, the whole argument structure of the verb phrase needs to be present. The absence of certain readings is due to the fact that other, morphologically simpler forms take care of them (for example *(n)ing* or *de*).

Looking at the nominal domain, the *-nde* -nominals are, as we have seen earlier, likely to give rise to readings that can be classified under the label "imperfective". As was shown in chapter 3, this is not necessary though, as there are readings of nominal *-nde* that could clearly be "perfective" (though it is very hard to say what it really means for a nominalization to carry any type of aspect). Admittedly though, the imperfective interpretations are more common, especially the iterative interpretation (as was pointed out already by Loman 1964). One way to capture this is by assuming that *-nde* is the only nominalizing suffix that can attach to something that carries some type of "outer"/vP-external aspect. Taking iterativity to be a kind of outer aspect, *-nde* is the only nominalizer that will easily allow the iterative reading. When no outer aspect is present in the nominalization, the morphologically simpler forms will take precedence (which follows from the elsewhere condition). This line of thinking could be a key to the understanding of why stative verbs after all are quite rare in nominalizations. Stative verbs are sub-eventually simplex, and they do not in general surface in many different aspects.

6.3 The already known restrictions

We have already seen that there are a couple of ways to divide the different types of infinitival+*nde* . First, we saw that there is one big, gerundive use of *-nde* , that we find in a range of constructions that we can informally label "small clauses". In these contexts, there is a syntactic subject present in some form. Slightly impressionistically we can represent the structure for the gerundive *-nde* as below. I will take it that there is some verbal/inflectional head present above the subject, that *-nde* attaches to:

(2) [-nde [X^0 [subj. [f2 [Init.....]]]]]

We saw in chapter 4 that these gerunds have the same properties as tenseless infinitives, i.e., they take accusative objects, post-verbal particles and simple

[1] Neither can the *-nde* be interpreted as an agent-nominalization (as in *driv-er*). It seems to be a general tendency that nominalizations that are used for referring to events aren't also used for denoting arguments.

reflexives. Like other types of tenseless infinitives, they cannot contain negation and auxiliaries. In short, only typical vP-verbs will surface in these *-nde* usages. We then have an upper limit for the *-nde*-suffix.

All the rest of the *-nde*'s I have claimed are subject-less. Like the bigger gerunds, they do not contain tense, auxiliaries or negation.[2]

We have further seen that simple reflexives are not licensed, if there is no syntactic subject present in the in the clause (i.e., a DP in Spec f2P)which follows if we assume that reflexive are merged just in a subject position, in style of Chierchia (2004). The merging of a reflexive in the subject position leads to a changing of the co-referentiality of the participants. I propose in short, that *-nde* attaches in the same slot where the syntactic subject would have been merged, i.e., where a predicational relationship between a subject and the verb phrase would have been established. This subject would mainly get its thematic properties from the verb phrase. I take it that it will somehow be associated with the topmost index of the vP. I will take it that referential indexes of the verb don't require to be "bound" by any argument. The only requirement is that if a subject is merged above, it will get associated with the highest index.

The merging of a subject is necessary for building up a tensed clause It is however not necessary in non-tensed contexts (most notably it is not necessary in nominalizations). The nominal and small participial *-nde* then correspond to the following structure:

(3) [-nde [f2 [init ...]]]

[2]Not only auxiliaries, but even verbs that in general take clausal complements usually resist *-nde*-nominals. Instead another form is often used for these verbs, namely *(a)n*, which looks like a reduced form of *-nde* . A couple of examples are given below (not exhaustive list):

(i) beundran, klagan, fruktan, önskan, längtan, förtvivlan, strävan, inbjudan,
Admiration, complaint, fear, wish, yearn, despair, strife, invitation,
ansökan, anmälan, påverkan, vädjan, förfrågan, väntan,
application, report, influence/affect, influence, appeal, asking,
förväntan, uppfostran
wait/expectation, upbringing/raising

I doubt that this suffix is still productive (there are other verbs with clausal complements that have zero-derived nominals). It is however tempting to see the *(a)n* form as reduced *-nde* , and connect the absence of the participial *-de* for the *(a)n* nominals to the absence of vP internal phi-bearing elements. Note also that the *-(a)n*-nominals have very strange nominal properties: most notably they can never take plural suffixes (and their interpretation is always singular), and they can never take the definite suffix, though they can receive both a definite and indefinite interpretation.

Given that *-nde* lives a double life, i.e., it gives rise to both nominals and participles/adjectives, we need to say something about this as well. In particular we should explain why this is true for *-nde* and not the other two suffixes under discussion. As was discussed in chapter 1, the typical morphological trait of a noun is that it has some kind of gender/noun class feature (see Ferrari 2005). An interpretable gender feature seems to be the morphological reflex of Baker (2003)'s referential index. Adjectives too show gender information, though always the gender value of the argument that it modifies (i.e., the referent where the property denoted by the adjective is located.)

I take it that a participial ending can always be merged where an argument can be merged. In other words, a participle ending is inserted instead of an argument. We would expect it to be possible to insert a participial ending on top of each sub-eventual head. As I proposed in last chapter, more restrictions are needed. More specifically, if two sub-events are temporally identical and involve the same participant(s), you cannot insert anything between them.[3]

The dual nature of the present participle could very well have it's source in the fact that it is impossible to morphologically determine whether the gender features belongs to the argument it abstracts over, or itself. This is due to the fact that present participles lack overt agreement, a fact that might have a deeper explanation, or just be a result of phonological restrictions.[4]

6.4 The nominal gaps

Many of the nominal and participial "gaps" for the *-nde*-forms are triggered by the lack of tense. In particular, ECM, object control and raising presumably all require tense (see Alexiadou 2001 for claims along this line). There are however other gaps in particular in the nominal domain where tense can't be blamed. I will claim that the event/argument structure of certain verbs isn't suitable for a noun (or a participle). We saw similar effects in the chapter on the passive participles: some verbs do not form passive participles at all, while other verbs form many different types of passive participle. The restriction on passive participle formation is determined by the lexical semantics of the verb (i.e., the features located in the verbal lexical entries). In short, certain verbs

[3]If two sub-events are temporally identical and argument structurally identical, it's admittedly weird to call them separate sub-events. The stipulation made above about restrictions on insertion of arguments/participial suffixes is solely triggered by the "templatic" take on event/argument structure.

[4]Note that there might be a deeper reason for the absence of agreement in present participles. It could be the case that external arguments in general never trigger agreement, as Swedish lacks subject agreement on verbs. A fact that supports this suggestion is the absence of agreement in comparatives, which plausibly also takes an "external" argument.

cannot surface as "adjectives" until the whole verb phrase is built up (i.e., some verbs have only present participles, and no passive participle). I will discuss three clear cases where the *nde* cannot get a nominal interpretation: (1) certain stative verbs (4a), object experiencer verbs (4b) and double object verbs (4c) (though the last case will only briefly be discussed):

(4) a. *kostymens passande av Johan
suit.DEF.GEN suit.INF.NDE of Johan
'*the suits suiting of John' (cf. The suit fits John)
b. *vattenfallets fascinerande av turisterna
waterfall.DEF.GEN fascinate.INF.NDE of tourists.DEF
'*the waterfalls fascinating of the tourists.'
c. *skänkandet (av) Johan (av) en massa pengar
give.INF.NDE.DEF (of) Johan (of) a lot money
'*the giving (of) John (of) a lot of money'

I showed in chapter 3 that there are no straightforward correlations between a particular aspectual value and the suffix *-nde* (in contrast to Thurén 2007), neither in the nominal domain, nor in the participial domain. The absence of certain nominal infinitive+*-nde* can therefore not be a the result of, say, an aspectual mismatch. The examples in (4) are therefore presumably not out because of "aspect".

Josefsson (1998) also observes that not all verbs have corresponding *-nde* nominalizations. She tries to capture the limits on *-nde* by giving the suffix the following binding frame.

Nominal *-ende/ande*

(5) +ande/ +ende$_{TH}$ [+/-Force, +/- Telic]<u>EV</u>

This means that *+ande/+ende* requires a host that has the features +/-Force and +/- Telic. Thus *ende/ande* should attach to all verbs, except for the stative ones. The underlined EV tells you that it will bind the host's event theta role, and the subscript TH tells you that the result will denote something of the category THING. In short, it tells you that it will attach to anything that has an event theta role and give rise to something of the category THING (which can later turn into a nominal). This will capture the fact that many stative verbs do not accept *+ande/ +ende*. This binding frame states clearly that *-nde* cannot attach to stative verbs, but as was shown in chapter 3, many true stative verbs actually do have *-nde*-nominalizations:

(6) a. denna plan förusätter existerandet av ett redan
this plan presupposes existence.DEF of an already
fungerande kommunikationsnät
function.INF.NDE communication-net
'This plan presupposes the existence of an already functioning communication network.'

b. statens ägende av vinstdrivande företag
state.DEF.POSS own.INF.NDE of profit.INF.NDE company.PL
ses inte som ett stort problem
see.PASS not as a big problem
'The state's owning profitable companies isn't seen as a big problem.'

c. Satan står för älskandet av självet
Satan stands for love.INF.NDE of self.DEF
'Satan represents the loving of the self.'

d. De såg inte hennes lidande.
they saw not her suffer.NDE
'They didn't see her suffering'

As noted earlier, stative verbs are somehow rarer than clearly eventive verbs in *-nde*-nominals (which seems to have independent explanations). The above examples are all completely grammatical however, which shows that there is no general ban on stative verbs in *-nde*-nominals. The examples in (4) are still bad however, and we have to we have to come up with an explanation for that. The explanation I will offer, is close in spirit to the explanation given in Abney (1987) (i.e. that "predication" is not allowed within nominals), though I will be a bit vague on the technical details.

I will take my starting point in the three different types of participles that were briefly introduced in chapter 2: Verbal participles, adjectival participles and prepositional participles. I will describe these groups one by one, and discuss their restrictions and their properties.

6.5 The different types of participles

I suggested in chapter 2 that there are three types of *-nde*-participles (not including the big gerund participles that contain a subject): verbal participles, prepositional participles and adjectival participles. These three groups seem to correspond to the three types of passive participles introduced in last chapter, as sketched below:

- **Verbal present participle ≈ eventive/resultative passive participle**
  These have clear event implication (i.e. they contain Init-Proc), and they disallow typical adjectival degree modifiers. They interact with the full verbal forms (i.e., they are "blocked" by full finite/infinitival verbs in certain contexts).

- **Prepositional present participle ≈ stative passive participles (1)**
  These are both stative. They further only take a very restricted set of degree modifiers (basically the same ones that the full verbs can take), and they interact with full verbal forms (i.e., they may be blocked in certain tensed contexts by full verbs).

- **Adjectival present participle ≈ (gradable) stative passive participle (2)**:
  These are both stative, and gradable just like underived adjectives. They do not interact with full verbal forms at all.

There is however a big difference between the present participles and the passive participles in the last two groups: a verb can only get a stative reading in the present participle form if it also has a stative reading as a full verb, while unambiguously eventive verbs can get stative readings in the passive participle (as in e.g. *the still broken window*). This is what we predict, given that the present participle always spell out a full verb phrase (InitP), while the passive participle spell out something that is smaller.

The division of the three types of participles further helps us in understanding the restriction on *-nde*-nominalizations. As it turns out, only the verbs that give rise to eventive participles have corresponding nominalizations in *-nde*, as illustrated in the table below:

TABLE 2: PREDICATIVE AND NON-PREDICATIVE INF+*-nde*

	inf+*-nde* 1	Inf+*-nde* 2	Inf+*-nde* 3
Participle	Verbal	Adjectival	Prepositional
Nominal	Event Nom.	*	*

Before trying to explain the pattern above, I will go through the three different types of participles systematically (as said above, the gerundive is excluded).

6.5.1 Verbal participles

The verbal participles are the ones that most commonly are seen in attributive position or after light/aspectual verbs like *komma* ('come') and *bli* ('become,

remain'). I have claimed that these participles don't assign accusative case to their internal argument, and particles appear prefixed rather than post-posed. Given that they do not assign accusative case, we mainly find different types of intransitive verb surfacing as "verbal" participles. It should be noted though that almost any transitive verb can either drop it's internal argument or realize it as a PP, which makes most "transitive" verbs available as verbal participles as well.[5] An example of object drop is given in (7a) [6] and an example of a PP object is given in (7b):[7]

(7) a. den skjutande mannen
the shoot.INF.NDE man.DEF
'the man who shot/was shooting'
b. mannen kom jagande ??(efter) henne
man.DEF came chasing after her
"The man came chasing after her"

Notice though that you don't get internal arguments surfacing as *av DP* ("genitive") , i.e., the form that internal arguments take in nominalizations. I have no good explanation for this, but it should be noted that adjectives in general don't mark their arguments with *av*, unless marking a cause/agent (as is seen in the passive participles as well). I will now only say that the genitive objects are only licensed in DP contexts, without giving any explanation.

Though internal arguments often can be eliminated, this is not true for reflexive objects, as has been pointed out at numerous occasions earlier in the dissertation (i.e., reflexive sentences need to be "reflexive marked"). I give a few more examples below:

[5] As discussed in chapter 4, internal arguments can also appear prefixed to the participle. This option doesn't seem to be available for the participles in the complements of light verbs. In attributive contexts, the argument incorporation is mainly available in generic contexts. This means that the incorporated noun gets a generic reference as well. The combination of present participle plus light verb doesn't work very well in generic contexts. If we assume that incorporation of internal arguments is only available if the noun has generic reference, we can explain the absence of incorporated objects in the light verb contexts.

[6] It's very hard to come up with verbs that absolutely prohibit the drop of an internal argument, especially in the pre-nominal present participial usage. With enough context, almost any object can be dropped, including objects of typical "causative" verbs.

[7] As has been pointed out earlier, certain speakers allow DP arguments of present participles in light verb constructions (see Thurén 2007). I find them highly marked. I have googled for the light verb *komma* with present participle complements, and found only a handful of DP objects, compared with hundreds of PP objects. You get clearly different results if you just google for the present participle, and thereby get the gerunds as well. Here DP objects are abundant.

(8) a. Mörkret sänkte sig
darkness sank(trans) REFL
'The darkness fell'
b. *Det sänkande mörkret
the sink.INF.NDE darkness
'The falling darkness'

(9) a. Fansen lugnade sig
fanPL.DEF calmed REFL
'The fans calmed down'
b. *De lugnande fansen
the calm.INF.NDE fans.DEF
'the fans calming down'

(10) a. Dörren öppnade sig
door.DEF opened REFL
"The door opened"
b. ?*den öppnande dörren
the open.INF.NDE door.DEF
'The opening door'

As far as I can tell, all the verbs that can surface as verbal *nde*-participles can also surface as *nde* -nominals. There are certain verbs that are more likely to surface as nominals than participles when suffixed with *-nde*. Verbs that are clearly transitive, and that only reluctantly drop their objects, will of course be more likely to turn up as nominals, given that there is a default case available for the internal argument there. (Transitive verbs can of course also turn up in big gerunds, with accusative objects).

There is basically only one group of verbs that *only* can turn up as nominals, and that is non-transitive verbs, i.e., weather-verbs. This is intuitively obvious, and if we take it to be the case that adjectives/participles denote properties that need to be located in an individual (in the sense of Chierchia and Turner 1988), we have problems finding any individual in which to locate weather phenomena. Still, weather-verbs require dummy subjects, so it's not obvious why the dummy subject couldn't behave like other subjects in the context of present participles.[8] Weather-verbs are bad in the complement of light/aspectual verbs as well. as shown in (11), where a weather-verb is contrasted with a stative, non-intentional verb:

[8]See discussion about different types of expletive/dummy subjects in Pesetsky (1995). Weather *it* clearly has some referential properties - most notably it can control, as in *after* PRO_i *snowing for two days* it_i *started to rain*. This is true for Swedish as well. as can be seen in certain infinitival adjuncts. Thanks to Peter Svenonius for pointing this out to me!

(11) a. *Det blev regnande i flera dagar
It BLI.PAST rain.INF.NDE in several days
int. 'It kept/was raining for several days'
b. Boken blev liggande på bordet i flera dagar
bookDEF BLI.PAST lie.INF.NDE on table.DEF in several days
'The book remained on the the table for several days'

We can take this to mean that the dummy subject of weather verbs is introduced higher than other subjects. We see here a clear example of the relation between argument structure and lexical/syntactic category - verbs without arguments cannot surface as adjectives/participles once the full verb phrase is built up.

"Blocking" II

As mentioned earlier in the dissertation, most present participles cannot be used in the complement of the stative copula *vara*. In the last chapter I claimed that the distributional patterns of passive participles formed from unaccusative verbs can only be understood if we take blocking into consideration. More specifically I claimed that full verbal forms, i.e. forms that by themselves license a predicational relationship between the verb-phrase and the subject, always block a periphrastic form, where the content of the verb-phrase is expressed by a participle and the element establishing the predicational relationship between the subject and the verb-phrase is spelled out by a copula. The blocking only arises for the passive participles when the underlying verb is unaccusative, i.e., when the subject originates in the lower part of the verb-phrase (and thereby carries typical "object" traits). For the present participle, this same blocking effect is presumably seen for basically all verbs.

I will in the discussion below only focus on mono-transitive verbs, since the distribution of present participles formed from transitive verbs is complicated by factors involving object-drop. Below the pattern is shown for a range of mono-transitive verbs, ranging from unergative/agentive to unaccusative/non-agentive:

(12) a. den springande mannen - *mannen är springande
the running man - the man is running
b. det sovande barnet - *barnet är sovande
the sleeping child - the child is sleeping
c. den rostande bilen - *bilen är rostande
the rusting car - *the car is rusting
d. de existerande hoten - *dessa hot är existerande
the existing threats - these threats are existing

e. den blinkande lampan - *lampan är blinkande
the blinking lamp - the lamp is blinking
f. det fallande regnet - *regnet är fallande
the falling rain - *the rain is falling
g. de försvinnande molnen - *molnen är försvinnande
the disappering clouds - the clouds are disappearing

In Swedish, in contrast to English, the simple present tense can get an ongoing, progressive interpretaion, as shown below:

(13) a. mannen springer mot huset
the man runs towards the house (‘the man is running towards the house’)
b. Barnet sover
The child sleeps (‘the child is sleeping’)
c. Bilen rostar
The car rusts (‘the car is rusting’)
d. lampan blinkar
The lamp blinks (‘the lamp is blinking’)
e. regnet faller
The rain falls (‘the rain is falling’)
f. molnen försvinner
The clouds disappear (‘the clouds are disappearing’)

It’s hard or impossible to blame the absence of present participles in predicative position on the nature of the Swedish copula *vara*. On could potentially object that *vara* could not take a complement that denoted an activity. This, as we have seen earlier, is not true, since passive participles of activity verbs can occur in the complement of *vara* with a non-stative reading, as shown below:

(14) a. Jag är jagad av en hund
I am chase.DE by a dog
‘I am (being) chased by a dog’
b. Han är bevakad av polisen
He is watch.DE by police.DEF
‘He is (being) watched by the police’

Secondly, stative present participles are equally bad in complement of *vara*, as is illustrated below for both a intransitive and a transitive verb:

(15) a. *Staten är ägande huset
‘the state is owning the house’

b. *Spöken är inte existerande
'Ghosts are not existing'

English, in contrast to Swedish and many other languages, has constructions with present participles in the complement of a stative copula, i.e. the progressive. Again, in contrast to Swedish, the simple present tense cannot give rise to an ongoing interpretation (this holds more or less for the simple past tense as well). In fact, a standard test for differentiating stative from non-stative verbs in English is to test if they can appear in the progressive. Stative verbs cannot do this, though, as far as I'm aware, no one has given a really convincing explanation for this. As was discussed above, It has been claimed that the suffix *-ing* in itself has an aspect value, "progressive" or "ongoing". However, just as in Swedish, stative verbs easily combine with *ing*, especially when used attributively, as shown below:

(16) a. the existing problems
b. the wall surrounding the castle (was never torn down)
c. an insurance covering all types of theft
d. The guy owning this newspaper (is the richest guy in The States)

These verbs, being stative, cannot appear in the complement of *be* as participles:

(17) a. *These problems are still existing (OK These problems still exist)
b. *This wall is surrounding the castle (OK This wall surrounds the castle)
c. *This insurance is covering all types of theft (OK This insurance covers all types of theft)
d. *He is owning the newspaper (OK He owns the newspaper)

Here again, there is not likely that this pattern can be explained by just taking the selectional restrictions of the copula into consideration. We know very well that the copula *be* happily combines with stative adjectives and passive participles. Just like Swedish, we can very well assume that the periphrastic forms in (17) are blocked by their simple counterparts (given in parenthesis above). The difference between Swedish and English is only that the simple tenses can give rise to episodic, ongoing readings in Swedish, while this is not possible in English. The blocking kicks in only for stative verbs in English however, since this is the only time a simple verb appear in the simple present tense (excluding generic and habitual interpretations).

6.5.2 Prepositional participles

There is a group of present participles that easily license a DP internal argument, without at the same time containing a syntactic subject. I have labelled this group "prepositional" participles, since they denote a stative, often spatial relation between two objects, in a way similar to prepositions. And just like prepositions, these verbs take a DP internal argument. A couple of examples of them are given in (18)

(18) a. Produkten har en sockerhalt passande en välbalanserad
product.DEF has a sugar-level suit.INF.NDE a well-balanced
diet
diet
'The product has a low sugar-level suiting a well-balanced diet'

b. Alla brev innehållande fula ord kommer att
all letters contain.INF.NDE dirty words will to
slängas
throw.PASS
'All letters containing dirty words will be thrown away'

c. en väska liknande den som jag precis hade tappat
a bag resemble.INF.NDE that which I just had lost
låg på sätet bredvid mig.
lay on seat.DEF next-to me
'A bag resembling the one I just had lost lay on the seat next to me.'

d. en bild föreställande en man och en kvinna
a picture depict.INF.NDE a man and a woman
'A picture depicting a man and a woman'

e. En utbildning motsvarande en doktorsexamen
an education correspond.INF.NDE a doctor.exam
'An education corresponding to a Phd'

These participles differ from other present participles in Swedish in that they easily occur as postnominal modifiers, assigning structural case to their complement (as seen in the examples above). Other types of verbs do not naturally do so, as exemplified in (19) below.

(19) a. ??en man drickande en öl satt i ena hörnet
a man drink.INF.DEF a beer sat in one corner.DEF
'A man drinking a beer sat in a corner.' (activity/accomplishment)

b. *Jag känner ingen man hatande sin fru
I know no man hate.INF.NDE self.POSS wife
'I know no man hating his wife (state)'
c. *Kvinnan dansande med Johan är min syster
woman.DEF dance.INF.NDE with Johan is my sister
'The woman dancing with John is my sister' (activity)

The big gerundive participles can only very restrictively be used ad-nominally, and they still keep their small clause properties then. When they are OK, they are usually preceded by a short pause. There is no pause preceding the participial postnominal modifiers in (18). In that sense, they look like postnominal PP's, like the ones in (20):

(20) Boken på bordet är röd
book.DEF on table.DEF is red
'The book on the table is red.'

Further, the prepositional participles can take a complex reflexives in complement position where the reflexive is not bound by the external argument of the participle, but rather the clausal subject, as shown in (21a) and (22b). This is not possible when the participle phrase is replaced by a full relative clause, given that reflexives are clause-bound in Swedish, as shown in the (b)-examples. It doesn't seem possible to have long-distance binding in ECM-contexts either, though it's hard to come up with examples where examples that are semantically appropriate (the ECM-examples in (21c) and (22c) might be ruled out by other factors than binding).

(21) a. De$_i$ hade bilder föreställande sig$_i$ själva på väggen
they had pictures depict.INF.NDE REFL selves on wall.DEF
'They had pictures depicting/of himself on the wall'
b. *De$_i$ hade bilder som föreställde sig$_i$ själva på väggen
they had pictures that depicted REFL selves on wall.DEF
int. 'They had pictures that depicted themselves on the wall'
c. *De$_i$ lät bilden föreställa sig$_i$ själva som unga
they let picture depict.INF REFL selfes as young
int. 'they let the picture depict themselves in their youth'

(22) a. (?)Han$_i$ skickade ett paket innehållande sig$_i$ själv till
he sent a package contain.INF.NDE REFL self to
sin flickvän
REFL.POSS girlfriend
'He sent a package containing himself to his girlfriend'

b. *Han$_i$ skickade ett paket som innehöll sig$_i$ själv till
he sent a package that contained REFL self to
sin flickvän
REFL.POSS girlfriend
int. 'He sent a package that contained himself to his girlfriend'

c. *Han$_i$ lät paketet innehålla sig$_i$ själv
he let package.DEF contain.INF REFL self
int. 'He let the package contain himself'

In gerunds, a reflexive object would always be bound by subject of the gerund (which most likely is a PRO that is controlled by the subject of the matrix clause), just like a reflexive in an infinitival will be bound by the subject of that infinitival. I think that we can safely conclude that there is no syntactic subject in the prepositional participles under discussion. Note that prepositions in general can take reflexive internal/ground arguments that are not bound by the external/figure argument, but rather by the subject of the clause (in most contexts it wouldn't make any sense for a figure and ground argument to be co-referent) :

(23) Han$_i$ placerade boken$_j$ 10 centimeter framför sig$_{i,*j}$
he placed book.DEF 10 centimeters front.for REFL
'He put the book 10 centimeters in front of himself'

The analysis of these types of participles as "prepositional" supports the claim made by Hale and Keyser (2002) that certain types of stative verbs are "tensed prepositions". In non-tensed environments, i.e. in participial environments, they are predicted to behave just like prepositions.

Note that not all stative transitive verbs form prepositional participles. A participle only seems to get the prepositional properties if the verb denotes a stative relationship between two inanimate, or at least non-intentional or mentally non-active participants. Subject experiencer verbs and objects experiencer verbs do therefore not form prepositional participles, as shown below:[9]

[9]The verb *äga* ('own') patterns like the subject oriented psych verbs in my Swedish. The semantically similar but syntactically reversed verb *tillhöra* ('belong to') patterns with the prepositional verbs. One could speculate that all verbs that form prepositional participles take a figure subject and a ground object (like *tillhöra*, but not *äga*, where the figure-ground relation is reversed, at least if one follows Freeze 1992). There are however prepositional participles formed from verbs like *innehålla* ('contain') that presumably have a reversed figure-ground relation. Another plausible but incorrect hypothesis is that only verbs that contain an overt preposition can form prepositional participles. There are however morphologically simple verbs like *täcka* ('cover') and *passa* ('suit') that form prepositional participles.

(24) a. *Vi behöver en kille gillande Steely Dan till vårt lag
we need a guy like.INF.NDE Steely Dan to our team
int. 'We need a guy that likes Steely Dan in our team'
b. *Han har många dockor fascinerande barnen.
he has many dolls fascinate.INF.NDE kids.DEF
int. 'He has many dolls that fascinate the kids'

Subject experiencer verbs form participles that seem to behave just like verbal eventive participles, and object experiencer verbs systematically form adjectival present participles, as we will see in the next section.

Most of the verbs that form prepositional present participles have another property that separates them from all other transitive verbs: they cannot be passivized (holds for English too, as shown and discussed in length in Postal 2008):

(25) a. *Kostymen passas av Johan
suit.DEF suit.PRES.PASS of Johan
'*The suit is suited by John.'
b. *Nötter innehålls av glassen
Nuts contain.PRES.PASS of icecream.DEF
'*Nuts are contained by the ice cream.'

This would seem to indicate that the direct object of these verbs does not actually bear structural accusative case. Some of the typical "prepositional" verbs do however passivize, for example the stative usage of *täcka* ('cover') and *motsvara* ('correspond to'), so the absence of passives for many of these verbs is probably not directly related to case.

The prepositional participles consistently lack corresponding *-nde*-nominalizations, as is shown below:

(26) a. *kostymens passande av Johan
suit.DEF.GEN suit.INF.NDE of Johan
'*the suits suiting of John' (cf. The suit fits John)
b. *burkens innehållande av sylt
jar.DEF.GEN contain.INF.NDE of jam
'*the jars containment of jam.' (cf. The jar contains jam)
c. *min nya bils liknande av min gamla
my new car.GEN resemble.INF.NDE of my old
'*my new car's resembling of my old one.' (cf. My new car resembles my old one)

d. *utbildningens motsvarande av en doktorsexamen
educationDEF.POSS correspondINF.NDE of a doctor.exam
'*The educations corresponding of a Phd.' (cf. This education corresponds to a Phd.)

This group shows behavior that is completely opposite to that of the weather-verbs, i.e., the verbs that only had a nominal outcome when they are suffixed with *-nde*. In the final section of this chapter, and in the concluding part of the dissertation, will return to the relation between a verbs argument/event structure and the limits on it's *-nde*-form.

The prepositional participles can't occur in predicative position either, just like the verbal participles. True PP's can however turn up in complement position of copulas:[10]:

(27) a. *Glassen är innehållande nötter
Icecream.DEF is contain.INF.NDE nuts
'*The ice cream is containing nuts.'
b. Nycklarna är på bordet
keys.DEF are on table.DEF
'The keys are on the table.'

I suggest that the prepositional participles are blocked by simple verbs, just like the verbal present participles are blocked by simple verbs, and unaccusative passive participles are blocked by simple verbs. I suggested in the beginning of this chapter that the prepositional present participles are in many ways similar to the the target state participles that cannot occur in the complement of *bli* (i.e., the less gradable ones). I claim that both of them establish some kind of predicational relation already in ResP. In the prepositional participles, a stative relation between two entities is established already in ResP, and the two upper first phase phrases provide no extra information. Note that many of the verbs that form prepositional participles have causative/eventive counterparts, for example *cover* in *the snow covered the ground - we covered the ground with snow* . This never happens for the stative verbs that don't have prepositional participles (except for the ones that have adjectival participles, as will be returned to soon).

The target state participles formed from unaccusative verbs are, as we saw in last chapter, licit in the complement of *vara* , which the prepositional present participles aren't. This difference is however predicted, since the prepositional verbs are stative both when they surface as full verbs and when

[10]It should be noted that the copulas in Swedish are not usually used as locational verbs. More standardly we use posture verbs. In contexts where the subject is either animate or definite, the copulas can marginally be used.

they surface as present participles. The target state participles will have completely different properties when they surface in the complement of a stative copula. No blocking will therefore take place in that context. The blocking will only take place when an eventive reading is forced on the participle by the change of state copula *bli*.

Summing up, prepositional participles have the following properties: (1) They take a direct object; (2) they can be used as reduced relative clauses and (3) they cannot be used in the complement of *vara*.[11]

6.5.3 Adjectival participles

As noted by Brekke (1988) and Bennis (2004), object oriented psych-verbs systematically form adjectival present participles. More specifically, object oriented psych verbs are the only definable verb group that productively form adjectival present participles. The adjectival present participles differ from the verbal and prepositional participles in the following respects: (i) they can appear in the complement of a copula, (ii) they are gradable and (iii) they cannot case-license an internal argument. This is examplified in (28):

(28) Den här boken är väldigt fascinerande (*mig)
this here book.DEF is very fascinate.INF.NDE (*me)
'This book is very fascinating.'

Some examples of adjectival present participles are given below.

(29) *fascinerande*-'fascinating', *skrämmande*-'frightening', *störande*-'disturbing', *rörande*-'moving/touching', *tilltalande*-'appealing', *oroande*-'worrying', *roande*-'amusing', *stimulerande*-'stimulating', *imponerande*-'impressive', *upprörande*-'revolting', *sårande*-'hurtfull', *uppmuntrande*-'encouraging', *irriterande* - 'irriterande' etc.

[11] I have in this section ignored a specific construction where even eventive participles accept DP complements in something that looks like an ad-nominal use. That happens most naturally in "frozen events", (i.e., a stative slice of a dynamic event), as shown below (example from internet):

(i) En karikatyr som föreställer Ariel Sharon **ätande** ett palestinskt barn
A caricature that represents Ariel Sharon eating a palestinian child

This usage is most common in "names of paintings" etc, as in *man eating an apple, woman dancing barefoot* etc.. This might just be a frozen construction. Alternatively, one could hypothesize that DP object of present participles are fine in all stative contexts. The behavior of the stative psych-verbs however tells us that this probably isn't the case.

There are other adjectival present participles that are not formed from object oriented psych-verbs. In general, stative verbs that have inanimate external arguments quite commonly have adjectival participles, as long as there is no internal argument, or the internal argument easily can be dropped:

(30) a. *(o)sammanhängande*-'incoherent'
b. *illa-smakande*-'bad-tasting',*illa-luktande*-'bad-smelling'

All the adjectival present participles mentioned above are completely semantically transparent, so I take them to not be just stored idioms. This is particularly clear for the object oriented psych-verbs. There are probably also adjectival present participles that simply are stored as separate lexical items, without any direct relation to a verb. Some examples of this are *stråL-ande* ('brilliant'), *ras-ande* ('furious'), *skrattretande* ('laughable' literally "laugh-teasing") etc.. In these cases, the meaning of the participle has started to slide away from the standard meaning of the verb. There are also a handful of adjectival participles that have a prefixed/incorporated "self", like *självförsörjande* ('self-supporting'), which I take to be all lexicalized as well (though alternative analyses could be possible). The lexicalized participles all show the typical "adjectival" behavior, i.e., they can always occur in the complement of a copula, and they can never license a DP complement.

Just like the prepositional participles, the verbs/verbal configurations that give rise to adjectival present participles systematically refuse to form *-nde*-nominalizations. English shows the same restriction as Swedish here as well (see Pesetsky 1995 for discussion) as shown below:

(31) a. *vattenfallets fascinerande av turisterna
waterfall.DEF.GEN fascinate.INF.NDE of turists.DEF
'*the waterfalls fascinating of the tourists.'
b. *oljudets störande av eleverna
noise.DEF.GEN disturb.INF.NDE of students.DEF
'*The noise's disturbing of the students.'
c. *jordbävningens skrämmande av befolkningen
earthquake.DEF.GEN frighten.INF.NDE of population.DEF
'*the earthquake's frightening of the inhabitants.'

Many object oriented psych-verbs can also get a non-psych reading when the external argument is animate/intentional, as shown below:

(32) a. Han störde medvetet de andra eleverna
he disturbed deliberately the other students.DEF
'He deliberately disturbed the other students'

b. Han försökte skrämma barnen
He tried frighten.INF children.DEF
'He tried to frighten the kids.'

As shown below, nominalizations are grammatical with the agentive reading versions of these verbs (see discussion in Pesetsky 1995 and Arad 1998 on the variable behavior of psych-verbs):

(33) a. hans/*oljudets/*hans attityds störande av
his/*noise.DEF.GEN/*his attitude.GEN disturb.INF.NDE of
eleverna
students.DEF
'his/*the noise's/*his attitude's disturbing of the students.'

b. störandet av eleverna
disturb.INF.NDE of students.DEF
'the disturbing of the student.' (only implicit animate, agentive subject)

Notice that only the agentive reading is possible in (33b), which shows that it's not just a limit on non-animate referents in the possessor position. Rather, a stative psych-relation cannot be expressed as a nominal.

I suggest that the argument structure for both the object oriented psych verbs and the stative verbs discussed above is fully realized in the ResP. The ProcP and InitP are basically vacuous in both cases. Just like the stative prepositional verbs, the object psych-verbs can be causativized, which I take as an indication that the state in object psych verbs structurally correspond to a ResP, rather than an InitP. When it comes to subject experiencer-verbs, it's instead likely that the state structurally correspond to InitP, which makes them hard or impossible to causativize.

6.6 Speculations about the relationship between category and argument structure

We have in this chapter seen two examples of verbal structures that cannot be nominalized, and one example of a verbal structure that cannot be turned into a participle/adjective. I would like to collapse the two first cases. I will claim that in these cases, both the arguments originate within ResP, and no transition is present above Res (it's possible that the ProcP simply is missing in these cases). For some reason, a structure like this cannot surface as a

nominal. Instead, it has to surface as a predicable individual. We don't really now why this is. If one takes nominal features to be freely available, i.e., that they can be merged on top of any structure and turn it into a nominal category, the correlation between argument/event structure is highly surprising. I suggested in the introduction chapter, that the nominalizing suffixes only provided an interpretable gender feature to something that somehow already is "nominal". I will have to remain vague about what "nominal" really means here. Apparently, there are certain structures that cannot by themselves denote something, but that rather has to be located in another entity. It is possible, that this is not only a structural issue, but also that the encyclopedic content plays a role. Though, given that the verbs that cannot form *nde*-nominals belong to well-defined verbal classes, it's likely that this actually is a structural issue.

One could hypothesize that some verbal concepts simply require a specifier at the attachment site of the *-nde*-suffix. In such case, the limits on nominalizations from certain verbs could follow from what Baker (2005) call the Reference-Predication Constraint:

(34) The Reference-Predication Constraint (RPC):
No syntactic node can have both a specifier and a referential index.

This constraint, says basically that no item can be a Noun and a Verb at the same time, if one follows Baker's definition of lexical categories. The patterns we have looked at above doesn't really concern the opposition between noun and verb, but rather noun and adjective(/preposition). It's not clear if Baker's constraint can carry over to the cases I'm discussing here. Intuitively, it seems though like the obligatory presence of an external argument makes merger of interpretable gender features impossible. What is further striking, is that verbs without arguments (i.e., non-transitive verbs) only form nouns. This strengthens some of the claims made by Hale and Keyser (2002), which will be further discussed in the closing chapter.

Chapter 7

(N)ing

7.1 Selectional Restrictions on *(n)ing*

As was mentioned in the chapter 2, *-(n)ing* is more frequently used as a nominalizing suffix than *-nde*, though it has more restrictions on what verbs it can attach to. Exactly what the restrictions are is a lot harder to capture, as will be clear in this section. I will argue that *-(n)ing* can reify any head in verb phrasal spine, and thereby give rise to different readings - most notably result nominals, simple event nominals (as I will refer to as "event-naming") and more complex nominals. It's not obvious that *(n)ing*-nominalscan have all the properties of what Grimshaw (1990) calls Complex Event Nominals. In particular, *(n)ing* -nominals (at least in my Swedish) aren't easily modified with iterative inducing modifiers like *konstant* or *ständig* (both meaning "constant") in the singular, unless the interpretation is that of an ongoing event, that never seems to stop . This follows from the fact that the *(n)ing*-nominals do not contain any vP-external material, like (outer) aspect. Some type of outer aspect is required for giving the iterative interpretation. Despite the lack of iterative interpretations of *(n)ing* -nominals, there are reason to suspect that *(n)ing* can trigger at least two kinds of event-denoting interpretations.

The two main questions for this chapter are given below:

1. The meaning of the *(n)ing*-nominalizations: Is there more than one *(n)ing*-nominal?

2. The restrictions on *-(n)ing*: How can we capture what seems to be the slightly defective distribution of *-(n)ing*?

As was mentioned in the chapter 2, previous studies of Swedish nominalizations have suggested that *-(n)ing* is more likely to go with transitive verbs

than intransitive verbs (Loman 1964). This is captured in Josefsson (1998) by assigning a binding frame to the nominalizing suffixes. I will take her binding frames as a starting point both for the discussion of *-(n)ing* , and argue that while her binding frame give a fairly accurate description of the semantic selectional restrictions of *-(n)ing*, they still aren't enough, and counterexamples are too frequent for maintaining the binding frames. In general, the notion of binding frames is probably not compatible with certain theoretical assumptions made in this dissertation. Josefsson gives the following frame for *-(n)ing* :

(1) +ing/ ning $_{TH}$ [+Force, +Telic]EV

The binding frame for *-(n)ing* is similar to that of *-nde* , as was seen in last chapter, with the addition that *(n)ing* requires its host to be +Force and +Telic. Problems with this generalization will be discussed below. By comparing the properties of *-(n)ing* and *-nde* , we straightforwardly get the prediction that all predicates with the features +Force and +Telic will have both *(n)ing* and *nde* nominals, and further that the *(n)ing* nominal and the *nde-* nominal will mean the same in these cases. The first prediction is verified, but not the second.[1]

My claim is that you need more than just a binding frame to get the distribution on *-(n)ing* to fall out, or something completely different. I will first give a list of different verb classes in Swedish, to investigate the extent to which there are important selectional restrictions for the use and interpretation of *-(n)ing* related to the aktionsart and argument structure of the root. I will show that while there are plausibly a number of necessary conditions for the application of *-(n)ing*, this is not enough to account for all of the gaps in its distribution. The most conclusive evidence comes from unergative verbs and transitive verbs, where often very closely related verbs show different behavior with respect to nominalizations.

An important the key for understanding the distribution of and meaning ranges of verb+*(n)ing* is acknowledging that other, morphologically simpler forms, compete for the same "slots" as the *(n)ing*-nominals. The superset principle combined with an elsewhere condition, as formulated in chapter 1, correctly predicts that the forms with less features will always win over the more complex forms.

[1] Josefsson notes that *-(n)ing* and *-nde* with the same verbal base sometimes differ in interpretation. She suggests that the different readings might be triggered by different aspectual values of the morphemes.

7.1.1 Verb classes

Below I will show that certain types of intransitive verbs, i.e. the unergative verbs, quite frequently form *(n)ing*-nominalizations. Many transitive verbs do so as well. Unaccusative verbs and all types of stative verbs have a harder time forming *(n)ing*-nominalizations. The judgments are often very tricky, and there's a huge idiolectal variation. In my initial study of Swedish nominalizations, I found that among half of the verbs I investigated (800 in total) freely allowed *(n)ing*-nominalizations, while another fourth of them only very rarely or in specific contexts did so. The remaining fourth never took *-(n)ing* at all. I will show that the correspondence between verb-classes and formation of *-(n)ing* nominals is weaker than one might initially expect. A whole lot of the irregularity can be explained with the help of "blocking" of simpler forms. There remains quite a lot of unexplained exceptions in the end though. An attempt to straighten the quirks out will end the chapter.

Below, I will examine verb classes one by one, according to argument structure and event structure properties, to see whether *(n)ing* nominals select for a particular subclass in this domain. After that, I will look at potential differences in meaning in various *(n)ing* -nominals

Unergative verbs

There are a lot of different types of unergative verbs. Here I will use "unergative verbs" as a cover term for mono-argumental verbs that cannot form passive participles.

First, typical activity verbs usually have *(n)ing*-nominals, as shown below:

(2) *vandring*-'wandering/hiking', *cykling*-'biking', *joggning*-'jogging', *löpning*-'running', *simning*-'swimming', *klättring*-'climbing', *bilkörning*-'car-driving', *hoppning*-'jumping', *ridning*-'riding', *matlagning*-'(food)-cooking', *segling*-'sailing', *bowling*-'bowling'

There are however certain activity verbs that are harder to nominalize with *(n)ing*[2]:

(3) *??dans-ning*-'dancing', *??sjung-ning*-'singing'

These both have potentially event-denoting zero-derived nominals:

(4) *dans* - 'dance', *sång* - 'song'

[2]One can find examples of *dans-ning* and *sjung-ning* on Google, though they are very rare. In Språkbankens press corpus, they are absent, while the nominalizations in (2) give around 100 hits each.

In short I will take it that the activity verbs do surface in *(n)ing* -nominalizations, unless they are blocked by a simpler form.

Another type of unergative consists of (different types of) sound emission verbs. Here as well, some verbs have *(n)ing*-forms, while others don't:

(5) a. *visk-ning*-'whispering', *fniss-ning*-'giggling'
b. **rop-ning*-'shout-ing', **skratt-ning*-'laugh-ing'

Here again, there is a correlation between the availability of zero-derived nominals and *(n)ing*-nominals. Most verbs that refer to some way of making sound have corresponding zero-derived nominals. In case of (5), both the examples in (a) and (b) have zero-derived nominals, though they differ in status. The zero-derived nominals *visk* and *fniss* are most naturally used just onomatopoetically (very cartoonish), though they can sometimes be used as mass-nouns as well, like:

(6) a. (?) Bara visket från dubbdäcken hördes
only whisper.DEF from spiketires.DEF heardPAST.PASS
'Only the whisper form the spike tires was heard'
b. Fnisset hördes genom korridoren
giggle.DEF heard.PAST.PASS through corridor.DEF
'The giggle was heard through the corridor'

The *(n)ing*-nominals formed from these verbs are however count nouns. The same is true for the zero-derived nouns *rop* ('shout') and *skratt* ('laugh'), though they can plausibly be interpreted as mass-nouns as well, though this is hard to say given that they are neuter nouns, and therefore don't show any plural inflection. Mass and plural nouns are hard or impossible to tell apart from this type of noun.

In short, all sound-emission/sound-making verbs form (mass-denoting) *(n)ing* -nominals, except for the verbs that have count-denoting zero-derived nominals.

Unaccusative verbs

Unaccusative verbs in general do not take *(n)ing*, as shown below:

(7) **fall-ning*-'fall-ing', *??sjunk-ning*-'sink-ing', **dö-ning*-'die-ing', **försvinning*-'disappearing', **inträff-ning*-'occur-ing', **avlid-ning*-decease-ing', **(ned)brinn-ing*-'down-burn-ing', **ankomning*-'arrive-ing', *omkomning*- 'die-ing'

Similarly, the class of unaccusative verbs that are derived from adjectives with the inchoative sufffix *-n* seem to systematically reject *(n)ing*:

(8) **mörkn-ing*-'darken-ing', **svartn-ning*-'blacken-ing'

However, as was discussed in the previous chapter, unaccusative verbs in Swedish are often formed with the help of reflexivization or a passive *-s*. The *(n)ing*-nominals formed from these apparently transitive roots (recalling that no passive *-s* or reflexive can appear in nominalizations in Swedish) can convey a unaccusative/reflexive reading (or rather, no information about the initiation of the event is present), as shown below:

(9) *öppn-ing*-'open-ing', *sprid-ning*-'spread-ing', *höj-ning*-'rise-ing', *vältning* 'turn-over-ing'

Unaccusative verbs that have homophonous causative alternations also form *(n)ing*-nominalizations. Here as well, the nominalizations can give rise to an unaccusative reading (again, no information about the initiation of the event is present):

(10) *ök-ning*-'increase-ing', *minsk-ning*-'decrease-ing', *land-ning*-'land-ing'

If we confine ourselves to roots that are unambiguously unaccusative in their verbal use, the great majority of these resist *-(n)ing*. There are a few counterexamples, however, depending on what one takes to be the diagnostic for what is an unaccusative verb in Swedish. If we consider monotransitive verbs that form passive participles, there are in fact some of these which do allow *-(n)ing*. The following is a (near) exhaustive list.

(11) *sprick-ning*-'crack-ing', *invandr-ing*-'immigrate-ing', *uppstig-ning*-'uprise-ing', *urspårning*-'de-rail-ing'

It could be argued that these verbs all are underlying unergative verbs. For the last three examples, that is at least quite plausible, given that they are all particle verbs, and once the particle is removed, you end up with an unergative verb (i.e., something that doesn't really have an endpoint/result, and therefore doesn't easily form an (intransitive) passive participle). The nominal *sprick-ning*, also seem to have a somewhat "unergative" flavor. It is a result nominal, but it doesn't seem to denote the end-result of a typical telic change of state verb. Instead it denote some kind of sign of a cracking-process.

In short, there is a clear tendency that unaccusative verbs don't form *-(n)ing*-nominals. The absence of unaccusative nominals can't be explained by

blocking of zero-derived nominals, as none or few of them have non-derived related nominal forms (the exception are *fall* (“fall”) and *död* (“death”)).

Stative verbs

All types of stative verbs seem to disallow *(n)ing*:
Subject oriented psych-verbs:

(12) **älsk-ning*-‘love-ing’, **hat-ning*-‘hate-ing’, **avund-ning*-‘envy-ing’, **gill-ning*-‘like-ing’

Object-oriented psych-verbs (note that these nominalizations sound slightly better as soon as you force an agentive reading on them. They are not possible with stative inanimate causers however.):

(13) *??fasciner-ing*-‘fascinate-ing’, *??inspirer-ing*-‘inspiring’, *??skräm-ning*-‘scare-ing’

Transitive non-psych-statives:

(14) **äg-ning*-‘own-ing’, **bestå-ning*-‘consist-ing’, **innehåll-ning*-‘contain-ing’

Intransitive stative verbs:

(15) **exister-ing*-‘existing’, **lev-ning*-‘live-ing’, **bo-ning*-‘inhabit-ing’, **ligg-ning*-‘lie-ing’, **återstående*-‘remain-ing’

There seem to be only a very few counterexamples to the claim that stative verbs don’t form *(n)ing*-nominals:

(16) *omgiv-ning*-‘surrounding(s)’, *ret-ning*-‘irritation’,

These are clearly non-eventive. A lot of the stative verbs otherwise have zero-derived, *-tion* -or irregular nominalizations, as shown below:

(17) a. zero-derived: *hat* - ‘hate’, *avund* - ‘envy’, *innehåll* ‘content’
b. irregular: *liv* ’life’, *intresse* - ‘interest’
c. *-tion* : *inspiration* , *fascination* ‘fascination’

The correspondence between absence of *(n)ing*-nominals and presence of zero-derived/irregular nominalizations is however nowhere near as clear as for the unergative verbs. Given that there are so few instances of *(n)ing*-nominals formed from stative verbs, I think it’s correct to conclude (with Josefsson 1998) that stative verbs do not form *(n)ing* -nominals.

Non-transitive verbs

Verbs that take no arguments, i.e. weather verbs, also consistently disallow *(n)ing* -nominals. All of them however have zero-derived nominals:

(18) a. **regn-ning* - ^{OK}*regn* - 'rain'
b. **hagl-ing* - ^{OK}*hagel* - 'hail'
c. **snö-ning* - ^{OK}*snö* - 'snow'

Observe that the zero-derived nouns behave slightly differently - *regn* is easily used as event denoting, while *hagel* and *snö* rarely are:

(19) Regnet/??snön/??haglet fortsatte i tvåtimmar
rainDEF/snowDEF/hailDEF continued in two hours
'The rain(ing)/snow(ing)/hail(ing) continued for two hours'

Transitive Activity verbs:

This class of verbs seems to behave in parallel fashion to the unergative verbs: some of them form *(n)ing*-nominalizations (20a), and others do not (20b), and the ones that don't systematically seem to have zero-derived/irregular nominals (21)

(20) a. *uppvakt-ning* 'court-ing', *(?)förföljning*-'persecute-ing', *bevakning*-'guarding'
b. **jag-ning*-'chase-ing', *??vård-ning*-'care/nurse-ing', *??skydd-ning*-'protect-ing',

(21) a. jakt av/på ripor är förbjudet under sommaren
hunt of/on ptarmigans is forbidden during the summer
b. vård av gamla
nursing of old people

As noted in (20) (a), the *(n)ing*-nominal formed from *förfölja* is slightly marked, though not ungrammatical. This is probably because this verb also has a nominal formed with the non-productive suffix *-else*, that is highly frequent. As is seen in (20), the verbs that allow *(n)ing* are all morphologically complex, which might be the reason for why they don't have zero-derived nominals (though there are morphologically complex verbs that have zero-derived/irregular nominals, e.g. *miss-handel* ("manhandle") and *våld-täkt* ("rape")).

Transitive punctual verbs/acheivements:

Once again, some verbs from this class form *(n)ing*nominals, while others don't:

(22) **mörd-ning*-'murder-ing', **död-ning*-'kill-ing', *??sår-ning*-'wounding', *??skad-ning*-'injure-ing', *??stjäl-ning*-'steal-ing', *??köp-ning*-'buy-ing', *??grip-ning*-'arresting'

(23) *arrestering*-'arrest-ing', *avrättning*-'execute-ing', *avlivning*-'put-to-death-ing', *försäljning*-'sell-ing', *befrukt-ning*-'fertilizing', *häng-ning*-'hanging'

It's less clear that "blocking" is the only reason for the absence of *(n)ing*-nominals in (22). However, it should be noted that zero-derived nominals are available for many of the relevant cases. Some of them have event denoting interpretations:

(24) *mord*- 'murder', *köp* 'buy', *stöld* - 'stealing, theft'

The other ones however have only related result/state-oriented nominals, like:

(25) *sår* - 'wound', *skada* - njury', *död* - 'death', *grepp*- grip

There doesn't seem to be any good reason why these zero-derived/irregular nominals should block the *(n)ing*-nominals.

Just as with the transitive activity verbs, monomorphemic achievement verbs are less likely to form *(n)ing*-nominalizations than bi/polymorphemic ones, though this is just a tendency (*häng-ning* being the exception). This, again, might be because the complex verbs are less likely to form nominalizations. None of the verbs in (23) have zero-derived nominals either.

Accomplishment verbs

In general, these verbs do form *(n)ing*-nominalizations, though there are quirky exceptions:

(26) *läsning*-'read-ing', *skrivning*-'write-ing', *målning*-'paint-ing', *stick-ning*-'knitting'

(27) *??bygg-ning*-'build-ing', *??sy-ning*-'sew-ing'

For the verb *bygga* ("build") there is an "irregular" nominalization (*byggnad*) that has both an eventive and a result reading. For *sy* ("sew") there is also an

irregular nominalization (*sömnad*), though this one has for some reason only a result interpretation.

Summing up

Above I have showed that it is possible to give a more or less clear distributional pattern of *(n)ing*, but only if one take competing nominal forms into consideration. Very simplified, one could say that *-(n)ing* derives nominals from all verbs except stative verbs and unaccusative verbs, unless the verb has a zero-derived or irregular nominalization that blocks the *(n)ing*-form. There are however cases that won't be covered by that definition. Take for example the following cases, where neither a *(n)ing*-nominals nor a zero-derived/irregular nominal will do the job:

(28) a. ??gripningen/greppet av tjuven
grab.NING.DEF/grip.DEF of thief.DEF
'The arresting of the thief'
b. ??skadningen/skadan av forwarden
injure.NING/injure.DEF of forward.DEF
'The injuring of the forward'
c. ??syningen/sömnaded av kjolen
sew.NING.DEF/sewing of skirt.DEF
'The sewing of the skirt'

I have no straightforward explanation for this, though some speculations will be presented in the end of this chapter. Further, as we have seen, the claim that unaccusatives don't form *(n)ing*-nominals wasn't quite true either.

A possibility is that *(n)ing*-suffixation just isn't a productive strategy to form nominals in today in Swedish. This doesn't seem to be true either, given the fact that newly loaned verbs easily take *(-n)ing*, as shown below (*-nde* also forms nominals with new verbal stems, including the ones given below):

(29) *blogg-ning-*'blog-ing', *chatt-ning-*'chat-ing'

Further, people seem to have fairly clear intuitions about the restrictions on *(n)ing* even for infrequently used verbs (though there are some disagreements in the judgements).

The last section has mainly showed that a just a binding frame isn't enough for capturing the distribution of *(n)ing*. It has also showed that the interaction with other nominal forms has to be taken into consideration. However, there are other factors still unknown, as was made clear by the examples in (28). I will return to these issues below, but first I will go through different types

of readings that are available for verb+*(n)ing*. I will also show examples of verbal lexical items that have both zero-derived and *-(n)ing*-derived nominals. In these cases, the *-(n)ing*-nominals always have more event entailments.

7.1.2 Different types of *-(n)ing*?

(n)ing-nominalizations can either denote a result/object or action/event. They can clearly be simple event nouns, in Grimshaw (1990)'s terms, but they can probably also be complex event nouns, though many of Grimshaw's tests that she uses to separate simple from complex event nouns don't seem to give conclusive evidence for telling whether or not some *(n)ing*-nominals really are complex event nouns. I will below focus on the result interpretation on one hand, and simple and complex event interpretation on the other. When they are event denoting, they can either get a mass interpretation or a count interpretation. Result denoting *(n)ing*-nominals seem to only get count interpretations. This seems to indicate that they might be structurally different.

7.1.3 Clearly mass-denoting *(n)ing*-nominals

Unergative verbs seem to give rise to action-denoting mass-nominals. I will only use one diagnostic for mass-noun-distinction here: a noun that can appear as a bare nominal in argument position is a mass noun.

First, the items in the list of unergative activity verbs given above can all surface as bare *-(n)ing*-nominals in the following two contexts:

(30) a. Matlagning/ridning/segling är min favorithobby
food-make.NING/ride.NING/sail.NING is my favourite.hobby
'Cooking/riding/sailing is my favorite hobby '

b. han har skrivit en bok om matlagning/ ridning/
he has written a book about foodmake.NING/ ride.NING/
segling
sail.NING
'He has written a book about cooking/riding/sailing.'

Note that bare *nde*-nominals cannot surface in these contexts:

(31) a. *Matlagande/ridande/seglande är min
Food.make.INF.NDE/ride.INF.NDE/sail.INF.NDE is my
favorithobby
favourite.hobby
'Cooking/riding/sailing is my favorite hobby '

b. *Han har skrivit en bok om matlagande/
He has written a book about food.make.INF.NDE/
ridande/ seglande
ride.INF.NDE/ sail.INF.NDE
'He has written a book about cooking/riding/sailing.'

Note further that those unergative verbs that don't have *(n)ing*-nominalizations have zero-derived nominals that will fit into these constructions:

(32) a. dans/(kör)sång är min favorithobby
dance/(choir).song is my favourite.hobby
'dance/(choir)singing is my favorite hobby '
b. han har skrivit en bok om (kör)sång/dans
he has written a book about (choir).song/dance
'He has written a book about (choir)singing/dance.'

Many of the other unergative verbs also have zero-derived nominalizations, but these are usually not mass-denoting. There are at least two salient groups of zero-derived nominals from unergative verbs: one class where the nominal picks out a contextually salient amount of the action in question (33a), and one class where the noun denotes the instrument used in the action (33b)[3]:

(33) a. löpa - lopp, rida - ritt, hoppa - hopp,
run.INF - race(N), ride.INF - ride(N), jump.INF - jump(N),
köra - kör
drive.INF - race(N)
('contextually salient amount of action' ; neuter gender)
b. cykla - cykel, segla - segel, paddla - paddel
bike.INF - bike(N), sail.INF - sail(N), paddle.INF - paddle(N)
('instrument that prototypically defines action'; neuter gender)

These are strongly count-denoting and cannot surface as bare nominals (though the nouns in (33b), except for *cykel* are all neuter, which makes it hard to check).

The unergative *(n)ing*-nominalizations (and the zero derived *dans* and *körsång*) have the same distribution as non-derived activity denoting nouns that occur after verbs like "play" or "go" as the ones in (34):

[3]In addition, the verb *springa* ("run") has a zero derived mass noun *spring*$_{neut}$. It's not quite clear how this one interacts with the *(n)ing*-nominal *spring-ning*. The zero-derived nominal seems to be very non-purpose oriented ("there was a lot of running around") while the *(n)ing*-nominal seems to be more goal-oriented.

(34) a. Han spelar fotboll/hockey/golf
he play.PRES football/hockey/golf
'He plays football/hockey/golf.'
b. Han åker/kör slalom/störtlopp/rally
he goes/drives slalom/downhill.racing
'He does slalom/downhill racing/rally.'

These NPs also appear in the mass contexts used above:

(35) a. Hockey/slalom är min favorithobby
hockey/slalom is my favourite.hobby
'Hockey/slalom is my favorite hobby.'
b. han har skrivit en bok om hockey/slalom,
he has written a book about hockey/slalom
'He has written a book about hockey/slalom.'

Another context where both derived and non-derived activity nominals occur is in the complement of temporal prepositions:

(36) Efter fotbollen/dansen/ridningen kände han sig trött.
after football/dans/rid.NING felt he REFL tired
"After the soccer/riding he felt tired."

There is no implication here that the subject of the main clause participated in the event denoted by the nominal in the temporal adjunct (he might just as well have watched the event).[4]

It is not just the class of unergative verbs that forms mass nouns of the type discussed above, but also many non-stative transitive verbs that take a mass NP complement, and that denote some kind of common, purposive action:

(37) a. dricka vin - vin-drickning
drink wine - wine-drinking
b. laga mat - matlagning
cook food - food-cooking
c. skåda fåglar - fågelskådning
watch birds - birdwatching

[4]There are some interesting restrictions on the eventive interpretation of the NP in the "play NP" construction. It seems like the NP cannot refer straightforwardly to the tool/means used for playing. *Spela poker/kort/schack/Nintendo* (Play poker/card/chess/Nintendo) - *Efter pokern/*kortet/??schacket/*Nintendon gick vi hem* ("After the poker/cards/chess/Nintendo we went home"). Similar restrictions seem to hold in "go NP" constructions: *åka slalom/skidor/snowboard*("to do slalom skiing/ to ski/ to snowboard") - *efter slalomen/t/*skidorna/ *snowboarden gick vi hem*("after the slalom/*skies/ *snowboard we went home").

Here as well there is blocking by zero-derived or irregular nominalizations:

(38) a. jaga älg - älg-jakt (*älg-jagning)
hunt elk - elk-hunt (elk-hunting)
b. fiska lax - lax-fiske (??lax-fiskning)
fish salmon - salmon-fish.NOM (salmon-fishing)

Unergative verbs can also form count nouns, as is seen below:

(39) två vandringar/seglingar
two hike.ING.PL/sail.ING.PL
'two hikes/sailing trips'

Given the fact that some of the nominalizations discussed above are in complementary distribution with zero-derived de-verbal nouns, and that they have the same distribution and interpretation as nouns that are not even derived from verbs (i.e. "hockey" etc.), one might ask if these should be taken as, say, action/event denoting nominalizations. The only claim I want to make is that these nominals do in fact spell out a subpart of the verb phrase, and in corresponding verbal contexts, this subpart would have been spelled out by the verb itself. For now, I will take the mass-nouns discussed above to spell out either the Proc head, or the rhematic complement of Proc. Similarly "hockey" in "play hockey" and "slalom" in "go slalom" also occupies the rheme of Proc.

Certain *(n)ing*-nominals however denote events that arguably require more structure than the simple event/event-naming nominals. There are reasons to expect that certain *(n)ing*-nominals are reifications of at least the $Proc^0$, and even possibly the $Init^0$. Take the following example, where a a reflexive interpretation is impossible:

(40) Hängningen av Saddam Hussein
hanging.DEF of Saddam Hussein
"the hanging of Saddam Hussein"

To determine the exact size of this nominal (i.e., if $Proc^0$ or Res^0 is reified), we have to first determine whether the argument of $Proc^0$ is marked in the lexicon co-referent with the argument of Res^0 or the argument of $Init^0$. I will not give any answer to this question here. Note however that the *(n)ing*-nominalization of *hänga* can receive a reflexive interpretation in typical event-naming contexts, though it is slightly marked (real example from wikipedia.se, some speakers reject the reflexive interpretation of both the *(n)ing*-form and the *-nde*-form, while others accept only the *(n)ing*-form):

(41) (?)hängning är en av de de vanligaste självmordsformerna i Sverige
hang.ING is one of the commonSPR suicideforms.DEF in Sweden
"To hang oneself is one the most common ways of suicide in Sweden"

Given the fact that stative verbs do not take *(n)ing*, one could hypothesize that *(n)ing* never reifies the Init^0 (if one assumes with Ramchand (2008) that stative verbs just realize init^0).

7.1.4 Clearly count denoting result-nouns

Truly result denoting *(n)ing*-nominalizations are always count. It's not straightforwardly obvious why this is the case. Take the nominalization *bland-ning* ("mix") below, which from a semantic perspective clearly can be taken to denote a mass-concept (you can add a mix to another mix and then get a mix, you can divide a mix into many mixes etc.). No count

(42) a. Golvet var täckt av vatten och lera
floor.DEF was covered of water and mud
'The floor was covered with water and mud.'
b. Golvet var täckt av *(en) blandning av vatten och lera
floor.DEF was covered of *(a) mix.NING of water and mud
'The floor was covered with a mixture of water and mud.'

Result denoting nominals are just like the mass eventive nominals in being blocked by zero-derived or irregular nominalizations. Compare the aforementioned nominalization *blandning* ('mix') and the nominalization *stap-ling* ('pile-ing'), from the verb *stapla* .

(43) a. Efter blandningen av ingridienserna...
after mix.NING.DEF of ingredients.DEF
'after the mixing of the ingridients....'
b. efter staplingen av lådorna
after pile.ING.DEF of boxes.DEF
'after the piling of the boxes, ...'

Both of them also have corresponding result nominals. However, *stapla* has a zero-derived nominal that seems to block the *ning*-nominal:

(44) det stod en stapel/*stapling av/med böcker på bordet
there stood a pile/pile.ING of/with books on table.DEF
'A pile of books stood on the table.'

There are many verbs that have zero-derived or irregular result nominalizations but no zero-derived or irregular event-nominalizations (45a), just like *stapla*. There are also many verbs that use *(n)ing* for both resultative and eventive nominalizations (45b), just like *blanda*. There are however no verbs that have zero-derived or irregular event nominalizations and *(n)ing* result nominals.

Two types of result nominals

The nominals *review* and *invention* both name the result of an event named by the verbal root. They differ in one crucial way: the result nominal in (45b) is co-referent with the internal argument of the corresponding verb, while (45a) the result nominal and the direct object refer to different entities.

(45) a. Han recenserade filmen - # Han recenserade den här recensionen
'He reviewed the movie' - # 'He reviewed this review'
b. Han uppfann telefonen - Han uppfann den här uppfinningen
'He invented the telephone' - 'He invented this invention'

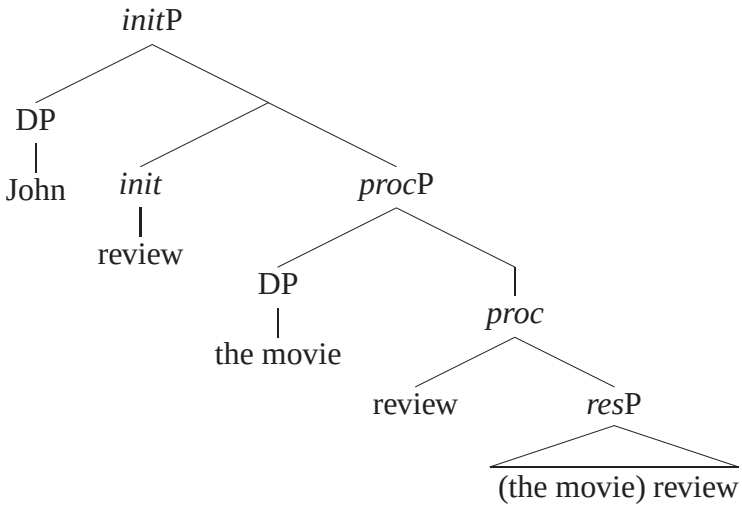
This explains why an "internal" argument is possible in (46a), but not in (46b):

(46) a. Han recenserade filmen - recensionen (av filmen) låg på bordet
he reviewer film.DEF - review.DEF (of film.DEF) lay on table.DEF
'he reviewed the movie'- 'the review (of the movie) lay on the table'
b. Han uppfann telefonen - uppfinningen (*av telefonen) stod på bordet
he invented telephone.DEF - invent.ING.DEF (*of telephone.DEF) stood on table.DEF
'He invented the telephone' - 'the invention (*of the telephone) stood on the table'

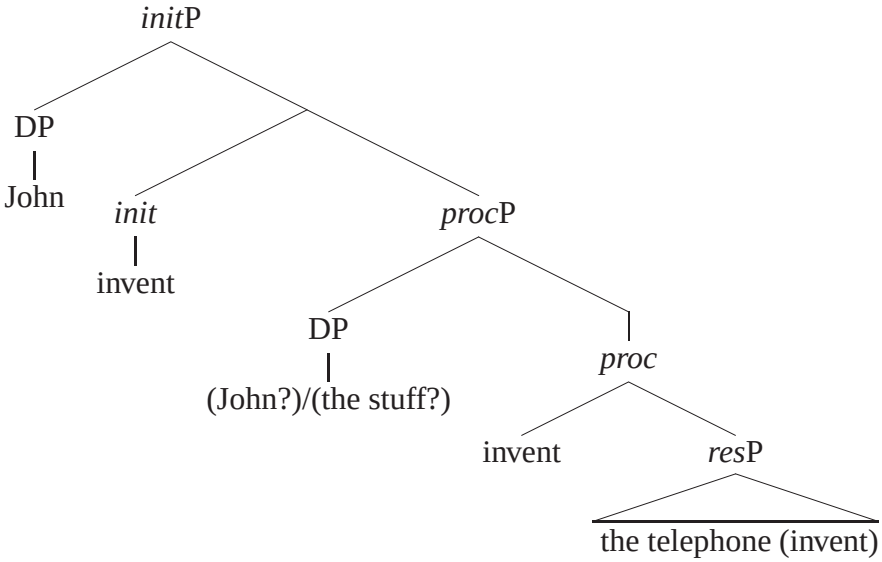
Verbs which are like (46b) are basically verbs of creation. The verbs which fall into a class with the one in (46a) can be divided further into various micro-classes, as will be shown below. The difference between the two classes has already been established in the literature (e.g. Levin (1993) and Ramchand 2008) . The difference between the two classes is captured in Ramchand (2008) by giving them different syntactic structures. The first class (46a) has

an overt undergoer argument, that is a subject of a Process predicate (Proc), while the second class ((46b)) has none, or a covert one. The two types of verbs also have some resultative predicate in the complement of Proc, which presumably looks different for the two classes, though I will for now not take that into consideration.

(47)



(48)



Note further that both of the two classes also have (more) eventive nominalizations where the internal object is licensed as an *-of* -phrase (genitive).

(49) a. Första gången det hände var efter hans recension av
first time.DEF it happened was after his review of
Shanghai Knights.
Shanghai Knights
'The first time it happened was after his review of Shanghai Knights'

b. Uppfinningen av glödlampan har en spännande historia
invent.NING.DEF of lightbulb.DEF has an exciting history
'The invention of the light-bulb has an exciting history'

Further, when it comes to Tense, passivization, present participles etc., the two classes show the same behavior. The only difference between them otherwise is that verbs of Creation (Class 2) in general usually allow recipient arguments (Indirect objects), while verbs with undergoer arguments don't do this (at least not in Swedish and English). Some verbs of creation can take an undergoer argument that refers to the material, and then they acquire the properties of Class 1 verbs, as can be seen below Levin (1993):

(50) a. He carved (me) a doll out of that piece of wood. (Verb of creation) (a carving)

b. He carved (*me) that piece of wood into a doll. (Undergoer object) (a carving of wood)

In some languages, e.g. English, the verb "paint" behaves in the same way (in other languages, like Swedish, you have to either use a particle or another verb):

(51) a. He painted (me) a picture - The painting (*of a picture) hung on the wall.

b. He painted (*me) wild animals - The painting (of wild animals) hung on the wall.

Note that the use of 'paint' in *paint the wall* presumably doesn't have a result phrase at all (it can thereby take a resultative adjective).

There seems to be a strong generalization that can be made here:

- (Result) nominalizations never refer to the verb's undergoer argument.

This can probably be extended to the verbs other specifier positions as well - i.e., the nominalization never refers to any of the verbs specifier-arguments.

This seems to be true for *-nde* as well. More radically, I will propose that the nominalizing suffixes only functions to reify one of the verbal heads. Another set of suffixes is needed for forming argument denoting nominals (like agent or patient nominals - i.e. *-er* or *-ee* in English). Different, probably more complex, mechanisms are needed for forming that type of nominal as well.

7.2 Analyzing *(n)ing*

As has been pointed out in the last three sections, *-(n)ing*-derived nominals are blocked by zero-derived nominals in some cases. This, I take, follows from the elsewhere condition in the superset principle. We have no straightforward explanation right now why zero-derived nominals only block the *(n)ing*-nominals in the smallest nominalizations. We can hypothesize that *-(n)ing* attaches to something that is already bigger than most underived nouns. Support for this claims come from the fact that *(n)ing* attaches outside of verbalizing suffixes like *-er(a)*, as was discussed in chapter 2. Zero-derived or irregular nominalizations never contain this suffix.

(N)ing can attach to different heads along the spine of the verb-phrase, with the result of reifying that head. Zero-derived nouns can do this as well, just as any other noun. This means that the zero-derived nominals can compete for the same slots as the *(n)ing*-derived nominals. Reification means that you make a predicate into something of type e (i.e., an individual). Given that zero-derived nominals exist, and are very common, though necessarily listed (not productively formed), we could hypothesize that that the verbs that have zero-derived nominals carry some special feature in their lexical entry. Following the ideas discussed in last the chapter (and the introduction), I will suggest that all noun-like items carry an interpretable Gender feature, i.e., some lexically stored information about what Gender class they belong to. Verbs that have zero-derived nominals should in such case, in addition to verbal features like Res, Proc and Init, carry a gender feature (which probably isn't realized in verbal contexts). If a verbal entry has an interpretable gender feature, it is possible reify a verbal head without adding any overt nominalizer. I will take "nouniness", at least in Swedish, to be dependent on Gender (more specifically, higher projections in the nominal/determiner functional sequence require interpretable Gender features on their complement). The adding of *(n)ing* provides gender features. We correctly predict that verbal lexical entries that contain interpretable gender features shouldn't allow *(n)ing*-nominals, since *(n)ing* would not fill any function in such case.

In the discussion above, I've looked at two aspects of the relation between de-verbal nouns and the verbal base: (1) the number of different nominal

forms the verb can surface in, and (2) the number of meanings the nominal form can carry. There is no straightforward correlation between these aspects. Some verbs only have one nominal form, but at least two interpretations, as for *samling* ("collection"), that is both a result nominal and an event nominal (plausible with two eventive readings, corresponding to two different syntactic structures). Other verbs deploy two different forms for two or more different readings. Both these patterns are easy to capture in the system used here. What is a lot more tricky, is to explain the complete absence of certain nominal readings. We have taken it to be completely free to reify a verbal/sub-eventual head. That means that there should be as many nominal interpretation as their are sub-eventual heads. That is however not the case. Many verbs only have *-nde*-nominalizations (or no corresponding nominal at all), that is, nominalization where a fairly high head is reified (plausibly a vP-external head). For now, one can only speculate about the reasons behind the absence of certain nominals. It could be the case that certain verbal concepts don't have any plausible interpretations once reified (i.e., once converted to something that denotes an individual).

One striking fact is that *(n)ing* in some cases has an inverted distribution compared to the passive participle morpheme. Most strikingly, *-de* doesn't attach to unergative verbs, while *(n)ing* very clearly attaches to basically all unergative verbs (modulo the ones that have zero-derived nominals). On the other hand, *-de* attaches to unaccusative verbs, while *(n)ing* in general cannot attach to unaccusatives.

These correlations look a bit like the patterns we saw for *-nde* . In the next chapter, the patterns will be directly compared with each other.

Chapter 8

Concluding remarks

In this dissertation I have tried to give a solid analysis for three de-verbal suffixes in Swedish, that all show some quirky behavior. The framework I'm working in crucially deals with syntax and morphology in the same module, and further has a very straightforward mapping between syntax/morphology and semantics.

A general claim throughout this dissertation has been that the suffixes under discussion are semantically extremely light. The interpretation of the nominal and participle is determined more or less completely by the structure that the suffixes attach to. The most extreme interpretation of the semantical lightness hypothesis is that the suffixes only provide a suitable morphological shape for the verbal stem, so that it can function as a noun or an adjective.

I have tried to show that the morphemes in question are neither associated with a certain binding frame, nor correlated with a certain aspectual value. What made me want to go for an analysis where the suffixes are as light as possible is the fact that each of the suffixes seem to systematically give rise to a couple of different readings, which are not aspectually or argument structurally unifiable. Tentatively I would like to suggest that the four (or three) different suffixes differ only in attachment height and value of Gender feature:

(1) a. -nde$_{nom}$: Interpretable Gender features, outside f2
b. -nde$_{Part}$: Uninterpretable Gender features, outside f2
c. -(n)ing: Interpretable Gender features, inside f2
d. -de: Uninterpretable Gender features, inside f2

Below I will speculate a little bit on motives and consequences of making just the simple splits between the suffixes proposed in (1).

In chapter 6 we saw that not every verbal structure can be nominalized. I

suggested that the nominal *-nde* attaches to something that is already to some extent nominal. In the terms of Hale and Keyser (1993), it attaches to something that doesn't require a specifier, or in the terms of Chierchia and Turner (1988), a non-predicable individual. The suffix seems to mainly provide gender information. For the participles, the same thing can be said - the suffix doesn't create a predicable individual (again in the terms of Chierchia and Turner 1988), but rather provides the verbal root/stem with the right morphological shape to act as an adjective (possibly, giving it a gender slot). In other words, the verbal structures that the participial/nominalizing suffixes attach to already have some kind of category value. Either the structure corresponds to something that can denote an entity by itself, or it corresponds to something that needs to localized in another entity, in the terms of Beyssade and Dobrovie-Sorin (2005). We still don't know how this is structurally encoded, and I will not be able to provide any explanation to this either. However, we saw clearly that certain verbal structures refused to surface as a nominal (object psych-verbs and the prepositional verbs) and other verbal structures refused to surface as adjectives (weather-verbs). Given that argument/event structure will influence the result of de-verbalizing processes (i.e., whether something can come out as an adjective or a noun), and that different types of argument/event structures correspond to different syntactic structures (at least that is what we believe), we can conclude that the distinction between predicable individual (adjective) and non-predicable individual (noun) at least partly is syntactically encoded. In other words, the notions of "noun" and "adjective" have structural correlates. It is however wrong to talk about "noun" and "adjective" at this level, since we presumably don't get nouns and adjectives before we have given the "individuals" their morphological shape. If we follow Baker (2003) and take nouns to carry a referential index, this index is probably not introduced until gender marking is actually merged. In Swedish (and most other languages), it's likely that gender marking is the morphological correlate of a referential index. Importantly though, a referential index cannot be merged on top of everything, but only on something that is already "nouny".

Note that we have now ended up in position that is opposite to that of Hale and Keyser. According to Hale and Keyser, unergative verbs have the properties they have because they are de-nominal, and unaccusative verbs have the properties they have because they are de-adjectival. The line of thought followed here says basically the opposite: verbs with typical unergative syntax/semantics will have related nominal forms (overtly derived or zero-derived) because they at some level correspond to a non-predicable in-

dividual. We don't really know what type of structural configuration this is though (it might very well be a head that doesn't project a specifier). Once you have a non-predicable individual, a referential index can be added, and you get a noun/nominalization. A parallel story can be told for the unaccusative verbs, and their relation to adjectives.

We saw further that *-de* could attach at either what we have called initP or ResP, but never to ProcP. We have seen that *(n)ing* probably can attach to Proc (though it is hard to tell). It can also, just like the passive participle, have a result-oriented reading. However, there is a big difference between stative participles and result-denoting nominals. Whereas stative participles really refer to a state, result-oriented nouns denote an object, i.e., something that was created in the event. There doesn't seem to exist any *(n)ing* or zero-derived nominal that really refers to a resulting state, e.g., "the state of being broken", or "the state of being built". Many *(n)ing*-nominals however gladly refer to some dynamic event, or possibly a process. In short, one could hypothesize that states aren't likely to denote something in themselves, but they are happy to be predicated of something, or "located" in something. It's possible that true Processes actually denote a thing by themselves, e.g. an event, and aren't happily located in/predicated over something else. The only way to actually have a noun-like element that denotes a state seems to be to first build up a stative participle, and then add a nominalizer. The result would be something like "broken-ness" in such case. Looking at the ambiguity of *-nde*, it is possible that something like that happens in the nominal cases. That is, first you create a participle/adjective, and then you turn that into a noun. By hypothesis, that could be done by simply valuing the gender slot with some type of dummy gender.

There are many open issues that I will have to leave for further research. Even though the specific analysis of many of the phenomena discussed in this dissertation might turn out to be wrong, I hope that the generalizations that have been revealed in this dissertation will contribute to progress in the understanding of these extremely complex and interesting issues.

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