THE STRUCTURE OF THE DP AND ITS REFLEX
IN SCANDINAVIAN

Von der philosophisch-historischen Fakultät der Universität Stuttgart
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<tr>
<td>A(P)</td>
<td>Adjective (Phrase)</td>
<td>N(P)</td>
<td>Noun (Phrase)</td>
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<tr>
<td>ACC</td>
<td>Accusative</td>
<td>NEU</td>
<td>Neuter</td>
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<tr>
<td>ART</td>
<td>Article</td>
<td>NOM</td>
<td>Nominative</td>
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<td>CL</td>
<td>Classifier</td>
<td>PART</td>
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<td>ClassP</td>
<td>Classifier Phrase</td>
<td>PF</td>
<td>Phonological Form</td>
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<td>D(P)</td>
<td>Determiner (Phrase)</td>
<td>PIE</td>
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<td>DEF</td>
<td>Definite Article</td>
<td>PLU</td>
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<td>DM</td>
<td>Distributed Morphology</td>
<td>Q</td>
<td>Quantifier</td>
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<td>DS</td>
<td>Determiner Spreading</td>
<td>REFL</td>
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<td>FP</td>
<td>Functional Projection</td>
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<td>Logical Form</td>
<td>UT</td>
<td>Utrum (non-neuter)</td>
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<td>MASC</td>
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PART I – SETTING THE SCENE
CHAPTER 1 – INTRODUCTION AND BACKGROUND

1 Introduction

The main aim of this thesis is to investigate the structure of the DP and its reflex in the Scandinavian languages. To this end I have adopted a cross-linguistic approach. In my view this is the best way to achieve reliable general results. Scandinavian with all its different realizations of definite DPs will be my starting point, and I will be returning to Scandinavian regularly. In between, especially when trying to approach a more general structure for DPs, I will make reference to other languages, for example to the Romance languages and to Japanese or Halkomelem Salish. The analysis presented here will include the structures discussed in the various languages but will maintain a focus on Scandinavian.

In my attempt to approach the DP, I will try to keep things as simple as possible: if things have the same meaning, they should be structurally alike. It should be noted, however, that this is not a work on syntax alone, let alone on proper syntax or syntactic theory. I hope to show that different aspects of language are responsible for the interaction found within DPs.

The aim of this first chapter is to introduce the fundamentals that are important for the subsequent discussion and to define the goals of this thesis. I will introduce the topic and give some background information on the different Scandinavian languages that will be dealt with in this thesis and will explain the phenomenon that is the starting point for my analysis as well as raise some questions I will be dealing with in subsequent chapters. The theoretical background regarding definiteness and the theoretical framework I am going to make use of, Distributed Morphology, will also be briefly alluded to in this chapter. Since my approach is different from previous approaches in many ways it would be quite confusing to
discuss these without having first introduced my analysis. This is why I will only briefly look at the most prominent earlier approaches in a kind of summary; I will discuss the advantages and drawbacks in a later chapter in detail. The main claims of this thesis and the organisation of the dissertation will conclude this first chapter of part I.

2 The phenomenon

2.1 A brief note on the Scandinavian languages

The standard Scandinavian languages are Swedish, Norwegian, Icelandic, Faroese, and Danish. With respect to the phenomena investigated in this thesis, Swedish, Norwegian and Faroese pattern together, whereas Icelandic and Danish do not – neither with the aforementioned three languages nor with each another. Swedish, Norwegian, and Danish are mutually intelligible, as are Faroese and Icelandic. When I use the term *Scandinavian*, I actually mean all five languages, otherwise I will make clear which language I am talking about. I have grouped the languages according to their marking of definiteness into two groups: Swedish, Norwegian, and Faroese, on the one hand, and in Icelandic and Danish on the other. I will deal with each of them in turn. For the first group I mainly use Swedish or Norwegian examples. Due to the lack of Faroese examples and informants, however, I will not say much about Faroese, so in fact the first group will be mainly represented by Swedish and Norwegian, and the second one by Icelandic and Danish. I am mainly concerned with the standard languages, but will also remark on some dialectal variation, in particular the Northern Swedish dialect group and Western Jutlandic, a western dialect of Danish.

All the examples used in this thesis are either taken from the literature, which then is indicated accordingly, or from native speakers of the respective languages. Throughout the thesis I will use as few examples as possible so that the thesis reads more easily if one is not familiar with the languages under discussion. This means, however, that I will be repeating examples every now and then. Nevertheless, I have
refrained from the tradition of marking such examples as repetitions – again for the sake of readability.

2.2 The phenomenon and resulting questions

Apart from Western Jutlandic, the Scandinavian languages make use of a suffixed article to mark definiteness. This is illustrated by the Swedish example in (1). When a definite noun is modified by an adjective, Swedish, Norwegian, and Faroese introduce an additional determiner (2), which precedes adjective and noun, while Icelandic keeps the suffixed article (3). In Danish, an independent determiner is introduced and the suffixed article is omitted (4).

(1) hus-et
    house-DEF
    'the house'

Swedish

(2) det ny-a hus-et
    DEF new-W house-DEF
    'the new house'

(3) gaml-a hús-ið
    old-W house-DEF
    'the old house'

Icelandic

(4) det stor-e hus
    DEF big-W house
    'the big house'

Danish
The phenomenon illustrated in (2) is commonly referred to as *double definiteness*. The introduction of a second determiner as in (2) is triggered as a rule independently of the type of the adjective, as opposed to, for example, Greek *Determiner Spreading* (Alexiadou 2006), where the usage of additional determiners is optional and restricted with respect to context and the type of the adjective. The above pattern immediately raises questions such as i) What is the function of the doubling of determiners in Scandinavian?, ii) Why do the Scandinavian languages not pattern together, that is, what lies behind the inner-Scandinavian variation?, iii) Is multiple exponence of determiners in Scandinavian – and maybe also in other languages – a mere agreement phenomenon or is there a semantic correlate?, iv) If there is a semantic correlate, how did this doubling pattern of determiners emerge? Can we explain why some of the Scandinavian languages cannot do with one determiner, in contrast to the other Germanic languages?

A further peculiarity of the Germanic languages is the twofold paradigm of adjectival inflection. Does this play a role in double definiteness or in the notion of definiteness? This question arises especially if phrases as those illustrated in (5) and (6) are considered.

(5)  a. Legg hvert unmod-ent eple i denne kassen.  
    put every unripe-S apple in this box-DEF  
    ‘Put every unripe apple in this box’

   b. Legg hvert unmod-ne eple i denne kassen.  
    put every unripe-W apple in this box-DEF  
    ‘Put each unripe apple in this box’

    Norwegian, Vangsnes (2007:3)

(6)  a. gul-i bil-inn  
    yellow-W car-DEF  
    ‘the yellow car’

1 The term ‘double definiteness’ suggests that both determiners used in Scandinavian modified definite DPs contain the same aspects of definiteness, or the same definiteness feature, that is, redundancy is implied. This is not the case, as the following chapters will show in detail. However, I will nevertheless use the term double definiteness, but in the sense of employing two different determiners in a single phrase to mark definiteness.
b. gul-ur bil-inn
  yellow-S car-DEF
  ‘the car, which by the way is yellow’

_Icelandic_, Delsing (1993:132)

In both examples the meaning changes depending on the use of the weak or
the strong adjectival inflection. Questions that arise are i) Is there a principled
explanation for this kind of variation?, ii) What is the syntactic/semantic role of the
adjectival inflection?, iii) Does the adjectival inflection interact with other
components of the DP? And if so, what does this interaction look like?, and iv) Does
the adjectival inflection interact with definiteness?

Investigating the above questions is of particular interest especially with
respect to the structure of the DP exactly because of the variation that is found
regarding the marking of definiteness and the variation in adjectival inflection.
Answering the above questions will hopefully shed some new light on the structure
of the DP and on the function of the determiners in the Scandinavian languages.

Definiteness marking is quite a young development in the Germanic
languages and is “not found at the older historical stages of Indo-European” (Dahl
2007:34). The concept of definiteness, however, must have existed in some form
before particular morphemes were used to mark a DP as definite. If the diachronic
development of definiteness is regarded, it is clear that its origin lies in a distinction
that could be summarized as individuated vs. non-individuated. ±[individuated] is a
fundamental distinction in the Proto-Indo-European noun classes, where one class,
Class A, contains individuated objects and distinctive-additive plural, while the
other, Class B, includes collectivity and mass terms (Meier-Brügger 2003:189ff).
The issue of individuation shows up in other contexts, too, sloppily – and
diachronically not correct – often referred to as the distinction between _countable_
and _non-countable_ (7). The question that arises is in what way this distinction plays a
role in the structure of the DP.

(7) a. The child ate apples.
    b. The child had some water.         Borer (2005:120)
In both examples in (7), the exact quantity of apples and water is left open and it is unclear whether the child had a whole apple, two of them or just a bite. The same applies to water. Thus, although the semantic output seems to be similar, the morphological form differs in that apples carries the plural –s and is traditionally seen as a count noun whereas water is regarded as uncountable. What is the nature of this difference? Is it really a difference between count noun and mass noun so that the first individuates objects and the latter does not? If Distributed Morphology (see chapter 1, section 3.2) is on the right track, this difference should be a structural one and naturally the question arises what this tells us about the structure of the DP.

In summary, the following main issues – including the above questions that are related to these main points – need to be addressed to arrive at a plausible structure of the DP and its reflex in Scandinavian.

i) How did the doubling pattern in definite DPs emerge and what is the function of the two determiners?

ii) What is the role of the adjectival inflection and how does it interact with other morphemes in the DP?

iii) Which other factors – such as ±[individuated] – influence the structure of the DP?

3 Brief summary of previous approaches

Previous generative analyses of the Scandinavian DP can roughly be divided into N-to-D movement hypotheses, phrasal movement accounts, and phase-based approaches.

Hypotheses that make use of N-to-D movement (for example, Giusti 1993, Delsing 1993, Embick & Noyer 2001) assume that due to the Head Movement Constraint, N cannot move to D if an adjective intervenes. Hence the insertion of an additional determiner is necessary to realize [def] in D. Some approaches even assume that it is not a freestanding determiner that is inserted in D to compensate for the lack of N-to-D movement, but that a dummy d- is inserted to host a copy of the

Phrasal movement accounts (Julien 2002a, 2005a) have more or less the same core idea of intervention, but in this case it is the maximal projection and not the adjectival head that intervenes. Others postulate a DP phase with \( n \) and D as phase heads (for instance, Julien 2005a), sometimes also combined with N-to-D movement.

The aspects the aforementioned theories neglect is that if adjectives are phrases in Scandinavian, as I am going to argue, then movement should not be blocked, hence the insertion of an additional determiner cannot be forced by that condition (but, as mentioned before, see Julien 2005a for blocking of adjectives as maximal projections). A majority of the hypotheses above also do not pay any attention to the different semantic contributions of the articles, and none (apart from Kester 1993) addresses the role of the adjectival inflection. The most recent hypothesis, Schoorlemmer (2009), even needs to stipulate additional rules concerning the order of syntactic and spell-out mechanisms in order to accommodate his two different forms of double definiteness.

As alluded to before, in chapter 10 I will take a closer look at some of these approaches and will discuss their advantages as well as their drawbacks. In the spirit of the hypothesis that languages are as simple as possible despite their complexity, I find it desirable to come to an analysis that can accommodate different languages and will try to present a unified account for double definiteness. The next section will show in brief that this is possible.

4 Theoretical framework

4.1 Remarks on definiteness

A good definition of definiteness regarding noun phrases is the following by Stroh-Wollin (2009:10): "A definite noun phrase is used when the speaker assumes that the hearer, within the given context (in the broadest sense of the word), can uniquely identify the intended referent(s) from the descriptive core of the noun phrase."
Definiteness is a very complex concept and I do not want to claim that I can contribute much to the theory of definiteness and its implications for semantics as such. This is not the aim of this dissertation, but nevertheless, this thesis is based on the idea that syntax is used to derive meaning and therefore the semantic concept of definiteness needs to be addressed. I also do not wish to claim that there is always an exact one-to-one mapping between syntax and semantics, but I do believe that semantic contributions of morphemes are reflexes of underlying syntactic structure. That is to say, morphemes used as definiteness markers lead to a definite interpretation because of the syntactic structure they occur in. This is not to say that all aspects of definiteness can be captured structurally.

Definiteness is often associated with terms such as familiarity, quantification, uniqueness, specificity, identifiability, and theories thereof. I will briefly introduce some of these concepts and terms, namely those that will be important later on in this thesis, but for an extensive discussion of definiteness I refer to Krámský (1972), Hawkins (1978), Chesterman (1991), Lyons (1999).

4.1.1 Familiarity and identifiability

The *Familiarity Hypothesis* (Christopherson 1939, Hawkins 1978, among others) is a view of definiteness that assumes that an entity denoted by a noun phrase is familiar to the speaker as well as the hearer, that is, both are aware of what is being referred to, as shown in example (8). All examples in this section are from Lyons (1999) if not noted otherwise.

(8) a. I bought a car this morning.
   b. I bought the car this morning.

If the hearer does not know about the new car, the speaker will use (8a); however, if both speaker and hearer are familiar with the fact, the definite phrase in (8b) will be chosen. Familiarity can also come, for instance, from situations, such as in (9a), from general knowledge (9b), or from linguistic context (anaphoric *the* in (9c)).
(9)   a. Put these clean towels in the bathroom please.
    b. The moon was very bright last night.
    c. An elegant, dark-haired woman, a well-dressed man with dark glasses, and two children entered the compartment. I immediately recognized the woman. The children also looked vaguely familiar.

Invoking the concept of familiarity as an explanation for definiteness is not unproblematic though, as example (10) shows.

(10) The president of Ghana is visiting tomorrow.

Lyons (1999:5) remarks “The hearer would normally be prepared to accept that Ghana has a president, but that is not the same as knowing this person.” In view of this problem, familiarity is often seen as a kind of subordinate concept that is part of a more general theory, namely identifiability. Identifiability includes the possibility that the hearer does not necessarily has to know the entity denoted by the noun phrase, but that he is able to work it out and find a referent for it. Identifiability is not unproblematic either, since it is not necessarily clear what actually is to be identified, that is, what exactly is being talked about. That identifiability is not sufficient to describe definiteness is also exemplified in the following example (11) by Hawkins (1978:98-99) and his comment on it.

(11) So you were at Eton, were you? Then you are certain to know a chap called Bill Snoop.

“This description satisfies all the characteristics of an identifying description. The hearer is given ‘sufficient means to identify the object (Searle, p. 82) and ‘Even though the descriptor may be true of many objects, the speaker assumes that its utterance in that context will be sufficient to identify the one he means’ (Searle, p.86), and wh-questions are quite in order if the hearer does not know this chap. But unfortunately, this NP is indefinite.” (Italics S.L.)

Taking the aforementioned problems into consideration, Kamp (1981) defined the difference between definite and indefinite utterances within his
*Discourse Representation Theory* as a difference in the introduction of a discourse referent. That is, indefinite noun phrases introduce a new discourse variable, while definite noun phrases do not. This may be true for anaphoric uses, however, as will be shown in chapters 2 and 7, this is not the case for all types of realizations of definiteness. The Standard Scandinavian preadjectival article is such a case.

(12) a. den ny-e bil-en
    DEF new-W car-DEF
b. ny-e bil-en
    new-W car-DEF
    'the new car'

Despite its definiteness, the noun phrase in (12a) is not necessarily linked to an existing discourse referent; instead the new discourse referent needs to be introduced via the second determiner *den*. (12b), on the other hand, is used when the context is strongly familiar and thus can do without the additional determiner (cf. also Julien 2005).

4.1.2 Uniqueness and inclusiveness

As seen in the preceding section, familiarity or identifiability alone are not sufficient to entirely capture the notion of definiteness. What the above examples and definitions share is that all seem to denote/describe a *unique* referent, that is, “the definite article signals that there is just one entity satisfying the description used” (Lyons 1999:8). The criterion of *uniqueness* thus is certainly able to cover all different kinds of definite descriptions, whether they are familiar and identifiable or not. However, linking definiteness to the presence of a definite article creates some problems as well, for example in languages where definiteness is not morphologically marked, or in languages with double definiteness. Do then both articles stand for the same concept? And, if so, why should uniqueness be expressed twice? A further problem is that uniqueness implies singularity, but definite articles are also used with plurals and mass descriptions, that is, with non-unique referents.
Hawkins (1978) therefore extends the term and subsumes uniqueness under the notion of inclusiveness, intending therewith to capture reference to the totality of the denoted objects or mass. In other words, reference is to all entities, or the maximum of the entities that satisfy the description. “It appears, then, that with plural and mass nouns the is a universal quantifier, similar in meaning to all.” (Lyons 1999:11). Though this might hold for English (13), for Scandinavian it does not (14).

(13)   a. I’ve washed the dishes.
     b. I’ve washed all the dishes.

(14)   a. (alla) barn-en
     all children
     ’(all of) the children'
     b. alla barn(*-en)
     all children
     ’all children'

In example (13), the meaning of the and all actually seems to be very similar. If this were the case for Scandinavian, too, then the examples in (14) should express more or less the same. They do not, however: the phrase in (14a) refers to particular children and thus is comparable to the English example in (13). In the phrase without the suffixed article (14b), however, children in general are referred to, that is, there is a difference in meaning if either the determiner or the quantifier is used.

The notion of inclusiveness has actually been applied to the function of the freestanding determiner which is introduced in modified contexts (12), as mentioned in the previous section. Julien (2005:33) claims that this article carries inclusiveness since, if used, “the hearer will accept that there is a unique new car in the universe of discourse, even if this was not known to her before”. For a more detailed analysis of the preadjectival article in Scandinavian and its semantic contribution to definiteness and the question whether its function is really inclusiveness, see chapters 2 and 7.
4.1.3 Specificity and reference

The terminology has not been very straightforward and clear-cut so far, and it is going to become even more complex when discussing specificity and reference.

Reference describes the relation between an utterance and the entity that it identifies. There are several types of semantic reference. I will not deal with them here, but rather with the referential meaning of definiteness. This is not to say that the notion of definiteness is reference. When the term reference is used in this thesis, it will be in the sense that it links an utterance to an object or a set of objects.

Specificity does not necessarily indicate definiteness. Examples (15a) and (15c) are specific, but while (15a) is definite, (15c) is indefinite. (15b), on the other hand, is non-specific indefinite. (15a,b) are from Hawkins (1978:204).

(15)  a. Minna wants to meet the Norwegian.
     b. Minna wants to meet a Norwegian.
     c. I have met a Norwegian

As the examples in (15a) and (15c) show, the concept of specificity is not sufficient to explain definiteness – both sentences are specific, in the sense that in both sentences, the speaker has a particular person in mind. As Hawkins (1978) observes, however, this knowledge is shared by the hearer only in the definite example in (15a). In the non-specific example (15b), on the other hand, neither speaker nor hearer have a particular Norwegian in mind, but a “selection of any singular object from the class of Norwegians” (Hawkins 1978:204).

Therefore I think it problematic to refer to, for example, the function of the suffixed article in Scandinavian as specific, as advocated by, for instance, Julien (2005). I will discuss these issues in detail in chapter 7, defining the function of the suffixed article in Norwegian as specific reference, thus including the referential meaning of definiteness and that both speaker and hearer have a particular object in mind.
4.1.4 Summary

The main goal of this thesis is to show the interaction of the morphemes involved in forming definite noun phrases in Scandinavian in particular. Therefore, I will make use of some of the terms discussed above and will try as I go along to specify how I understand them. As is clear from the passage above, the notion of definiteness not only is very complex, it is also difficult to define. Adequacy of terminology is not easy to achieve. I do not want to claim that the terms I have chosen to describe particular aspects of definiteness (specific reference, discourse reference, and identity) are the best ones imaginable to express what I want them to express, but I hope to be able to convey the function of the respective morphemes even if the terminology might be in want of an even more precise description of the respective function.

4.2 Remarks on Distributed Morphology

Traditional generative approaches dealing with the question of how language is presented in the mind believe that there is a lexicon which inserts words into syntactic structures. These words are seen as a sound-meaning correspondence, equipped with a categorial label, such as noun or verb, mass or count, with argument structure and so forth. Contrary to these traditional approaches, Distributed Morphology (DM) enriches the connections between semantic, syntactic, and morphological features, on the one hand, and phonological features, on the other. “The ‘distributed’ of Distributed Morphology refers to the separation of properties which in other theories are collected in the Lexicon” (Harley & Noyer 1999:1). Key Features of DM (Halle & Marantz 1994, Harley & Noyer 1999) are Late Insertion, Underspecification, and Syntactic Hierarchical Structure All the Way Down.

i) Late Insertion means that Vocabulary Items, that is, phonological expressions, are spelled out after syntax proper. In other words, terminal nodes in syntax proper do not contain any phonological features. Syntactic,
semantic and morphological features of the terminal node and the Vocabulary Item respectively serve to identify Vocabulary Items, which supply phonological features to the terminal node. What is crucial is that Vocabulary Insertion occurs after syntax proper at Spell-out. This entails that “there is no pre-syntactic differentiation […] between two terminal nodes which have identical feature content but will eventually be spelled out with distinct Vocabulary Items such as dog and cat” (Harley & Noyer 1999:3).

ii) Underspecification refers to the hypothesis that the identifying features of the Vocabulary Item are a subset of the features at the terminal node. If more than one Vocabulary Item is available, the most highly specified is inserted. Underspecification with respect to the features of the nodes involves that default forms may be inserted if more specific forms are not available.

iii) Syntactic Structure All the Way Down assumes that word formation follows syntactic operations and takes place in syntax or through postsyntactic processes during Morphology, that is, after syntax proper but constrained by syntactic conditions. In this model of grammar Morphology is a “cover term for a series of operations that occur on the PF branch following the point at which the syntactic derivation splits between PF and LF.” (Embick & Noyer 2001:558).

Figure 1 summarizes the structure of the grammar in DM and illustrates its central properties.
As mentioned above, in Distributed Morphology word formation follows syntactic structure-forming operations. Therefore "features which will eventually be realized as a subpart of a phonological word are treated no differently from features which will eventually be realized as an autonomous word" (Harley & Noyer 1999:21). Since the analysis of Scandinavian DPs shows that, for example, adjectival inflection contributes to the notion of definiteness and thus carries meaning, the framework of DM lends itself to the analysis of Scandinavian DPs – for the very same reason expressed in the above quote.

Furthermore, and as already mentioned, adjectives in Scandinavian carry different inflectional endings. In Swedish, for example, there are five different inflectional morphemes: the weak endings -a, -e, and the strong endings -o, -t, -a. Depending on the context (almost) every adjective can occur either with weak inflection or with strong inflection. If it is assumed that the ending has a particular function, and if it is further assumed that lexical items are not 'stored' as complex
heads\(^2\), the most economical strategy is to regard both the ending and the stem as independent items that are inserted depending on their morphosyntactic features. Note, however, that it is not the inflectional ending in the sense of a traditional morpheme as such that carries meaning; rather, they are Vocabulary Items in the sense mentioned above, which are inserted into a particular structure that already has meaning.

Psycholinguistic experiments and data from language acquisition point in the same direction and present arguments in favour of lexical underspecification (see, for instance, Barner & Bale 2002, cf. also chapter 4). Barner & Bale (2002) observe that a child would have to acquire about four lexical entries per hour to arrive at a lexical knowledge of around 45,000 words, which are estimated as an average for high school graduates. Following lexicalist approaches, for the root \(\sqrt{\text{water}}\) alone, the following entries would have to be established.

\[
\begin{align*}
\text{water} & \quad \text{[mass noun]} \\
\text{water} & \quad \text{[count noun 1]} \\
\text{water} & \quad \text{[count noun 2 – kind]} \\
\text{water-y} & \quad \text{[adjective]} \\
\text{water} & \quad \text{[verb]} \\
\end{align*}
\]

Barner & Bale (2002:782)

In a non-lexicalist approach, however, only \(\sqrt{\text{water}}\) needs to be accessible, the other forms and uses are created in syntax. According to Barner & Bale (2002), several studies suggest that children have an early knowledge of adult-like grammar and "overwhelmingly categorized words on the basis of syntactic context", and "only older subjects (between 4;6 and 6-years-old) were able to consistently use semantics as a basis for category assignment" (Barner & Bale 2002:786). These results clearly contradict both lexical approaches and semantic category assignment.

In summary, the above points provide arguments in favour of an approach in which both the formation of words and their interpretation follow syntactic structure-forming operations and the outcome of syntax proper. This is why I will adopt the framework of Distributed Morphology.

\(^2\) This would be very uneconomical; for every adjective, three forms would have to be accessible: SING strong, SING weak, PLU strong/weak
5 Main claims

The questions raised in section 2.2 above – summarized in (17) – have not yet been satisfactorily addressed.

(17) i. How did the doubling pattern in definite DPs emerge and what is the function of the two determiners?
   ii. What is the role of the adjectival inflection and how does it interact with other morphemes in the DP?
   iii. Which other factors influence the structure of the DP?

Other approaches dealing with the Scandinavian DP have certainly contributed a lot to a theory of the DP in general and to Scandinavian in particular, but have nevertheless neglected issues regarding the reasons for double definiteness, the role of the adjectival inflection, and other issues such as individualization that leave their mark in the structure of the DP. The investigation of the distribution of determiners in Scandinavian has led me to the assumption that double definiteness is neither a mere agreement phenomenon nor a literal doubling of determiners. This insight is not new: the aspects of definiteness encoded by the different determiners in Scandinavian have been commonly referred to as inclusiveness for the preadjectival article and as specificity for the suffixed article (Julien 2005a, among others). What is new, however, is a more fine-grained analysis of the semantic contribution of the respective morphemes to the notion of definiteness, their interaction with the adjectival inflection in modified contexts, and the inclusion of other factors, such as diachronic facts and individuation, which show their direct reflex in the structure of the DP. What is also new is that a single structure can account for all five languages under investigation, and hopefully also for other languages discussed in this thesis.

In detail I claim that the notion of definiteness in Scandinavian is expressed by an interplay of three morphemes, namely the preadjectival article, the suffixed article, and the weak adjectival inflection. The preadjectival article introduces a discourse referent that contains a new discourse variable; the suffixed article brings about specific reference; and the weak adjectival inflection identifies the members of
the subset in the denotation of the modified noun. Furthermore, I suggest that it is the feature matched by the preadjectival article in the double definiteness varieties – discourse reference [disc] – that obligatorily needs to be realized and which, depending on the internal configuration of the respective determiner, straightforwardly leads to double definiteness in Swedish and Norwegian, but not in Danish and Icelandic. In addition, I will show that the function and distribution of the respective articles in all Scandinavian languages is directly linked to different paths of grammaticalisation, thus supporting the distribution of determiners as it is found in the Scandinavian languages today.

Note that a one-to-one mapping regarding the functions of the functional morphemes in the Scandinavian languages will not always be found in every single example used in this thesis. For instance, there is not necessarily the same variation in adjectival inflection in Swedish as there is in Norwegian; however, there are instances of adjectival variation in other contexts in Swedish, and these examples point in the same direction as the Norwegian ones. To give another example, in Icelandic, the origin of the articles differs compared to the other Scandinavian languages. Consequently Icelandic makes use of a different mechanism to distinguish between restrictive and non-restrictive readings of relative clauses than the other Scandinavian languages do, which can use one of their articles. By contrast, Icelandic uses variation in adjectival inflection. Language change and development depends on many factors, and even if the Scandinavian languages share a long common history, it is of course not surprising that they nevertheless differ to quite an extent today. Nonetheless, for the above reasons I do find it useful to deal with the Scandinavian languages in one go and not one by one; I am convinced that individual treatment of the Scandinavian languages would arrive at similar results as this thesis does.

6 Organisation of the dissertation

The fundamentals of part I are continued in chapter 2, which is a mostly empirical chapter that familiarizes with the data at the heart of this analysis and the questions
that arise. I will look at basic data from Swedish, Norwegian, Faroese, Danish, and Icelandic, but also at dialectal variation, such as the extended use of one of the articles as well as peculiarities regarding adjectival inflection. The main part of the next chapter, however, deals with data concerning the distribution of the suffixed article and the preadjectival article in the Scandinavian standard languages and the standard paradigm of adjectival inflection.

In part II, the structure of the DP is motivated. To this end I will discuss three different areas that are, in my view, important for the structure of the DP, namely the diachronic development of definiteness – in particular in the Scandinavian languages –, the nature of nouns, and the nature of partitives.

The diachronic discussion in chapter 3 will provide us with some interesting facts that support the analysis put forth here and which will prepare the ground for the analysis of double definiteness and its explanation in later chapters. Chapter 4 deals with the nature of nominals and their classification, showing that nouns should not be classified at all. This line of argumentation is not only supported by the discussion of cross-linguistic data but also by psycholinguistic arguments and studies from language acquisition. The findings of this chapter straightforwardly lead to, for example, the inclusion of a classifier phrase in the syntactic representation of noun phrases and thus constitute a large part of the structural analysis of definite noun phrases. The analysis of partitive structures in chapter 5 contributes to the analysis of DPs advocated for in this thesis in that it strengthens the arguments put forth in preceding chapters, thus confirming the findings especially of chapter 4 and their syntactic representation.

The third part will then be dedicated to the interaction of the components of the grammar, namely the syntax-morphology interface and the syntax-semantics interface, and to the semantic and structural analysis of definite noun phrases, which unites the findings of earlier chapters with an analysis within the framework of Distributed Morphology.

In chapter 6, important questions regarding the interfaces are introduced and briefly discussed. The semantics of the articles and the adjectival inflection will be dealt with in chapter 7. I will take turns looking at the suffixed article and the preadjectival article, will formulate their semantic content and then investigate the
behaviour of adjectival inflection, that is, the distribution of the weak and partly also strong adjectival ending, and I will suggest what the function of the weak adjectival inflection in Scandinavian DPs is. I will also answer the question why some languages display double definiteness and others do not even though they have two articles at their disposal. The syntactic analysis in chapter 8 will then summarize the findings of the preceding chapters and will try to illustrate the interaction of the different components of definiteness in Scandinavian DPs extracted in the parts before. Double or multiple determination in other languages is the topic of chapter 9. This chapter tries to define the scope of double definiteness and hopes to show that while the phenomena under discussion may not be alike, they nevertheless share very interesting semantic aspects which seem to lie at the base of double determination. Chapter 10 deals with previous analyses of double definiteness in Scandinavian. I will look at – what I believe to be – the most recent analysis (Schoorlemmer 2009) in quite some detail but will also discuss other analyses that have tried to solve the puzzle of double definiteness. The last chapter concludes the discussion and points to questions I have had to leave unanswered and to some interesting issues for further research.
CHAPTER 2 – DOUBLE DEFINITENESS

1 Introduction

Definiteness marking is a phenomenon that is found in about 60% of the world’s languages (Dahl 2007). In Western Europe definite articles are commonly freestanding morphemes that precede the nominal that is being modified. There are however two exceptions: the Scandinavian languages, and some languages spoken in the Balkans. In these languages, definiteness is marked by a suffixed article\(^3\). This is unexpected because the spread of the use of definite articles is commonly seen as originally expanding from the Eastern Mediterranean to the north-west of Europe (Dahl 2007). Thus it does not really fit the picture that the most northern varieties of European languages and some of the eastern languages share a feature which is not present in the central European languages, namely the suffixed article. To complicate the picture even further, some of the Scandinavian languages employ not only a suffixed article but a freestanding one as well.

This basically empirical chapter deals with the distribution of the prenominal and the suffixed article in modified definite DPs in Scandinavian. I will first look at those varieties of Scandinavian that employ double definiteness and will then go on to introduce the simple definiteness varieties of Scandinavian. I will also briefly mention some aspects of dialectal variation that are of interest for the discussion in later chapters. While the data presented here will be interpreted and analysed in

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\(^3\) Even though some of the Scandinavian languages and some of the languages spoken in the Balkans share the feature of suffixing the definite article, these languages can hardly be compared since the function and distribution of the suffixed article differs very much (Dahl 2007).
chapters 7 and 8, where applicable, possible explanations may be hinted at here as well. The last section will summarize and conclude the chapter.

2 Definiteness in Scandinavian

In simple definite DPs, the definite article is attached to the noun (1). When an adjective modifies a definite DP, the suffixed article is omitted and instead a freestanding article is introduced, resulting in the word order that is common for Germanic languages: determiner + adjective + noun (2).

(1) hus-et
    house-DEF
    ‘the house’

(2) det stor-e hus
    DEF big-W house
    'the big house’

The pattern shown in (1) and (2), however, is only valid for Danish. In other Scandinavian languages both the suffixed article and the preadjecival article are employed in definite DPs of the type shown in (2). That is, the suffixed article appears on the noun and an independent determiner precedes the adjective (3). This phenomenon is commonly referred to as ‘double definiteness’.

(3) den ny-a bok-en
    DET new-W book-DET
    ‘the new book’

Double definiteness does not only occur in the Scandinavian languages but also, for instance, in Greek (‘Determiner Spreading’, see Alexiadou 2006), and in certain French superlative constructions (see chapter 9 for a more detailed analysis of
these phenomena). Double definiteness in Scandinavian is of particular interest for a couple of reasons. First, some of the Scandinavian languages are so much alike that the Mainland Scandinavian languages Danish, Swedish, and Norwegian are basically mutually understandable. Faroese and Icelandic, however, have taken a different path of development. Nevertheless, with respect to double definiteness, the languages do not pattern together as might be expected: Danish patterns not with Swedish and Norwegian but with Icelandic, and Faroese patterns with Norwegian and Swedish and not with the other Insular Scandinavian language Icelandic. Second, double definiteness is not restricted to particular classes of adjectives, as is the case, for example, in Greek Determiner Spreading or Romanian cel-structures, but as a rule occurs with all adjectives independent of their categorization. Still, there is a lot of dialectal variation to be found which will not be investigated here in detail. However, some aspects will be dealt with in section 4. For a more detailed analysis of dialectal variation, I refer to Delsing (1993), Vangsnes (1999), Vangsnes, Holmberg & Delsing (2003), Dahl (2007).

2.1 Basic data – Swedish, Norwegian, and Faroese

Non-modified definite nouns show the following paradigm (4): The suffixed article is inflected for number and gender, (4a) is non-neuter (‘Utrum’) singular, (4b) neuter singular, and (4c) shows one of the plural definite articles, –na, which usually attaches to those declensional plural affixes that represent non-neuter, here it is –ar-.

(4) a. bil-en
   car-DET
   ’the car’

   b. barn-et
   child-DET
   ’the child’

Swedish
A second determiner is introduced in phrases such as (5), in which an attributive adjective modifies the noun. This determiner, too, is inflected for number and gender (5). The adjective shows the so-called weak, or definite, inflection. The preadjectival article also occurs with cardinals and other quantifying elements.

(5) a. den grön-a bil-en
    det.green-W car-DET.UT
    'the green car'

b. det lill-a barn-et
    DET.NEU little-W child-DET.NEU
    'the little child'

c. de ny-a klock-or-na
    DET.UT.PLU new-W clock-PLU.UT-DET.UT
    'the new clocks'

(6) a. de fjorton böck-er-na
    DET fourteen book-PLU-DET
    'the fourteen books'

b. de många böck-er-na
    DET many book-PLU-DET
    'the many books'

c. de båda pojk-ar-na
    DET both boy-PLU-DET
    'the two boys'

Double definiteness is also obligatory in structures involving complex demonstrative pronouns, such as den här 'this' and den där 'that', even if the DP is not modified by an adjective (7).
(7)  a. den här bok* (-en)  
the here book-DEF  
‘this book’  
b. den där bok* (-en)  
the there book-DEF  
‘that book’

(8)  a. denna bok  
this book  
b. denna bok-en  
this book-DEF  

The simple demonstrative pronoun *denna ‘this’ (8a) usually belongs to a formal register. In these cases, the suffixed article is not attached to the noun. In colloquial Swedish, however, the suffixed article can nevertheless be attached (8b)\(^4\).

2.2  Basic data – Danish and Icelandic

Non-modified definite DPs in Danish and Icelandic behave as they do in the other Scandinavian languages: the definite article is attached to the noun (9).

(9)  a. hus-et  
Danish  
b. hús-íð  
Icelandic  
house-DEF  
‘the house’

(10)  a. det store hus  
Danish  
DEF big-W house  
‘the big house’

---

\(^4\) Thanks to Tommy Resmark (p. c.) for pointing this out to me. Harry Perridon (p. c.) observes that the use of *denna plus the suffixed article is not colloquial but regional (South and West Sweden).
b. gamla húsið

old-W house-DEF

'Icelandic

'the old house'

The languages differ though with respect to adjectival modification. Danish introduces an independent article preceding the adjective and the suffixed article is omitted (10a), while in Icelandic the suffixed article is retained and no further article is introduced (10b). In both languages, then, there is no double definiteness. Rather suffixed articles and independent articles occur in complementary distribution.5

2.3 Optionality or elimination of one of the articles

In order to gain a better understanding of the function of the respective article, those cases in which either the preadjectival article or the suffixed article is optional or even obsolete are of interest. If double definiteness is not a mere agreement phenomenon but is rather of interpretive value, then a difference in meaning is predicted for DPs that do not exhibit the default structure. This prediction is borne out, as the following sections show.

2.3.1 The suffixed article

2.3.1.1 Swedish, Norwegian, and Faroese

If the suffixed article is omitted, the result is an abstract reading (11a). Here, reference is not made to a particular school but to a teacher who is one of the old school, for example in his way of teaching. However, if the intention is to refer to a particular building, i.e. if a concrete reading is intended, then the suffixed article is obligatory (11b).

In Icelandic, the definite article may also be placed preceding the adjective: (h)íð gamla hús “DEF old-W house”. However, the Icelandic native speakers participating in this research preferred that structure in only one particular example and otherwise exclusively used N+DEF. This distribution of the definite articles in Icelandic will be discussed in more detail in subsequent chapters.
(11) a. Han er en lærer av den gaml-e skole(-n).
   he is a teacher of old-W school-DEF
   ‘He is a teacher of the old school.’

b. Vi så på den gaml-e skole*(-n)
   we saw at old-W school-DEF
   ‘We looked at the old school.’ Norwegian, Julien (2005a:37)

A similar contrast is shown in (12) for Norwegian and in (13) for Swedish. Both examples contain so-called 'absolute superlatives', which do not express comparison but a very high degree of the quality contributed by the adjective.

(12) a. Dei oppfører seg som dei verst-e bøll-ar
   they behave REFL as worst-W brute-PL
   ‘They behave like the worst brutes’ Norwegian, Julien (2005a:36)

b. Dei oppfører seg som dei verst-e bøll-a-ne
   they behave REFL as worst-W brute-PL-DEF
   ‘They behave like the worst brutes’

(13) Han uppför sig som den värst-e buse
   he behaves REFL as worst-W brute
   ‘He behaves like the worst brute’

In the example without the suffixed article (12a), the reading is non-referential and the speaker does not know who those people are. In (12b), where the suffixed article is present, the speaker is referring to specific people and a referential reading is obtained. This referentiality of the suffixed article is also shown in examples such as (14).

(14) a. Svensson-s ny-a bil
   Svensson-GEN new-W car
   ‘Svensson's new car’ Swedish

---

6 Example (12) has been contributed by an anonymous reviewer of Lohrmann (to appear).
b. bil-en-s ny-a däck
car-DEF-GEN new-W tyres
'the car's new tyres'

In genitival structures, common nouns need the suffixed article (14b), while proper names can do without it (14a). The example shows that the suffixed article supplies some sort of reference to the DP that otherwise is contributed by the use of a proper name.

The contribution of the suffixed article can also be seen in examples with other quantifying elements such as 'all'. Here the meaning changes depending on the use of the suffixed article (15). (15a) makes use of the suffixed article and therefore refers to particular children, whereas (15b) refers to children in general (cf. Holmes & Hinchliffe 2003:155).

(15) a. alla barn-en
    all child-PLU.DEF
    'all (of) the children'

b. alla barn(*-en)
    all child-ø
    'all children'

(15a) actually has a partitive meaning without using explicit partitive morphology or other devices such as word order, while (15b) has a kind reading. This difference will be described in greater detail and a possible syntactic explanation to account for this difference within the DP structure suggested in this thesis will be offered in chapters 4 and 5.

The kind of specific or concrete reading the suffixed article contributes to the definite reading of a DP can also be taken on by a restrictive relative clause (16). Here, too, the suffixed article is redundant.
(16)  den bok(*-en) som säljer flest exemplar  
  DEF book DEF that sells most copies  
  'the book that sells most copies'  

Delsing (1993)

The relative clause helps to identify the referent of the noun. The redundancy of the suffixed article suggests that the function of this determiner has something to do with this kind of specificity.

2.3.1.2 Danish and Icelandic

The examples in (17) and (18) show that different readings which depend on the use of the suffixed article (abstract vs. concrete, as obtained in the equivalent sentences in Swedish and Norwegian) can only be achieved by context. That is, in both examples only the default structure is possible, which is A – N+DEF in Icelandic, and D – A – N in Danish.

(17)  a.  Han er kennari af gaml-a skóla-num.  
      he is teacher of old-W school-DEF  
      'He is a teacher of the old school.'

     b.  Við horfðum á gaml-a skóla-nn.  
      we looked at old-W school-DEF  
      'We looked at the old school.'

(18)  a.  Han er en lærere af den gaml-e skole.  
      he is a teacher of DEF old-W school  
      'He is a teacher of the old school.'

     b.  Vi så på den gaml-e skole.  
      we saw at DEF old-W school  
      'We looked at the old school.'

The same holds for differences in referentiality found in Swedish and Norwegian (cf. example 12). The equivalent sentences in Danish and Icelandic are ambiguous (19).
Again, in Danish and Icelandic, the difference between a referential and a non-referential reading cannot be inferred from structural conditions.

2.3.2 The preadjectival determiner

2.3.2.1 Swedish, Norwegian, and Faroese

Julien (2005a) notes that even if the referent of the DP in (20a) has not been mentioned before, it is clear that there must be “a new car in the universe of discourse” (Julien 2005a:33). The structure without the preadjectival article (20b) is used instead if the referent is very familiar, that is to say, if the people involved in the discourse already know about the new car. The co-ordination of two DPs also shows that the preadjectival article is of interpretive value (21). Example (21) is taken from Anderssen (2006).

you can take DEF new-W car-DEF
'You can take the new car.'

(21) a. den talentfulle akademiker-n og den dyktige administrator-n
DEF talented academic-DEF and DEF accomplished administrator-DEF
'the talented academic and the accomplished administrator'
b. den talentfulle akademiker-n og dyktige administrator-n  
DEF talented academic-DEF and accomplished administrator-DEF  
'the talented academic and accomplished administrator'

In (21a) each co-ordinate has a preadjectival article; in (21b), only the first one. (21a) is ambiguous with respect to the number of people, whereas (21b) is unambiguous and clearly refers to one person only. This co-ordination structure thus shows that the preadjectival determiner contributes to the interpretation in that it introduces a further A+N relation.

The preadjectival article can also be omitted – and in fact is omitted (Dahl 2007:117) – in structures containing perspectival items (norra ‘north’, övre ‘upper’ etc. (22a)), ordinals (22b), or superlatives (22c).

(22) a. (det) sista par-et  
DEF last pair-DEF  
‘the last pair’

b. (den) tredje gång-en  
DEF third time-DEF  
‘the third time’  
Delsing (1993:119)

c. (den) yngste son-en  
DEF youngest son-DEF  
‘the youngest son’  
Dahl (2007:118)

What perspectival items, superlatives, and ordinals share is that they all contain inherent discourse reference in the sense of pointing at something in relation to something else. For example, sista paret ‘the last pair’ clearly denotes the part in a series of things that comes after all the others; norra delen ‘the northern part’ points at a particular direction in contrast to other directions; and yngste sonen ‘the youngest son’ points at a particular son in relation to the other sons. As Dahl (2007) indicates, “he may not at all be young if considered in isolation.” (Dahl 2007:118). What is of interest for the analysis pursued here is not only the relation that is established by the use of a perspectival item, but rather that perspectival items,
superlatives and ordinals presuppose familiarity with the concept of the noun. That is, talking about ‘the youngest son’ presupposes that those participating in the discourse know that there even is a son – or at least assume that there is. When looking at it in this way, it is not surprising that the preadjectival article is as superfluous as it is in familiar structures of the kind in (20).

2.3.2.2 Danish and Icelandic

With respect to different readings achieved in Swedish and Norwegian depending on the (non-)use of the preadjectival article, Danish and Icelandic remain ambiguous. Whether the car is familiar or not, the definite article in (23) is obligatory in Danish as well as in Icelandic.

(23)  a. Du kan tage den ny-e bil
     you can take DEF new-W car
     'You can take the new car.'

     b. Þú getur tekið nýj-a bil-inn
     you can take new-W car-DEF
     'You can take the new car.'

The co-ordinate structure in (21), however, shows some interesting variation between Danish (24) and Icelandic (25) on the one hand, and variation among Icelandic native speakers on the other (25b/c), as the following examples exemplify.

     DEF talented academic and DEF accomplished administrator
     'the talented academic and the accomplished administrator'

     b. Den talentfulde akademiker og dygtige administrator.
     DEF talented academic and accomplished administrator
     'the talented academic and accomplished administrator'
In the Danish examples, the independent article seems to disambiguate the expressions so that in (24a), where two articles are employed, two people are referred to, whereas (24b), which makes use of only one independent article, clearly talks about one person only. This suggests that in those Scandinavian languages that do not make use of double definiteness, one determiner actually contains features or components of definiteness that otherwise are divided into different morphemes, namely the independent article and the suffixed one. This view is supported by further analysis in chapter 7.

As opposed to Swedish and Norwegian, the Danish example (24a) is not ambiguous but clearly denotes two people. I conclude from this that the use of a second independent determiner contains a component of definiteness that obviously has something to do with introducing a new variable into the discourse. This observation is supported by example (25b): although some Icelandic speakers do not differentiate between the two readings, others do so, introducing one freestanding article instead of the two suffixed ones in order to disambiguate the above structures and arrive at a reading that refers to one person only (25b). The fact that other Icelandic informants do not distinguish between reference to one or two people – so that sentence (25a) is ambiguous – leads to the conclusion that the suffixed article in Icelandic, or at least in those varieties spoken by the respective informants, does not contain a semantic feature that in the other Scandinavian languages seems to be present in the freestanding article – or, that it is present in both Icelandic articles. Chapter 7 will show that the latter is actually the case. As mentioned before, I assume that this component can be associated with the function of introducing new denotations into the discourse (for more on the semantic contribution and its syntactic consequences of the independent and the suffixed article, see chapter 7).
3. **Basic data adjectival inflection**

Adjectives in Scandinavian show strong or weak inflection. The strong (or indefinite) form is used both attributively and predicatively and changes according to gender and number\(^7\) (26).

\[
\begin{align*}
\text{a.) } & \text{ en ung-ø flicka} & \text{Swedish} \\
& \text{INDEF.UT young-S.UT girl} \\
& \text{'a young girl'} \\
\text{b.) } & \text{ett stor-t hus} \\
& \text{INDEF.NEU big-S.NEU house} \\
& \text{'a big house'} \\
\text{c.) } & \text{stor-a hus-ø} \\
& \text{big-S.PL house-PL} \\
& \text{'big houses'} \\
\end{align*}
\]

The weak (or definite) form is only used attributively and is independent of gender and number. The ending used to indicate the weak form of the adjective is the same as that for the indefinite plural. In Swedish, for instance, this ending is \(-a\) (27)\(^8\).

\[
\begin{align*}
\text{a.) } & \text{ den ung-a flick-an} & \text{Swedish} \\
& \text{DEF young-W girl-DEF} \\
& \text{'the young girl'} \\
\text{b.) } & \text{det stor-a huset} \\
& \text{DEF big-W house-DEF} \\
& \text{'the big house'} \\
\text{c.) } & \text{de stor-a hus-en} \\
& \text{DEF.PL big-W house-DEF.PL} \\
& \text{'the big houses'} \\
\end{align*}
\]

\(^7\) The predicative use of adjectives will not be discussed in this thesis.

\(^8\) There is a second ending for the weak declension, namely \(-e\). However, in the majority of cases \(-a\) is used, while \(-e\) occurs only in very restricted contexts or as an alternative. The latter is the case if adjective and noun denote a male person. (Holmes & Hinchliffe 2003:79).
The choice of strong vs. weak form is determined by semantic aspects: the weak form is chosen if the modified DP is definite; the strong form is taken if the DP is indefinite. The basic paradigm of adjectival inflection in the Standard Scandinavian languages can thus be summarized as follows (28).

(28)

<table>
<thead>
<tr>
<th></th>
<th>Weak</th>
<th>Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>UT.SG</td>
<td>ø</td>
<td>t</td>
</tr>
<tr>
<td>NEU.SG</td>
<td>a</td>
<td></td>
</tr>
<tr>
<td>PL</td>
<td></td>
<td>t</td>
</tr>
</tbody>
</table>

Table 1 – Adjectival inflection

4. Dialectal variation

The use of the different articles as well as the use of the adjectival inflection is subject to dialectal variation. I will show some of the exceptional cases, especially those that help identify the function of the respective morphemes, but I will restrict myself to Northern Scandinavian, mainly Northern Swedish dialects. For more information I refer to researchers who have dealt extensively with micro-variation in the Scandinavian languages (Delsing 1993, Vangsnes et. al. 2003, Julien 2005a, Dahl 2007, among others).

What is in the literature referred to as the Northern Swedish dialect area (Delsing 2003, Vangsnes et. al. 2003, Dahl 2007) covers about half of the geographical area of Sweden, but only about 13 per cent of the population are native to this area (Dahl 2007:12). In view of the size of the area and the very low population density it does not much surprise me that there is great variation among the different dialects.

4.1 The extended use of the suffixed article

In northern Swedish dialect areas, the suffixed article is used in more contexts than in both the Standard language and in southern dialects. According to Delsing (1993:50),
the suffixed article is used with “uncountable nouns and in the cases where Standard Swedish would have a bare plural or a bare singular”. The following Northern Swedish examples are all taken from Delsing (1993) if not stated otherwise. In (29a) the suffixed article is attached to a mass noun; in (29b) the article is attached in a pseudo-partitive structure.

(29) a. myttje smör(e)  
    much butter-ART  
    ‘much butter’  

b. a glas vattn(e)  
    a glass water-ART  
    ‘a glass of water’

(30) a. myttje ko(en)  
    much cows-ART  

b. mycket ko-r  
    much cow-PL  
    ‘many cows’

c. a par jänt(en)  
    a pair girl-ART

d. ett par jänt-or  
    a pair girl-PL  
    ‘some girls’

Examples (30a) and (30c) show the use of the suffixed article in cases in which Standard Swedish uses bare plural constructions (30b,d). If the nominal is introduced by a quantifying or determining element, as is the case in the above example, then the article usually is omitted. In (31), on the other hand, where a suffixed noun is used instead of a bare singular nominal, the suffixed article does not seem to be optional.
(31) Hä ä ont ätt lök-en.

there is poor after [=not much] onion-Art

‘There are not many onions.’

I agree with Delsing (1993) in drawing parallels to Romance partitive structures, where in similar contexts the partitive article is replaced by a preposition (32). Delsing thus concludes that Northern Swedish has a suffixed partitive article. According to Delsing (1993), this article is indefinite, as is its Romance counterpart, even if its form is the same as the definite article. Definite DPs, however, cannot occur in existential constructions\(^9\). Since the Scandinavian ‘partitive article’ is allowed in existential constructions (cf. the example in (31)), it seems reasonable to assume that it is only the form that is identical, not the function, and that in fact the determiner used in these constructions is an indefinite plural article (cf. also Dahl 2007).

(32) a. Il y’a du beurre

it there have Part butter

‘There is butter’

b. *Il y’a beaucoup du beurre

it there have enough Part butter

‘There is enough butter’

c. Il y’a beaucoup de beurre

it there have enough of butter

‘There is enough butter’

Delsing (1993) further concludes that all countable nouns can be used as either inherently singular or inherently plural uncountables. Therefore, there are three forms of uncountable nominals listed in the lexicon: inherently uncountable nouns, bare plurals, and bare singulars. In chapter 4 I will argue for a theory in which nouns are not categorized at all, neither as nouns as such nor as mass or count nouns. The

\(^9\) Perridon (p.c.) comments that this may be a rather common belief, but that it is not necessarily the case that so-called existential constructions are indefinite. They can also be, for example, a number on a list "then there was the…", etc. (see also Perridon 1989:218-221).
arguments I will put forth are based not only on cross-linguistic evidence but also on psycholinguistic experiments. What is of interest here – and this is why I have chosen to present the examples above – is that the shared syntactic analysis I assume for both particular Germanic nominal structures and Romance partitive structures is supported by the dialect data presented here in that the structures Delsing (1993) terms *partitive* (*pseudo-partitive* in Koptjevskaja-Tamm 2001 and *non-delimited* in Dahl 2007) correspond to the Romance pattern.

### 4.2 Adjectival incorporation and inflectional variation

As described above, in Standard Swedish DPs that include adjectival modification consist of two determiners: an independent one preceding the adjective and a suffix attached to the noun. In northern Swedish dialects, however, the adjective may be incorporated into the noun, and the freestanding article is omitted (33).

(33)  
\begin{align*}
a. & \text{ stor-hus-}\text{e} \\
& \text{ big-house-DEF} \\
& \text{ ‘the big house’} \\

b. & \text{ gamm-svart-katt-}\text{a} \\
& \text{ old-black-cat-DEF} \\
& \text{ ‘the old, black cat’} \\
\end{align*}

Delsing (1993:122)

The structures in (33) pose a couple of challenges for a syntactic analysis of the Scandinavian DP. Interesting to note here is that in the above example the adjectival inflection is missing. However, if the adjective is not incorporated, the adjective carries weak inflection (34) – despite this, double definiteness does not occur\(^{10}\).

10 It looks as if those Scandinavian dialects that use simple definiteness show multiple indefiniteness in modified indefinite DPs. One difference, however, lies in the number of articles: every adjective triggers a separate indefinite article.

i) \begin{align*}
en & \text{ stor en svart en bil} \\
& \text{ a big a black a car} \\
& \text{ ‘a big black car’} \\
\end{align*}

(Holmberg & Plat Zack 2005)
In an approach such as the one put forth here with the adjectival inflection carrying meaning, this is an important question that needs to be addressed in order to verify the analysis argued for in this thesis. Chapter 7 will offer a solution to the missing adjectival inflection in cases of incorporation.

It is not only in Northern Swedish dialects that the adjectival inflection is not obligatorily realized. According to Vangsnes (2007), there are non-standard varieties which lack the weak/strong distinction altogether. Some further deviations from the inflectional paradigm of the standard languages are the following (Vangsnes 2007):

i) Southwest Norwegian dialects show a richer inflectional paradigm
ii) Dialects without overt marking in the plural
iii) In Icelandic, strong adjectival inflection can be combined with definite contexts to achieve non-restrictive readings.

I will not be able to deal with all of the microcomparative aspects listed here, but, especially the last aspect in the above list, the combination of strong inflection with definite contexts, will be of particular interest when discussing the semantics of the adjectival inflection (see chapter 7).

4.3 Possessive constructions

The goal of this subsection is to show the syntactic variation of possessive constructions in the Scandinavian standard languages and varieties – the

However, as opposed to double definiteness, multiple indefiniteness a) is optional and b) is restricted with respect to the type of adjective it occurs with so that non-intersective (ii) and non-gradeable adjectives seem to be out (p.c. Anna Wiklund, p.c. Lars-Olof Delsing)

ii) John is a good lawyer = John is good as a lawyer; BUT NOT John is good and John is a lawyer
interpretation of global contexts outside the DP, however, need not necessarily be reflected in syntax. This is why I will here abstract away from different interpretations of possessor-constructions in the sense that, for example, the boy's bike can either refer to a bike the boy possesses, which is then a part-whole relation, or to a bike the boy has made, an agentive relation where the boy is the agent and the bike a result (see also Perridon 1989, Koptjevskaja-Tamm 2003, Julien 2005 for more detailed surveys of possessor relations and genitive constructions in Scandinavian). I will also not go into detail regarding possessor constructions in the Scandinavian languages but will only show some interesting cases that raise questions with respect to the realization of definiteness.

The canonical position for possessives in Standard Swedish is illustrated in (35a,b). Postnominal possessives (35c) are found in Norwegian as well as in Northern Scandinavian dialects, Icelandic and written Faroese.

(35) a. min bok
    my book

b. min ny-a bok
    my new-W book
    'my new book'

c. bok-en min
    book-DEF my
    'my book'

Interesting in the above example is that postnominal possessor structures seem to trigger the suffixed article whereas prenominal position of a possessive pronoun does not. I will come back to this phenomenon and offer quite a straightforward explanation in chapter 10 in connection with the discussion of previous approaches regarding this pattern. Northern dialects do not only show variation with respect to the placement of the possessor but also with respect to gender agreement. This is shown in (36).
Apart from the fact that possessive pronouns can be used with articles – which is maybe not that surprising when considering that northern dialects also combine proper names and articles – the possessive pronoun in (36a) agrees with the head noun in number and in gender, while the one in (36b) does not. Pronouns that do not show any agreement at all seem to give rise to the suffixed article, whereas the use of the suffixed article in combination with an agreeing pronoun is grammatically incorrect. In my view it is worth considering that this does not necessarily have much to do with gender as such, but that it could be related to the fact that the first pronoun shows masculine gender inflection. Prokosch (1939:228) quotes Brugmann on this topic:

"The most numerous type of Indo-European nouns, the o-stems, appears in historical times generally as masculine gender. But it did not originally denote the male human being […], nor did it refer to inanimate objects as 'male' […]. IE *ekwos 'horse' did not necessarily mean 'stallion' but merely signified a definite individual horse. The corresponding stem in –ā, *ekwā, had either generic or collective force, i.e. denoted the type horse or a group of horses."

If this observation is correct, then the answer to the pattern above could be that in this dialect, masculine inflection seems to have retained some definite properties and thus the suffixed article is not triggered (but cf. Vangsnes 1999 for an analysis based on the identification of functional projections).

Masculine gender included individuation [ind], a notion that in the analysis put forth here is realized via ClassP. Nouns raise to ClassP to be individuated, which, in Scandinavian, results in the addition of the declensional affix (37).
In the case mentioned above, I assume that individuation can be realized via the possessive pronoun, whose features are merged in ClassP and thus the noun remains in situ. If this is the case, then we should not find this kind of agreement in adjectival modification, since there would be no room to intervene between Class° and N° apart from Spec, NP – unless the possessive pronoun itself is seen as an adjective. If the noun remained in situ in these cases, this would also explain in a straightforward manner why no definite article is attached. I cannot explain, however, why the definite article needs to be attached in contexts where the non-agreeing possessive pronoun is used in prenominal position – again, unless the possessive pronoun in prenominal position is regarded as an adjective.

Maybe the observation about masculine gender having retained some aspects of definiteness in some dialects is an oversimplification, or maybe it even is implausible. However, it shows that explanations for phenomena found in languages today might not necessarily be captured only syntactically, but that in analysing particular patterns semantic considerations are of importance as well as diachronic issues. Chapter 3 will contribute to this discussion in that it will show that diachronic facts can help solve synchronic puzzles.

4.4 Summary

In summary, judging by the dialectal variation found in the literature, which has been presented here in parts, it could be said that the strength of the preadjectival article

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11 I have not been able to find a suitable example in the literature and have no informants from that dialect area. If adjectives can intervene, then the following lines would have to be neglected. In any case, they are speculative already.
and the use of the suffixed article changes gradually when going diagonally from the south-west to the north-east, starting with simple definiteness in Danish, proceeding through various double definiteness areas and finally ending up with simple definiteness again in Icelandic, this time, though, through the primary use of the suffixed article.

The following table summarizes the word order patterns found in Scandinavian DPs. Not all instances of word order variation have been collected here and not all of them presented in the table have been discussed. However, the table shows the incredible diversity of the Scandinavian DP. The data in Table 1 is a compilation from different sources (Hammar 1958, Haugen 1982, 1984, Delsing 1993, Vangsnes et al. 2003, Holmes & Hinchliffe 2003, Julien 2005a).

<table>
<thead>
<tr>
<th></th>
<th>definite NPs</th>
<th>adjectival modification</th>
<th>non-pronominal possessor</th>
<th>pronominal possessor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Danish</strong></td>
<td>N-Def</td>
<td>Def A N</td>
<td>Jons N</td>
<td>min N</td>
</tr>
<tr>
<td><strong>Swedish</strong></td>
<td>N-Def (Def N-Def)</td>
<td>Def A N-Def</td>
<td>Jons N</td>
<td>min N</td>
</tr>
<tr>
<td><strong>Norwegian</strong></td>
<td>N-Def (Def N-Def)</td>
<td>Def A N-Def</td>
<td>Jons N</td>
<td>min N min N-Def min</td>
</tr>
<tr>
<td><strong>North. Sw. dialects</strong></td>
<td>N-Def A-N-Def</td>
<td>Def A N-Def</td>
<td>Jons N-Def N-Def Jons</td>
<td>min N-Def N-Def min</td>
</tr>
<tr>
<td><strong>Icelandic</strong></td>
<td>N-Def Def-N</td>
<td>A N-Def Def A N</td>
<td>N-Def Jons N Jons</td>
<td>min N N-Def min N min</td>
</tr>
</tbody>
</table>

Table 1 – Inner-Scandinavian and dialectal variation

The first column lists the patterns of non-modified DPs. Notice the use of double definiteness in Swedish even though there is no adjectival modification. Santelmann (1993:156) says that this occurs “if the NP has an emphatic or demonstrative meaning. Intonation and context require the noun to be contrasted with something else.” This contrast is achieved by stressing the determiner, and this is why I assume that this is not a case of double definiteness in the sense of employing two articles but that these are clear cases of demonstrative uses. Vangsnes (1999), too, agrees that these cases are not instances of double determination but of demonstrative DPs.
As mentioned above, in adjectival modification the table shows a tripartition with simple definiteness in Danish and Icelandic, double definiteness in the mainland Scandinavian languages, and again simple definiteness plus adjective incorporation in northern Swedish dialects.

Possessors can follow the noun, and this is so in all Scandinavian languages apart from Swedish. According to Vangsnes (1999), it still is quite a mystery under which circumstances either the prenominal or the postnominal possessor is chosen.

Since this is not a work of micro-variation in the Scandinavian languages, I will not be able to analyse every instance of variation in detail. I assume, however, that a particular syntactic structure should not only hold for one single language but that cross-linguistic variation gives valuable hints for the structure of the DP. Syntactic structure should be able to account for inner-linguistic variation just as well, since this is what shows us what exactly is possible in a language and may shed some light on the semantic and syntactic contribution of the items involved.

In this chapter I have shown the basic empirical data which is at the heart of the discussion and analysis put forth in this thesis. The inner-Scandinavian and dialectal variation presented in this chapter leads to questions already formulated in the introduction, in particular to questions concerned with the 'why' of doubling patterns, with the function of the articles and the adjectival inflection, and with their interaction – between and amongst themselves and with definiteness.

In subsequent chapters I will give semantic as well as syntactic explanations for the patterns shown in this chapter, and it will become clear that the distribution of the respective determiners and the adjectival inflection can be seen as a reflex of syntactic patterns. Before I do so, however, I will further motivate the structure of the DP. To this end I will not only look at diachronic aspects regarding the development of definiteness in the Scandinavian languages, but will also look at other languages, even some non-Indo-European languages and will compare patterns found there to arrive at a hopefully cross-linguistic representation of the DP. This will be the purpose of the following chapter.
PART II – MOTIVATION OF DP-STRUCTURE
CHAPTER 3 – DIACHRONIC MOTIVATION

1 Introduction

The data presented in the preceding chapter suggests that double marking of definiteness in the Scandinavian double definiteness languages is not superfluous but mirrors the semantic contributions of the respective morphemes. Support for this comes from diachronic evidence.

For this reason, in this concise chapter I will motivate aspects of the DP regarding the articles and the adjectival inflection from a diachronic perspective. Specifically, I will first look at the development of the suffixed and the preadjectival article, which will help to understand why the semantic contributions of the two determiners are not the same. In this part, the development of the two patterns – suffixation of article vs. prenominal article – will also be investigated and answers as to why the Scandinavian languages developed differences in the realization of definiteness will be provided. A further subsection will then be concerned with the development of the adjectival inflection, which also gives valuable insight into the function of the adjectival inflection in the modern Scandinavian languages. The conclusion will summarize the findings and show the relevance of a diachronic discussion for the structure of the DP in Modern Scandinavian.

The discussion in this section addresses issues that in some respects depend on the discussion on the semantics of the articles and the adjectival inflection. Thus every now and then – especially in the concluding section – I will have to refer to issues that will come up only in the next chapter.
2 The development of double definiteness and the adjectival inflection

2.1 The development of the definite article(s)

Different theories have tried to explain the development of the suffixed article (cf. Delbrück (1916), among others). As is assumed in the literature (cf., for instance, Braunmüller 1982), definite articles commonly develop out of demonstrative pronouns. According to Stroh-Wollin (2009), the Scandinavian languages developed three different definiteness markers. One of them, the free article \( (h)inn \), got "practically lost in modern Scandinavian, but can occasionally be found in formal (chiefly written) Icelandic." (Stroh-Wollin 2009:4). As can be seen in the chapter on the semantic contributions of the articles and the question of why some languages resort to double definiteness while others do not despite the fact that they have two articles at their disposal, the fact that one of the freestanding articles survived only in Icelandic will be of special interest (see chapter 7).

According to Stroh-Wollin (2009:5), the markers of definiteness which the Scandinavian languages developed are the following:

- The definite suffix \(-inn\) (in modern Swedish, Norwegian, Danish \(-en\)), which originates from the demonstrative \((h)inn\)
- The preadjectival definite article \((h)inn\) from the same demonstrative, which got lost apart from Icelandic
- The preadjectival definite article \(s\acute{a}/pen\) (in modern Swedish, Norwegian, Danish \(den\)) from the demonstrative \(s\acute{a}/pen\)

As the preceding sections have already implied, the puzzle concerning the origin of the articles, especially the suffixed article, has not yet been clearly solved. Stroh-Wollin (2009) assumes without further discussion two demonstratives of the same kind, namely \((h)inn\), which oversimplifies the picture. Perridon (1989) discusses in much more detail the question of from which demonstrative the suffixed article derived. According to him, Old Norse had the following demonstratives: \(s\acute{a}\) 'that', \(sj\acute{a}\) 'this', \(hinn\) 'that over there/yonder, the', and \(inn\) or \(enn\) 'that, the', each
displaying a full paradigm with forms inflected for case, gender and number. According to Perridon (1989:129), there are theories that either assume that inn is the origin of the suffixed article, or that it is hinn, which has its origin in inn strengthened by h- to form hinn, which then developed into the suffixed article. This question is further complicated by the unclear origin of the deictic element h- and whether this h- goes back to strong here-deixis or weaker that-deixis.

According to Noreen (1913), inn is used as an article before adjectives but following nouns, to which gradually it came to be suffixed. The very same inn was reinforced by combination with another pronoun leading to hinn ‘yonder’, which was used instead of inn and enn also as an article. Noreen assumes that the h- in hinn derives from a deictic element with strong here-deixis and that it replaced inn in adjetival modification.

For the purposes of this thesis, the important fact is that even if the precise development of the articles is still being disputed, there is agreement concerning the different sources for the suffixed article and the preadjectival article, namely two demonstrative pronouns making use of two different inflectional paradigms. Kristoffersen (2002:919) summarizes the discussion as follows. There is one form that basically expresses ‘this’, and a second one – irrespective of the question whether there were two forms in the first place or whether hinn developed from inn – meaning ‘that’. Even if the meaning of sá as ‘this’ and of hinn, inn, enna as ‘that’ are a matter of debate, (cf. the discussion above), it seems to be the case that the suffixed article developed from the latter, whereas the preadjectival one developed from the former.

(1) a. sá / þessi\(^{12}\)
   'this'

b. hinn, inn
   'that'

(Kristoffersen 2002:917)

Sá / þessi in (1a) had pronominal inflection, whereas (1b) inflected like indefinite adjectives (as did possessive pronouns). The age of the suffixed article is a

\(^{12}\) The initial alternation of s- and þ- was inherited from Proto-Indo-European and Proto-Germanic.
matter of debate, however. According to Delsing (2002), it is plausible to assume that the independent article developed from the demonstrative pronouns in (1a) and the suffixed article from that in (1b) (Delsing 2002:930-931).

It can be concluded that both the suffixed article in the modern Scandinavian languages (apart from Icelandic) and the preadjectival independent article developed out of demonstratives, but, crucially, they developed from two different demonstratives. Thus it should not come as a surprise that the further development of grammaticalization differs, resulting in different semantic contributions. Stroh-Wollin (2009) also arrives at the conclusion that the preadjectival article \((h)inn\), which was later replaced by \(pen\ (<sá)\), had a different function from the suffixed definite article. In some of the instances she investigated, \((h)inn\), which only occurs in contexts with weak adjectives, seems to restrict the reference of the noun phrase. That this is still the case in the modern Scandinavian languages will be discussed in chapter 7.

Unlike Santelmann (1993), Embick & Noyer (2001) and Schoorlemmer (2009), who all assume the contribution of the articles to be identical and that the suffixed article needs only the host \(d\)- to be realized in prenominal position, I assume that the semantic contributions of the articles in Modern Scandinavian is a reflex of their origin. Further support for the hypothesis that the suffixed article and the independent preadjectival article are not identical, neither in form nor in function, comes from the development of the different realizations of definiteness.

In Ancient Nordic (1\(^{st}\) – 7\(^{th}\) century), the beginnings of the development of the suffixed article can be seen in the inscription on the whet-stone of Strøm (around 600 AD):

(2)  hali hinó
stone this

(Braunmüller 2002:652)

The demonstrative pronoun is postposed. This is not very surprising since NP modifiers are normally found in postposition in the early West Nordic languages. Following Braunmüller (1982), univerbation of postposed elements after weakening of their original (here: deictic) function is not very surprising, either. Another
outstanding phenomenon of that kind in the Northern Germanic languages is the fusion of the originally independent reflexive pronouns sik, sér with verbal endings to form the Modern Scandinavian middles.

The suffixed article –en has a West and South Jutlandic equivalent æ, which also developed from the demonstrative pronoun (h)inn (Perridon 2002:1019). This West and South Jutlandic definiteness marker, however, is placed before the noun. This means that there is a dialect boundary in Denmark that separates East Jutlandic, which has a suffixed article, from West and South Jutlandic, where two different freestanding articles are used.

(3) a. æ by DEF town
b. by-en town-DEF 'the town'

(4) a. den lille by DEF little town
b. den lille by DEF little town 'the small town'

(5) a. æ hele hus DEF whole house
b. hele hus-et whole house-DEF 'the whole house'

In (3) to (5), South/West Jutlandic data is compared with their Standard Danish equivalents. (3) illustrates that in non-modified definite contexts, West Jutlandic uses a prenominal article, æ, while Standard Danish makes use of the suffixed article. In adjectival modification, however, both West Jutlandic and Danish resort to a further article, the freestanding preadjectival article den (4). This
distribution of the articles is the rule, so that it can be concluded that South/West Jutlandic æ actually is equivalent to the Standard Danish suffixed article. In example (5), however, the adjective hele does not trigger the independent article, as would be expected from the data presented in (3) and (4). Instead, the suffixed article and its freestanding equivalent are used in both South/West Jutlandic and Standard Danish, that is æ and –et are triggered instead of det. The question arises why this is so. Hele 'whole' is different from e.g. lille 'little' in that it does not introduce a new discourse referent but modifies an existing one. This supports the hypothesis that the preadjectival article introduces a discourse referent that contains a new discourse variable. For further arguments in favour of this hypothesis and for a more detailed analysis and implications for the structure of the DP, see chapters 7 and 8.

Summarizing the preceding paragraphs, it can be said that the preadjectival article and the suffixed article developed from different sources. This is why it is likely that they entail different aspects of definiteness and have retained different semantics. The data from West Jutlandic supports this view, since regular patterns of definiteness and modification can be detected that seem to be chosen depending on the aspects of definiteness that need to be expressed. A question that still has not been addressed is why the Scandinavian languages developed a suffixed article at all and not a freestanding article, or two freestanding articles like Western Jutlandic.

According to Perridon (2002), the use of the suffixed article had spread to the whole of the Scandinavian language area by the first half of the 12th century. However, West and South Jutlandic developed a prefix and not a suffix, as discussed above. I follow Braunmüller (1982), Perridon (2002) and Stroh-Wollin (2009) in the assumption that the reason for the different realizations of definiteness is due to major word order changes within the NP. In earlier Scandinavian, demonstratives and other modifiers, such as adjectives, were placed postnominally. During the Viking Age (800-1000 AD), however, the word order within NPs changed and attributes came to be placed before the noun, or, perhaps the noun was no longer raised to first position. Whatever the structural process was, the result remains the same, namely the order adjective – noun. This change must have originated in Jutland. By comparing of runic inscriptions, it has been determined that the majority

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13 This view is also supported by the analysis of relative clauses (see chapter 7).
of attributes (24 out of 28) was placed before the noun in Jutlandic but in only some of the rest of the Danish inscriptions. In Swedish inscriptions from the 11th century, postposition of attributes seems still to be the rule. In the rest of Scandinavia, the change in the position of attributes must have occurred after noun plus \((h)inn\) had turned into definite noun forms. Consequently, South/West Jutlandic has a prenominal article, because the word order change occurred before the article was suffixed, whereas in the rest of Scandinavia, the postnominal determiner was reinterpreted as a suffix before attributes were placed prenominally. Looking at definiteness in Scandinavian from this angle, there is nothing special at all about Standard Scandinavian employing a suffixed article. What is special, however, is that the Scandinavian languages seem to split the concept of definiteness into different morphemes, that is, different aspects of definiteness seem to be expressed by different realizations of D – irrespective of the fact whether one of the articles is a suffix or not. What I have to leave open here is why the different semantic contributions of the articles were not united in one morpheme but instead were split and expressed by more than one morpheme.

To sum up, the preadjectival article is a later development than the suffixed one, the use of definiteness markers to express the concept of definiteness has developed over a long time, and the question that is still open is why the Scandinavian languages opted for different morphemes.

2.2 A note on the development of the adjectival inflection

The Germanic adjectival inflection is special in that it shows a weak/strong distinction. The questions that arise here are i) why did this develop in the first place, that is, what was the function behind this development, and ii) what does this tell us about the adjectival inflection today? To this end, I will go back in time quite far and look at the development both of nouns as well as adjectives, beginning with Proto-Indo-European (PIE), through Germanic to Scandinavian. The following brief journey through time will hopefully provide some insight regarding the function of the adjectival inflection and will also provide support for the hypothesis advocated
for in this thesis, namely that the adjectival inflection picks out the relevant members in the subset of the denotation of adjective and noun.

### 2.2.1 Nouns

Nominal morphology in older stages of the Indo-European languages was characterized by a large number of declensional classes organized in probably two genders. The discussion as to whether there were two or three genders in PIE has not yet come to a final conclusion, but most scholars assume that there were two (see, for example, Szemerényi 1999, Meier-Brügger 2000, Schwink 2004). “This [a two-gender system] is the only conclusion to be drawn from the fact that in ancient inflexional classes the masculine and feminine do not differ in their inflexion, but together contrast with the neuter […]” (Szemerényi 1999:156). Meier-Brügger (2000:188ff) refers to these genders as *Class A* and *Class B*, classifying this two-part system as illustrated in the table below.

<table>
<thead>
<tr>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>• objects conceivable as operating in verbal discourse</td>
<td>• objects conceivable as not operating in verbal discourse</td>
</tr>
<tr>
<td>• animate</td>
<td>• inanimate</td>
</tr>
<tr>
<td>• personal class</td>
<td>• object class</td>
</tr>
<tr>
<td>• non-neuter</td>
<td>• neuter</td>
</tr>
</tbody>
</table>

Table 1 – Ancient Indo-European noun classes

It was probably the inclusion of natural gender in Class A that laid the groundwork for the change to a three-part system. Interesting is that a suffix belonging to Class B that was used to form abstract and collective nouns was used to form the first individual feminina of Class A (Meier-Brügger 2000:188). Schwink (2004) assumes that the introduction of a third gender disrupted the existing noun classes and in its wake massive changes occurred, such as the introduction of the twofold paradigm of adjectival declension.
2.2.2 Adjectives

In PIE, nouns and adjectives were closely related and in principle were inflected alike, except that for adjectives there were forms for each of the genders. The origin of the weak adjectival inflection lies in the nominal paradigm of the weak n-stems, which belonged to Class A. The origin of the strong adjectival inflection had also been those of nouns, but was replaced by endings of pronominal adjectives, such as quantifiers, which were inflected like the demonstrative ‘that’ and belonged to Class B (McFadden 2003). This is summarized in Table 2.

<table>
<thead>
<tr>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>• n-stems (origin of weak adjective declension)</td>
<td>• origin of strong adjective declension</td>
</tr>
<tr>
<td>• *se-h₂- ‘this’</td>
<td>• *te- h₂- ‘that’</td>
</tr>
<tr>
<td>• distributive-additive plural</td>
<td>• comprehensive-collective plural</td>
</tr>
</tbody>
</table>

Table 2 – Examples for the content of the two noun classes

Schwink (2004) claims that weak n-stem inflection was inherently definite, but he does not specify what his understanding of inherent definiteness is, that is, is it specificity, familiarity, or is he referring to other aspect(s) of definiteness? Ringe (2006:170) is much more precise and notes that it is “reasonable to hypothesize that the n-stem suffix of the weak adjective paradigm was originally a definite article”. What is more, this suffix also appears in names in Greek and Latin and words marked with this suffix could not only appear attributively within a noun phrase, but probably also as full noun phrases in apposition – this suffix seems to have had an ‘individualizing’ function (Ringe 2006:170). Therefore it can plausibly be assumed that remnants of this individualizing function may still be present in the weak adjectival ending today. The examples in chapter 2 and the semantic analysis of the weak adjectival inflection presented in chapter 7 clearly point in this direction.
2.3 Conclusion and relevance for the structure of the DP in Modern Scandinavian

The preceding sections show that the diachronic development of the articles and of the adjectival inflection clearly supports the hypothesis that the semantic contributions of the preadjectival article and the suffixed article are not identical.

The independent article developed from a pronoun with a pronominal inflectional paradigm, which perhaps even restricted the reference of the noun phrase (Stroh-Wollin 2009). That this is still the case today is discussed in detail in chapter 7. The suffixed article developed from a different pronoun, which carried adjectival inflection, leading to a concept of definiteness that is expressed by a split into different morphemes. In an approach that assumes that semantics is represented in syntax, these different semantic contributions find their expression in different features on two D-heads, that is, in a split DP.

The weak adjectival inflection had its origin in n-stem inflection that originally might have had the function of a definite article and seems to have had an individualizing function (Ringe 2006). This, too, not only supports the hypothesis argued for in this thesis – namely that the weak adjectival inflection selects the relevant members in the denotation of noun and adjective –, it also is represented in the syntactic structure where the weak adjectival inflection heads its own phrase.

In chapter 7, I will discuss in detail the semantics of the articles and the adjectival inflection; in the same chapter I will finally explain why some of the Scandinavian languages resort to double definiteness while others do not.
CHAPTER 4 – MASS NOUNS AND OTHER NOMINALS

1 Introduction

As already alluded to in chapter 1, the distinction between individuated and non-individuated objects seems to have played a role in the development of definiteness. The question that arises is whether this fundamental distinction is rooted in the lexicon or in syntax. In this chapter I will therefore further motivate the internal structure of the DP by looking at the nature of nominals.

Cross-linguistic investigation of nominals, acquisitional issues as well as psycho- and neurolinguistic data support the hypothesis put forth in this chapter, namely that nominals should not be classified as either mass noun or count noun. However, I will nevertheless make use of traditional terms such as count noun, substance mass noun and object mass noun, but these should be understood as variables or notational conventions and not as labels. Where applicable, as I go along, I will explain how I understand a particular term.

The discussion in this chapter is not semantically determined in the sense of a semantic theory that is used to analyse the nature of nominals. I also do not aim to analyse the semantic structure of Scandinavian or any other language. Nor is this meant to be a mere syntactic analysis of particular phenomena found in the different languages under discussion, but rather an attempt to approach the nature of nominals by looking at their syntactic behaviour and how they are perceived semantically. In my view, language is not independent from the people who make use of it. Research in neural plasticity shows that the brain is able to deduce regularities from any kind of input and indeed is very quickly able to create new neural connections by applying these patterns. The reason for including neurolinguistic and psycholinguistic data in
this chapter is because of what these types of processes can tell us about the nature of the grammar. This is of importance because rules of grammar obviously must interact with processing mechanisms in a way that “evidence concerning production, recognition [...] and language use in general can [...] have bearing on the investigation of rules of grammar” (Chomsky 1980:200f, cited in Pfau 2002:174).

I will be looking at the nature of mass nouns and the classification of nominals in detail and will make the claim that nouns cannot be classified as mass or count. In subsequent sections I will investigate plurality, especially the question of whether bare plurals and mass nouns are inherently plural, as claimed by Chierchia (1998). Parallels to verb syntax and the inheritance of verbal structure will complement the findings and are summarized in the conclusion of this chapter.

2 The nature of mass nouns

2.1 Introduction

Traditional terminology suggests that count nouns can be count whereas mass nouns cannot and need to be measured. Or, to put it differently, a characteristic view of the mass-count distinction is that a count noun is able to individuate an object and a mass noun needs an individuating modification: (1a) clearly speaks of three items of fruit and (1b) is ungrammatical unless glasses of or another modifier of that kind is added. This seems to propose that count nouns divide reference but mass nouns do not.

(1) a. The child ate three apples.
   b. The child had three *(glasses of) water(s).
   c. The child ate apples.
   d. The child had some water.

What about (1c) then? Apples does not imply that the child had a particular number of apples, not even that it had a whole apple. The only thing that is actually said is that the child had some bits and pieces of apple, leaving open the exact
quantity and form of those bits and pieces (cf. also Borer 2005:120f). The same applies to water in (1d): it is completely unclear how much water the child had, a sip, a whole glass, or just a drop. With respect to divided entities, the semantic output of apples and water in (1) seems to be quite similar; the morphological form, however, shows a clear difference: apples is marked with the plural –s and water is not. In view of this, one could suggest that the difference between apples in (1c) and water in (1d) is one of ‘type of stuff’ and does not demonstrate a contrast between non-countable stuff and countable things as such.

Questions that instantly arise are i) What is the nature of mass nouns? Are mass nouns inherently plural or singular? Is the difference between mass nouns and count nouns a semantic one or rather ontological in nature? ii) Can we do without categorizing nouns into mass and count nouns? iii) What is the function of the plural marker? Due to the different syntactic behaviour and variation in interpretation of mass and count nouns, this is an important issue that needs to be addressed in the syntax of the DP.

If it is supposed that the dichotomy count noun vs. mass noun is veritable with count nouns denoting/dividing individual objects, then mass nouns per definitionem cannot denote or divide individual objects but only masses thereof. This is why mass nouns are seen as incompatible with plural markers and quantifying modifiers.

(2)  
   a. cars  
   b. *sands  
   c. three cars  
   d. *three sands

This view is problematic in some ways. First, as seen above, bare countable plurals do not ‘count’ objects. Second, the class of mass nouns comprises different types of nouns. Nouns such as furniture and baggage differ from nouns such as wine in that they consist of countable items. The amount of wine cannot be count but
needs to be measured, and then a number can be assigned to the amount. Does this suggest that bare count plurals such as apples behave like mass nouns of the type furniture?

Laycock (1979) suggests that "what underlies the kinship of plural count nouns and non-count nouns is the fact that they are both semantically non-singular" (cited in Laycock 2004:6). In other words, the inability to individuate shared by bare countable plurals and mass nouns corresponds to the attribute of being non-singular, i.e. they are neither singular nor plural. In effect, he suggests that the difference between bare countable plurals and mass nouns is not an ontological difference but a semantic one.

2.2 The classification of nouns

Bare plurals and mass nouns show complex properties resulting in various readings. Examples (3) to (5) illustrate the diverging patterns across Germanic and Romance, which may shed some light on the structure of determiners and DPs.

The examples below show (bare) plurals with an existential reading (3), that is, there are some rabbits and they are in the garden, and a generic reading (4), i.e., any rabbit characteristically loves hay. In Romance, the existential reading of 'bare plurals' (3a) is expressed differently. Spanish (3b) adds a plural indefinite article, whereas French (3c; and Italian) resorts to partitive constructions (cf. also chapter 5). For generic interpretations (4), similar patterns are employed. Whereas Germanic...
makes use of bare plurals, Romance languages introduce a definite article. The latter is also possible, although slightly marked, in Germanic.

(3) a. Det finnes harer i hagen.  
There are rabbit.pl in garden-DEF  
*Norwegian*

b. Hay (unos) conejos en el jardin.  
There are INDEF.PL rabbit.PL in the garden.  
*Spanish*

c. Il y a des lapins dans le jardin.  
There are PART rabbit.PL in the garden.  
*French*

‘There are rabbits in the garden.’

(4) a. Harer liker hay.  
rabbit.pl like hay  
*Norwegian*

b. Los conejos aman el heno.  
DEF.PL rabbit.PL love DEF hay  
*Spanish*

c. Les lapins aiment le foin.  
DEF.PL rabbit.PL love DEF hay  
*French*

‘Rabbits love hay’.

The mass nouns in (5) have an existential reading; those in (6), a generic one. The patterns found correspond to those in (3) and (4). So what we get is the same behaviour for mass nouns and bare plural count nouns in Germanic. In Romance, on the other hand, inner-linguistic variation occurs with existential interpretation for bare nominals (count and mass) in Spanish and Italian as opposed to French, which uses partitive constructions.

(5) a. Det er smør i kjøleskapet.  
There is butter in fridge-DEF  
*Norwegian*

b. La mantequilla esta en el refrigerador.  
DEF butter is in DEF fridge  
*Spanish*
(6)  a.  Hun hater smør.  
    she loves butter  
    ‘She loves butter.’  

b.  (Ella) odia la mantequilla.  
    she hates DEF butter  
    ‘She hates butter.’

c.  Elle déteste le beurre.  
    she hates DEF butter  
    ‘She hates butter.’

Two tentative conclusions are in order here. First, determiner systems across languages seem to differ. That is, the distribution of determiners and the semantic content of determiners is not identical across languages. Second, there seems to be no clear-cut distinction with respect to the classification of nouns as mass or count, neither within a language nor cross-linguistically. Bare count plurals behave like mass nouns in Germanic, and in Romance inner-linguistic variation is found concerning the realization of existential readings of nouns.

As mentioned above, Laycock (1979) suggests that bare countable nouns and mass nouns are neither singular nor plural. This is an important issue concerning the structure of the DP. The following paragraphs will hopefully shed some light on this discussion.

3  Is there an “inherent number quality” in bare plurals and mass nouns?

Along with Chiercha (1998) and Borer (2005), I assume that the mass-count distinction is not an ontological one (cf. also section 2.1). Some mass nouns are quite flexible in their interpretation and allow count-readings (and vice versa, examples (7) and (8) are from Borer 2005:102).
(7) **Mass nouns can be made count:**
   a. a wine, a love, a salt
   b. wines, loves, salts
   c. all the wines, all the loves, all the salts
   d. every wine, every love, every salt
   e. We store three bloods in this lab.

(8) **Count nouns can be made mass:**
   a. there is chicken on the floor
   b. that’s quite a bit of carpet for the money
   c. (too) much carpet
   d. a lot of carpet
   e. all carpet

The following questions arise here: i) How can the different interpretations – that is, the shifting from mass to count and vice versa – be accounted for?, ii) Why are mass nouns compatible with indefinite articles, plural morphology and other markers that otherwise are characteristic for count nouns?, iii) What does this tell us about the classical distinction between count and mass nouns?, and iv) How can this be represented syntactically?

Since I do not assume that there is a lexicon in the classical sense, (ambiguous) lexical listings that result in different interpretations are not an option. Following Borer (2005) I assume that the distinction between mass and count nouns is grammatical. In other words, the structure of the DP is at the base of the interpretation as mass or count, not a property of the lexical item (in the sections below, these assumptions will be further motivated). A consequence that straightforwardly follows is that there is no distinction between mass and count *per se* but that the individuating semantics go back to structural properties. If there is no inherent distinction then, it straightforwardly follows that there can be no shifting from mass to count or vice versa. We also do not run into problems in explaining why mass nouns can occur with, for example, plural morphology. But what we still do have to explain is the different behaviour of noun types and how this is supposed
to work syntactically, how the different readings emerge, and what the function of the plural marker is – especially with respect to Chierchia’s (1998) assumption that mass nouns are inherently plural. The explicit structure I suggest will be dealt with in chapter 8. Before dealing with this, though, I first want to further explain, why I deviate from classical notions concerning the mass-count distinction and why I try to do without noun classifications.

4 Plurality

The above examples show what in the literature is commonly called ‘type-shifting’, a mass noun becomes a count noun by adding a plural marker with subsequent change of meaning\(^ {16} \). Example (9) then is understood as either three bottles/glasses of wine or as three different kinds of wine. The same applies to Standard Scandinavian mass nouns, as illustrated in (10).

(9) three wines

(10) a. tre mjölk / öl

b. *tre mjölk-PL / öl-PL

'three milk / beer'

c. fyra limonad

'four (glasses of) lemonade'

d. fyra limonad-er\(^ {17} \)

four lemonade-PL

'four (types) of lemonade' \( \textit{Swedish, Holmes & Hinchliffe (2003)} \)

\(^{16}\) Although I assume that there is no type-shifting in the classificational sense mentioned above, i.e. nouns belonging to the class of mass nouns shift to the class of count nouns, I will use the term to indicate the different readings of nouns, i.e. the shift from mass reading to count reading and vice versa.

\(^{17}\) The fact that some quantified mass nouns can take plural inflection whereas others cannot may be due to phonological reasons. The noun \textit{limonad} ‘lemonade’ as a polysyllabic noun ending in a stressed syllable can clearly be allocated in the third declension, which uses \textit{–er} to form the plural, whereas \textit{mjölk} and \textit{öl}, monosyllables ending in consonants, could belong to several declension classes (one of which is even the sixth declension, the zero plural).
Although all of the nouns in (10) are mass nouns, they are understood as being quantified. Some of these nouns can even take a plural article (10d). Example (10a) is ambiguous and can be understood as three glasses/packages or three brands of beer/milk (cf. (9)), whereas (10c) and (10d) are unambiguous: the first clearly denotes four glasses of lemonade; the latter, four different types (brands) of lemonade. That is, the plural article in (10d) adds a kind-/type reading.

However, type-shifting does not occur in every language. In Greek, for example, plural mass nouns maintain their semantics and type-shifting does not occur.

(11) epesan nera sto kefali mu
fell-3PL water-PL onto head mine
‘Water fell on my head’ (Alexiadou 2009a:3)

In other languages, such as Japanese or Chinese, there is no mass-count distinction at all, hence bare nouns can be interpreted as singular or as plural.

(12) a. Gakusei-ga ki-ta.
student-NOM come-PAST
‘A student / Students / The student(s) came.’
Nakanishi & Ritter (2009)

Chierchia (1998) argues that in these languages all nouns are mass nouns and thus these languages lack obligatory plural marking. Since there is no plural marking, they require classifiers for counting. This predicts that plural marking and classifiers cannot co-occur. Data suggests, however, that this is not true, and thus this poses a problem for Chierchia’s proposal. Classifier languages may have optional plural marking, such as the Japanese plural marker –tati (13), which can be attached to human count nouns and to proper names.
What is more, plural marking can co-occur with classifiers. In (14), a common noun combines with a classifier, with plural marking – and even with a numeral. If all nouns in classifier languages are mass nouns, as Chierchia (1998) argues – or in all languages as Borer (2005) assumes (see below) –, the question arises why Japanese nouns can then easily combine not only with classifiers but with numerals, too. A consensus in the literature is that mass nouns do not occur with numerals.

(14) 200-nin-izyoo-no gakkusei-tati
    200-CL-or more-GEN student-TATI
    ‘200 or more students’    (Nakanishi & Tomioka 2004:120)

Mass and count nouns are also said to be incompatible with respect to the determiners they combine with. Determiners such as few are taken to be only compatible with count nouns. Here Japanese again provides a counter-example, thus suggesting that either the distinction mass-count or the assumption that in classifier languages all nouns are mass is on the wrong track – or perhaps both suppositions are invalid.

(15) Kooen-de utat-tei-ta onnanoko-no nakani-wa
    park-at sing-PROG-PAST girl-GEN among-TOP
    otokonoko-mo ni,san-nin mazatteita
    boy-also a few-CL were included
    ‘Among (the) girls who were singing in the park, a few boys were included’18
    Nakanishi & Tomioka (2004:128)

18 (15) is marked with a question mark not because of a syntactic markedness but because of a semantic mismatch: it seems odd to include boys in among (the) girls.
Indirect support for the ‘non-classification’ of nouns and thus support for the belief that lexical items cannot be categorized comes from a semantic perspective of the mass/count distinction.

It is true that mass and count nouns denote different things. Count nouns denote individuated items, and mass nouns denote unspecified sets – but this does not necessarily imply that they belong to different classes. Not only does the syntactic behaviour of count and mass nouns overlap but their semantic properties do as well, so that the denotation of bare plurals and mass nouns could be considered the same. Nakanishi (2007) calls this 'cumulative reference'.

This reasoning, however, is too simple in that it implies that bare plurals and mass nouns are in principle the same. We have seen above that the syntactic behaviour and semantic denotation is similar, if not the same. Again, though, this seems to be language specific, if this simplification is true at all. Japanese, for example, not only lacks the traditional mass-count distinction, it is also exceptional in another way: Japanese does not have a systematic marking of (in)definiteness. Thus (12) remains ambiguous with respect to definiteness: without overtly marked definiteness, N+tati looks like a bare plural. However, as Nakanishi & Tomioka (2004) show, –tati-nominals are in fact quite different from bare plurals in that they seem to encode, among other differences, certain aspects of definiteness (cf. also Chinese –men, which behaves similar to –tati).

Borer (2005) argues that the fact that all nouns are mass is not unique to classifier languages but that this holds cross-linguistically.

“All nouns, in all languages, are mass, and are in need of being portioned out, in some sense, before they can interact with the ‘count’ system. This portioning-out function, accomplished in languages like Chinese through the projection of classifiers, is accomplished in languages like English by the plural inflection, as well as by the indefinite article. Put differently, plural inflection is classifier inflection, thus accounting for the complementary distribution between classifier inflection and plural inflection, now reduced to the fact that they are simply distinct instantiations of the classifier system.” (Borer 2005:93)

This seems once again to postulate a classification, namely that all nouns in all languages are mass. However, what Borer (2005) actually means is that the default interpretation is mass and that both number specification and classifiers
belong to the same functional category (cf. *complementary distribution* in the quote above). However, as mentioned above, optional plural marking co-occurs with classifiers, at least in Japanese. Borer’s statement thus does not hold across languages. Grammatical representation of plurality varies from language to language, hence number specification and classifiers do not belong to the same functional category.\(^\text{19}\)

Borer’s structure includes a classifier phrase, $CL^{max}$, which has a dividing function. The absence of $CL^{max}$ results in mass interpretation. The existence of $CL^{max}$ is a precondition for a quantity phrase, #$P$, but the counting function of #$P$ is not a precondition for the dividing function of $CL^{max}$. In other words, nouns can be divided but not counted, and whether the interpretation of $N$ is mass or count is a property of the DP and not of $N$.

The issue of the count-mass distinction, or, more precisely, the question whether this distinction exists at all at an inherent lexical level, raises even more doubts in language families such as Salish\(^\text{20}\). Halkomelem Salish does not show any of the differences commonly anticipated with the mass-count distinction (Wiltschko 2009). Wiltschko deduces therefore that “the count/mass distinction is not grammaticized in Halkomelem whereas it is in English” (Wiltschko 2009:4). This result is understandable only under a theory that does not question the classification of nouns. But if we do question the classification of nouns, the behaviour of the Halkomelem nominal system provides additional support for the assumption that there is no such distinction in the first place.

\[
\begin{align*}
(16) \quad \text{a.} & \quad \text{tsel kw’ęts-lexw te swóweles} \\
& \quad \text{1sg.s see-trans det boy.pl} \\
& \quad \text{‘I have seen boys.’} \\
& \quad \text{b.} & \quad \text{tsel kw’ęts-lexw te syiqyiq} \\
& \quad \text{1sg.s see-trans det snow.pl} \\
& \quad \text{‘I have seen [a lot of] snow.’}
\end{align*}
\]

\(^{19}\) Nakanishi & Ritter (2009) derive $–tati$-structures by adding a further functional projection to the structure.

\(^{20}\) The Salish language family consists of 23 languages spoken in British Columbia, Canada.
If plural marking does not distinguish between count and mass nouns, we can deduce that the distinction mass-count is not a lexeme-inherent one. An unanswered question though is whether Halkomelem shows syntactic differences between mass and count. I assume it does not. There does not seem to be the need to individuate nouns, hence Halkomelem probably does not make use of a classifier phrase.

Approaches that assume that countability is expressed either via a classifier system or via plural marking (e.g., Chierchia 1998, Borer 2005) imply that plural marker and classifier occupy the same head of a functional projection (probably NumP, or CLP), and thus the count/mass distinction can syntactically be derived by the presence or absence of that functional projection. As we have seen in the preceding section, there is not only an overlap between the notions of count and mass nouns, but also there are languages in which the complementary distribution of classifier and plural marking does not hold.

5  Neurolinguistic data and psycholinguistic arguments

Not only linguists, but also numerous philosophers and psychologists have discussed the syntax and semantics of the mass-count distinction and the syntax-semantics interface regarding this difference.

Quine (1960) assumed that count nouns – as opposed to mass nouns – show a default unit of measurement, that is, tree comes in tree-sized units whereas sand comes in random measures. Thus count nouns provide principles of individuation and refer to individuals and mass nouns do not, i.e. they refer to non-individual

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21 According to Wiltschko (2009), the optionality of the determiner is independent of a mass/count distinction; the (optional?) determiner can also appear before the quantifier (14d).
things. What at first sight appears to be a pre-linguistic ontological approach actually assumes – according to Quine (1960) – that the acquisition of mass-count syntax is necessary to define differences in the input and then to understand, on the basis of the dividing function of count nouns, “the spatio-temporal continuity of objects, as objects” (Barner & Snedeker 2005:42).

Many studies, however, indicate that children acquire knowledge about the world and about objects long before they acquire the mass-count distinction (see for an overview Barner & Snedeker 2005). Furthermore, expressions such as *furniture, footwear, clothing* etc., count as mass nouns (so-called 'object mass nouns'), but nevertheless have individuals in their denotation. Hence, drawing the boundary between mass and count nouns in a(n) (non)-existent ‘inherent divided reference’ does not seem plausible.

Chierchia (1998) draws the line between mass and count nouns in plurality. In his view, mass nouns are inherently plural. In other words, mass nouns are stored in the lexicon denoting plurality of individuals, whereas count nouns denote individuals or atoms. This in fact suggests that the denotation of mass nouns and count nouns is very similar, if not the same – the only difference being that mass nouns do not refer to a single unit but include every single unit in its denotation, whether it be a grain of rice, a drop of water, or a piece of furniture.

These two views are in diametrical opposition: Quine’s starting from the acquisition of syntax followed by the dividing function of count nouns, and Chierchia’s assuming a difference in the lexical representation and the subsumption of count nouns in the denotation of mass nouns. However, neither hypothesis directly questions the categorization of nouns into mass and count and thus cannot (or at least only partly) account for the data found in psycholinguistic experiments. As will be shown in the next sections, data concerning the acquisition of the mass-count distinction bring interesting aspects to the discussion of how mass-count syntax relates to individuation.

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22 When using *refer* I do not intend to say that the words as such refer, but rather I am using the word in the plain sense of ‘speaking about something’.
5.1 The acquisition of the mass-count distinction

According to Barner & Snedeker (2005), the literature so far mostly agrees that children seem to use count nouns to quantify over individuals from early on in language acquisition, so count nouns seem to be perceived as something denoting individuals. The acquisition of mass nouns, however, seems to posit more difficulties as to the question of whether the mass-count distinction is actually based on quantification over individuals, on distributional differences, or whether its representation changes during the process of acquisition. To express this differently, the question arises whether acquisition is based on semantic aspects, on syntax, or on an interaction between syntax and semantics where syntactic aspects lead to semantic representations or vice versa.

In different experiments Barner & Snedeker (2005) explored the interpretation of object mass nouns and investigated whether the participants – children and adults – treated object mass nouns like count nouns or like mass nouns and whether they based their judgements on words that can occur as both mass and count nouns on syntax. The experiments showed that children and adults made no distinction between object mass nouns and count nouns and quantified both kinds of nouns by number, that is, object mass nouns were perceived as individuated objects like count nouns. If semantics were used to identify syntactic categories, then this result would be unexpected. Object mass nouns should then be perceived as mass nouns and quantified by mass or volume and not by number. This not only suggests that the distinction is a syntactic rather than a semantic one, but also that Quine's view cannot be right. It is not only count nouns that individuate.

Chierchia's inherent plurality approach cannot be on the right track either. Even if his predictions for count and mass nouns seem to be correct for clear cases from each category (cf. the results of the experiments mentioned above), he cannot account for the interpretation of flexible terms. If Chierchia were right in assuming that count as well as mass nouns denote minimal atoms with built-in plurality of

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23 Participants in the different experiments were 16 Harvard University undergraduates and 12 or 16 children respectively aged on average 4;2 and 4;3 respectively. "This age group was selected based on Gordon's (1985) study, which suggested that children begin to show knowledge of object-mass nouns at around 4;0" (Barner & Snedeker 2005:49).
mass nouns, one would expect at least a tendency to judge flexible mass nouns by number and not by volume – this is not borne out at all, as further experiments showed. In these experiments terms that can be interpreted either as mass or count (such as stone/s, string/s, paper/s) were to a large extent interpreted as count nouns when the plural ending was present and as mass nouns when the plural marker was absent.

These findings are significant in three respects. First, they show that the plural ending matters, as nouns were interpreted as quantifying over individuals when it was present. Second, it is syntactic information and not referential context (i.e., the presence of individuals) that leads to the interpretation of nouns as mass or count. Finally, since the results for adults and children are significantly similar, it seems highly unlikely that the children's acquisition process starts out with semantics to syntax mappings and then changes in the course of acquisition; rather it seems that in children from an early age on the mass-count distinction is based on syntax, just as it is with adults. Barner & Snedeker (2005) conclude that "the problem in each case [Chierchia (1998) and Gillon (1992)24] is how mass-count flexible terms like string and stone are represented" (Barner & Snedeker 2005:56). This problem does not arise, however, if it is assumed that nouns are not specified for category when they enter the syntactic derivation.

5.2 Psycholinguistic arguments in favour of mass-count underspecification

Traditionally, the analysis of language acquisition has been based on lexical distinctions such as noun/verb. Distributed Morphology questions this lexical categorization and assumes that lexical roots are category neutral. As a consequence, and as opposed to lexicalist approaches of language acquisition, a huge burden of learning has been taken from the language learner (cf. also section 3.2 of chapter 1). This not only applies to the categorization of words into nouns, verbs, or adjectives, but also to the categorization of nouns into mass and count nouns. Given the fact that most nouns can be used in mass and count contexts, the simplification for the

24 Gillon (1992) proposed that mass nouns are linguistically unspecified but are interpreted based on world knowledge.
language learner becomes evident if the alternations between mass and count are generated in syntax.

Earlier accounts on acquisition (see, for example, Grimshaw 1981, Pinker 1984) argued that children inferred the distinction of mass and count depending on reference to objects or substances such that discrete physical objects were used to indicate use of count nouns, and reference to substance was taken to infer mass noun use. However, as Barner & Bale (2002:785) note:

"[...] the problem again is that neither adults nor children show evidence of respecting such mappings. As pointed out by Bloom (1999), many words used as count nouns are not marked for +object: dream, puddle, sound, thought, cause, etc. Furthermore, [...] many words used as mass nouns have nothing to do with substances. Consider, for example, the following mass nouns: furniture, rice, pasta, infantry, traffic, footwear, toast, cutlery, drapery, fruit, and clothing. Unlike substances such as water or glue, one could quite conceivably count the footwear or furniture in a room, or sit on the curb counting traffic."

According to Barner & Bale (2002), several studies show clear evidence that children categorize words depending on syntactic context and not on a semantic object/substance distinction. In other words, psycholinguistic data support the view that nouns are not specified for mass or count when they enter the syntactic derivation.

6 Why (object) mass nouns cannot surface as bare plurals

In light of the studies dealt with in the previous sections, the question arises how we can then account for the fact that (object) mass nouns must occur with overt classifiers such as a to achieve what Chierchia (1998) calls a 'portion-of-reading' (a furniture), or with other modifiers to occur as count nouns denoting types of N (fine furnitures), despite the fact that object mass nouns are interpreted as individuated objects and despite the fact that there seems to be no semantic object/substance distinction in the categorization of nouns.
In order to solve this puzzle, the following table can provide us with an overview of the structures possible in English. Type-shifted readings are marked with $^{TS}$.

| count nouns          | a tree  \\
|                     | some tree$^{TS}$  \\
|                     | some trees  \\
|                     | trees  \\
|                     | two trees  \\
| object mass nouns    | a furniture$^{TS}$  \\
|                     | some furniture  \\
|                     | some/fine furnitures$^{TS}$  \\
|                     | $^{*}$furnitures  \\
|                     | $^{*}$two furnitures  \\
| substance mass nouns | a water$^{TS}$  \\
|                     | some water  \\
|                     | some/fine waters$^{TS}$  \\
|                     | $^{*}$waters$^{25}$  \\
|                     | two waters$^{TS}$  \\

Table 1: mass-count noun structures

At first sight it looks as if it is the plural ending or the indefinite article that achieve type shifting from mass to count. However, if it were the plural ending alone, then it is unclear how to rule out bare plurals of (object) mass nouns under a type-shifted interpretation. Under my analysis of the DP in general, nouns need to be individuated unless they are to be interpreted as (substance) mass nouns. Individuation is represented by movement to a classifier phrase, and this movement opens up the possibility of adding a plural marker (cf. also chapter 8). The question that arises is, if this choice of pluralization is taken, why then is further modification, for example, in form of indefinite determiners or adjectives, needed? Clearly, it cannot be the modifier that triggers the plural ending on (object) mass nouns, otherwise $some$ $water$ would be ruled out.

$^{25}$ $Waters$ in the plural is possible under a reading where the water in a particular river or lake is referred to, such as in the waters of the Amazon (Longman Dictionary of Contemporary English). For the plural of $wine$, however, this seems to be different. $Wine$ thereby seems to be used like a count noun as well (thanks to Harry Perridon for pointing this out to me). The English native speakers I consulted (one American English native speaker and two from Oxford speaking British English) confirmed my intuition that $wine$ differs in that respect from other so-called mass nouns. According to my informants $we$ $sell$ $wines$ is fine under a type-shifted interpretation but *$we$ $sell$ $waters$ is absolutely out.
The data in table 1 suggest that the indefinite determiner *a* does a similar job as the plural ending: it seems to shift the interpretation of mass nouns to count nouns. However, the indefinite article could be rephrased as 'a unit of', i.e. it portions out a unit, whereas the plural marker seems to add a type-/kind-reading and separates the denotation of the noun in question from other nouns of a similar denotation (contrast), but only if portioning out happens as well. The numeral *one* actually does the same job without triggering the plural (17b.), so this does not suggest any solution but only emphasizes the fact that if a mass noun occurs in the plural, some kind of modification is needed.

(17)  

(a)   a water  
(b)   one (of the) water(s tested here)  
(c)   two (of the) waters  
(d)   *waters  
(e)   fine water / waters  
(f)   one fine water / two fine waters  

If the indefinite article is not a classifier (for another view see Borer 2005) but instead is seen as being similar to the adjectival inflection in that it identifies the individual objects denoted by the noun ([ident], 'identity'; see chapter 7 for an extensive motivation of the hypothesis that the inflectional ending on the adjective has an identifying function in Scandinavian), then this suggests that the DP needs a functional projection above the classifier phrase that either contains an adjective and the adjectival inflection, or an indefinite determiner (18).

(18)  

```
         ...  FP
          |     |
          |     [ident]
          |     ClassP
          |        |
          |        [ind]
          |        NP
```
But why are bare count plurals possible while plural (object) mass nouns under count interpretation need modification? If we assume that nouns are unspecified for mass or count, the explanation must be a result of structural conditions together with encyclopaedic knowledge – a case for the syntax-semantics interface.

Object mass nouns such as *furniture* denote a collection of individuals, they are individuated by their movement to ClassP ([ind], 'individuation'), and – since they are still underspecified with respect to identifiability – the individual atoms need to be singled out/picked out/identified. In other words, in order to identify the [ident] feature, some kind of modification is needed in FP (cf. [ident] above). Hence *furnitures* is out but *fine furnitures* is good. Substance mass nouns under a type-shifted reading are individuated by their movement to ClassP as well. Again, the individuals denoted are identified by [ident], i.e. through modification (*waters vs. fine waters*).

Bare count plurals can occur with either an existential reading or a generic reading. For convenience, (3) and (4) are repeated here as (19).

(19)   a. There are rabbits in the garden.  existential reading  
        b. Rabbits love hay.                generic reading

Bare plurals denote a kind/type of individual so that individuation – that is, movement to ClassP – is necessary, whether the interpretation is existential or generic. For generic bare plurals, there is no necessity to identify the atoms of the denotation of N. For this reason, the identification of the [ident] feature in the functional projection above ClassP is not obligatory and they can surface as bare plurals – as opposed to the Romance languages where a generic reading can only be achieved by using the noun plus the definite article, as (4), repeated here as (20), shows.

(20)   a. Harer liker høy.               Norwegian  
        rabbit.pl like hay
b. Los conejos aman el heno. \hspace{1cm} \textit{Spanish}
\hspace{1cm} \textsc{DEF.PL rabbit.PL love DEF hay}

c. Les lapins aiment le foin. \hspace{1cm} \textit{French}
\hspace{1cm} \textsc{DEF.PL rabbit.PL love DEF hay}

‘Rabbits love hay’.

One could conclude then that existential bare plurals receive their existential reading through the predicative structure they occur in. However, if we have a closer look at the structures of existential bare plurals, (3) repeated here as (21), we see that it is the Germanic construction that is the odd one out – and again the question arises why this is so.

(21) a. Det finnes harer i hagen. \hspace{1cm} \textit{Norwegian}
\hspace{1cm} \textsc{There are rabbit.PL in garden-DEF}

b. Hay (unos) conejos en el jardín. \hspace{1cm} \textit{Spanish}
\hspace{1cm} \textsc{There are INDEF.PL rabbit.PL in DEF garden.}

c. Il y a des lapins dans le jardin. \hspace{1cm} \textit{French}
\hspace{1cm} \textsc{There are PART rabbit.PL in DEF garden.}

‘There are rabbits in the garden.’

Romance existential plurals are not bare but employ an indefinite plural article or a partitive article. The question that arises is why Germanic count nouns can form bare plurals whereas Romance ones cannot. The semantics, however, are identical, i.e. there are some rabbits and they are in the garden. Since I believe that any semantic contribution is represented in syntactic structure, I assume that the structures are if not the same, then at least very similar in Germanic and in Romance. I suggest that the syntactic derivation of existential bare plurals in Germanic is identical to that of (object) mass nouns. They are individuated by their movement to ClassP ([ind], 'individuation'), and in order to identify the individuals denoted – or in other words, in order to identify the [ident] feature – some kind of modification is needed in FP, the only difference being that the [ident] feature does not need overt
phonological realization in Germanic. Hence, generic and existential bare plurals can occur without further overt modification of any kind.

### 6.1 Parallels to verb syntax and the question of why object mass nouns cannot co-occur with number

If we look at the distinction between mass and count syntax, we notice that derived nouns reflect the properties of their verbs and parallels then open up between verb and noun phrases. Durative verbs such as *sleep* cannot be iterated, while punctual verbs such as *jump* can.

(22)  
\begin{align*}
\text{a.} & \quad \text{They slept for hours.} \\
\text{b.} & \quad *\text{They slept three times.} \\
\text{c.} & \quad \text{They jumped for hours.} \\
\text{d.} & \quad \text{They jumped three times.}
\end{align*}

As (22) shows, iterative events can be counted, but durative events cannot; to put it another way, (22c, d) show a series of individuated events and (22a, b) continuous uncountable events. (23) gives the equivalent noun phrases.

(23)  
\begin{align*}
\text{a.} & \quad *\text{three sleeps} \\
\text{b.} & \quad \text{three jumps}
\end{align*}

But not only the nouns *sleep* and *jump* can be derived from their respective verbs; the *-ing* nominalizations *sleeping* and *jumping* can as well. Interestingly, the iterative verb/countable noun *jump* then seems to lose its countability and becomes comparable to object mass nouns like *furniture*; and *sleep* becomes comparable to substance mass nouns like *water* (24)\(^{26}\).

\(^{26}\) Nominal gerunds can pluralize when telic events are expressed; however, if the nominalizer *-ing* selects atelic/semelfactive events, plural is rejected (for a detailed analysis see Alexiadou, Iordăchioaia & Soare 2008).
Investigating the parallels between verbal and nominal patterns is of great interest here, because I assume that words follow the same constructional conditions as phrases and sentences do and thus are of vital importance for the structure of the DP. However, I will not go too much into detail since research into the parallels of DP and VP lies outside the scope of this thesis. I will, however, briefly investigate those issues that are of importance for the DP-structure offered here.

6.1.1 Inheritance of verbal structure

One would assume that nouns derived from verbs that are non-durative would be able to pluralize. This does not seem to be the case, however, as otherwise *jumpings would be grammatical. Since jumps – a mere conversion – is grammatical, the cause must lie in the formation of the –ing nominalization: somewhere on the way to becoming a noun, jumping loses some of the qualities of the verb jump which are still retained in the noun jump. In other words, it seems to lose its atomic event character, its countability.

Alexiadou, Iordâchioaia & Soare (2008) argue that English nominal gerunds and mass nouns project a [-count] feature on the head of ClassP that accommodates the Inner Aspect (Aktionsart) of the root and thus blocks NumberP (25) (cf. Picallo 2006, where Classifiers feed Number, as Alexiadou et. al.’s [+count] does (26)). Consequently, plural morphology cannot occur on English nominal gerunds.

(25)   DP
      /\    
     /   \  
    ClassP 
       /\  
      [-count]
As opposed to number information in NumberP, the \([\pm \text{count}]\) feature represents "semantic number" (Alexiadou et. al. 2008:10). If I have understood 'semantic number' correctly as being independent from number and the possibility of plural marking, but denoting some internal quality of the noun that leads to an understanding of the noun as either inherently singular, or as inherently plural in the case of mass nouns and nominal –ing nominalizations, then the different conception of the –ing nominalizations in (27) is not accounted for (example (27b) from Alexiadou et. al. (2008:6)).

(27) a. the dancing of the girls  
   b. the jumping of the cows

Neither –ing nominalizations nor object mass nouns can surface with plural morphology. (27a) could be explained via the \([-\text{count}]\) feature, but –ing nominalizations of the jumping kind subsume iterative events and thus should, comparable to object mass nouns, project \([+\text{count}]\) (see experiments by Barner & Snedeker (2005) above). Further studies (Barner, Wagner & Snedeker 2007) support this view and show "highly significant interaction between mass-count syntax and event type" (Barner, Wagner & Snedeker 2007:11). For example, participants ranked six short dances as more dances but less dancing than two long dances, while they judged six short jumps as more jumps and more jumping than two long ones. Two important things follow from this. First, there is a significant difference between the quantification of durative and of punctual roots; and second, the participants' quantification of punctual roots shows individuation both in mass and count syntax. That is, punctual –ing nominalizations and object mass nouns should project NumberP. But then *two furnitures and *two N-ings should be as grammatical as two.
wines, which is good under a type-shifted interpretation. How can we account for this?

What actually seems to be the case is that pluralization including numerals is possible only under an interpretation in which the objects are of identical kinds. Numbers as such do not refer to objects and do not name objects; rather they order, specify, or identify the quantity sets of entities, i.e. they are non-referential. They become referential, however, as soon as they are combined with other expressions. For example, the counting word two does not refer to anything special: the only thing that it expresses is its position between one and three. (cf. Wiese 1997). The individuated objects of count nouns and object mass nouns share characteristic properties and require particular physical characteristics; object mass nouns as a superordinate category, however, subsume objects of different kinds and thus quantify over distinct kinds of individuals. Since number can only refer to a set of entities that consists of a particular number of the very same entities (Wiese 1997), object mass nouns consequently cannot co-occur with number, whereas count nouns and type-shifted substance mass nouns can.

A different account could be that what commonly is called NumberP / #P is actually split into two projections, DivP and SizeP; alternately, NumberP could host two features, [Div] and [Size]. De Belder (2008) argues that only if both phrases are present can a count unit reading be achieved as in (28).

(28) a. My mother has three dogs.
   b. I ate three chocolates.

Her reasoning is that diminutives are overt expressions of [Size] and hence all nouns that can occur in the diminutive satisfy both [Div] and [Size]. The absence of both features results in mass reading. If only [Div] is present, a count kind reading is achieved. What she does not address is the issue of object mass nouns. Nevertheless, an adaption of her account could perhaps accommodate the fact that object mass nouns (as well as jumping nominalizations) cannot occur with numerals.

As the previous sections show, plural alone is not sufficient to yield countable readings. So if we assume that the individuation in ClassP does not licence NumberP
per se, but just one projection, namely [Div], it follows that object mass nouns may occur with a plural marker but can never be combined with numerals, and that jumping nominalizations can consist of iterative events. In other words, they can be moved to ClassP and individuated, but still cannot occur with numerals.

What first seems like an interesting idea nevertheless has its problems. First, De Belder's (2008) analysis of split NumberPs cannot account for type-shifted mass nouns that occur with numerical expressions, such as two waters. If plural, viz. movement to ClassP, only triggers DivP and thus numerals are excluded with type-shifted object mass nouns. They should also be out with type-shifted substance mass nouns, but this is not the case. Second, what is it that feeds [Size]P, and what is it that could trigger any other split NumberP projection?

In summary, we have the following picture. (29 a-b) are fine because the underspecified object mass noun is individuated and the single units of the denotation are identified, first by movement to ClassP, and second by matching the [ident] feature in a functional projection above ClassP. For the same reason, (29c) is out, since movement to ClassP is not sufficient to resolve underspecification. (29d) is ungrammatical because of the subsumptive character of object mass nouns when denoting distinct atoms, which excludes co-occurrence with numerals.

(29)  
   a. fine furnitures  
   b. a furniture  
   c. *furnitures  
   d. *two furnitures

(30) could be easily explained if we assume that nominal -ing nominalizations are mass nouns that do not need to be individuated and thus remain in situ. However, as experiments have shown (see above), nominalizations of the jumping kind are not perceived as mass nouns.

(30)  
   a. *nice jumpings/dancings  
   b. *a jumping/dancing
c. *jumpings/dancings

d. *two jumpings/dancings

I follow Alexiadou et. al. (2008) in assuming that pluralization of -ing nominalizations is impossible due to their verbal origin. –ing nominalizations of the dancing kind remain in situ and thus pluralization is not possible anyway, but is rather due to the aspectual inheritance of the root. The combination with numerals is illicit, too (30d). –ing nominalizations of the jumping kind, however, clearly move to ClassP, since they are not perceived as mass nouns (see experiments by Barner et. al. 2007). The possibility of pluralizing as well as combining with numerals is again illicit because of the aspectual inheritance of the root. In effect, I follow Alexiadou et al. (2008) to a large degree, but deviate in that jumping nominalizations move to be individuated and that the structures shown in (30) can be accounted for without employing a [± count] feature.

7 Conclusion

The aim of this chapter has been to further motivate the internal structure of the DP. The cross-linguistic investigation of the traditionally assumed bi-partition of nominals has shown that there is no complete one-to-one mapping between semantic-theoretic considerations and conceptual features of the so-called mass-count distinction. This assumption has led to the inclusion of a classifier phrase into the structure of the DP so that nouns enter the derivation without being classified for count or mass. Acquisitional studies and neurolinguistic research support this view.

Following the hypotheses put forth in this chapter, both types of mass nouns as well as existential and generic bare plurals, and durative and punctual –ing nominalizations, can be syntactically analysed using the very same structure. This is shown in (31).
Substance mass nouns remain in situ. In instances of type-shifted reading, the noun moves to ClassP. Object mass nouns always move to ClassP. In both cases, this movement opens up the possibility of attaching plural morphology. However, the plural ending alone cannot achieve a kind-/type interpretation because it is still underspecified regarding identifiability. Further portioning out is needed for individuation. Therefore the [ident] feature has to be matched either by means of an indefinite article or some other modification.

Bare count plurals also move to ClassP to be individuated. However, in Germanic there is no need to identify the individual items of the denotation. This is in distinct contrast to the Romance languages (for an analysis of the Romance structures, see chapter 5). Durative ing-nominals behave like substance mass nouns and remain in situ. They differ, however, in that they cannot occur with plural morphology due to the aspectual inheritance of their root. This also applies to punctual ing-nominals, even though they otherwise behave like object mass nouns and move to ClassP to be individuated.
CHAPTER 5 - PARTITIVES

1 Introduction

In the preceding section, cross-linguistic variation with respect to bare plurals was investigated – resulting in the inclusion of a classifier phrase into the structure of the DP. What in Germanic is expressed by bare plurals (1a) is accomplished in French and Italian by partitive constructions (1b,c). Since the meaning does not vary and in both cases some rabbits are denoted, the syntactic structure should be identical or at least similar. This chapter, therefore, aims at investigating partitive structures and their relation to Germanic bare plural constructions.

(1)  
a. Det finnes harer i hagen. \textit{Norwegian}  
There are rabbit.pl in garden-DEF

b. Il y a des lapins dans le jardin. \textit{French}  
There are PART rabbit.pl in the garden.

c. Ci sono dei conigli in giardino. \textit{Italian}  
There are PART rabbit.pl in garden  
‘There are rabbits in the garden.’

The parallel behaviour of bare plurals and partitives is found not only cross-linguistically but also within dialectal variation in Scandinavian. Example (2) compares Standard Swedish (2a) to Skelletmål (2b), a Northern Swedish dialect (from Dahl 2007:46).
The suffixed article in (2b) may have the form of the definite article, but it can also occur in existential constructions, which is impossible for definite descriptions. Therefore, Delsing (1993) assumes that this article is not an instance of the definite article, but an indefinite partitive article.  

As the above examples show, partitivity offers interesting phenomena concerning the DP. As with bare plurals and mass nouns, partitive structures raise questions regarding plural marking, especially if languages are investigated that show no semantic difference between partitive and non-partitive noun numeral combinations. Therefore I will look at the semantic contribution of plural marking once more and will try to answer the question whether structures that look like partitives, such as Romance plural indefinite constructions or Scandinavian dialect data, are real partitives. I will try to relate the findings of this chapter to those of the preceding one. Finally, I will investigate how partitivity influences the view of the DP developed so far in this thesis.

2 Different phenomena

In some languages, the case of the noun depends on the numeral. In Inari Sami, for example, a noun following a numeral higher than 6 is partitive, while nouns following 2 to 6 show accusative case (Nelson & Toivonen 2000, in Danon 2009).

In Basque, the word order differs in partitive constructions and the noun bears a plural marker (3).

27 For a more detailed discussion of this construction and for a different perspective regarding the nature of this article, see Dahl (2007:46ff).
Cross-linguistically we find phenomena where numeral noun combinations can be ambiguous between a partitive and a non-partitive reading (4). The opposite is possible as well, where there is not always a difference in meaning between a partitive and a non-partitive structure (5).

(4) Ivan uze šest miš-eva.
Ivan took six mice-GEN
'Ivan took six mice.' / 'Ivan took six of the mice'

Serbo-Croatian, (Danon 2009)

(5) a. tri ddyn
three man
‘three men’
b. tri o ddyn-ion
three of man-PLU
‘three men’

Welsh, (Danon 2009)

Similar to example (5), English partitive structures (6a) can be used to generate non-partitive meanings (6b); the difference, however, lies in the pluralized numeral.

(6) a. ten of the flowers
b. tens / hundreds / thousands of flowers

According to Danon (2009), there are many languages in which the noun is singular in the presence of a numeral but partitives need plural markings (cf. the
Basque and Welsh examples above). It seems that in such cases of numeral noun constructions, morpho-syntactic number is superfluous, while in partitive constructions it is not. In other words, languages that do not allow number marking in numeral noun constructions do allow it in partitive constructions.

This is remarkable in two respects. First, number does not contribute to the semantics of plural but only orders and specifies if combined with nouns (cf. chapter 4 and Wiese 1997). What then is the syntactic and semantic contribution of number in simple plural constructions? And second, why is plural marking required in partitive constructions when simple plural constructions can do without it? Could this have to do with contrast, with picking out particular individuals, with the denotation of kinds?

Other questions that arise but which cannot be dealt with here in depth are whether nouns in languages such as Welsh syntactically behave like object mass nouns and thus the plural ending adds a kind-/type reading. It would be interesting to see how bare plurals are formed in these kinds of languages. Also, in languages such as Finnish, the question arises as to whether structures with numerals are built according to the size of the numeral. In which way could this phenomenon be linked to Germanic bare plurals and Romance plural indefinite constructions?

Issues that are of interest for the structure of the DP dealt with in this thesis are, i) Are singular nouns co-occurring with cardinal plurals?, ii) Are Romance partitives resembling Germanic bare plurals real partitives, and if so, why is this structure employed?, and iii) Which implications does this have for the structure of the DP?

3 Singular nouns co-occurring with numerals

If we look at languages like Welsh, where cardinal numbers obligatorily occur with singular nouns, the question arises as to whether such DPs syntactically are plural.
In the above examples, the auxiliary agrees with the noun, which is modified by a cardinal. That is, both the auxiliary and the noun are in the singular. The anaphoric reference, however, displays plural so that we can assume that the overall reference of this kind of Welsh DP is clearly plural, even if plural is not marked overtly in the DP. The question arises why the plural then needs spell out in partitive structures. But, according to Mittendorf & Sadler (2005), there is often no difference in meaning between numeral noun combinations and partitive structures (cf. (4)).

### 4 The semantic contribution of plural marking in partitive constructions

As already mentioned, in languages such as Welsh plural marking is required to form partitive constructions while numeral noun combinations occur in the singular. The question raised above is what the plural can add to the interpretation if it does not seem necessary for plural interpretation as such, and whether there is a link to structures dealt with in the last section.

In order to approach this puzzle, I will again look at Japanese, a classifier language that normally does not mark plural overtly.

According to Sauerland & Yatsushiro (2004), in Japanese there are five different ways in which quantifier and noun may be combined (9). The examples are taken form McNay (2006:3-4).

(9) a. hon-o hotondo
   book-ACC most
b. hon hotondo-o  
book most-ACC

c. hotondo hon-o  
most book-ACC

d. hon-no hotondo-o  
book-GEN most-ACC

'most (parts) of the book(s)'  \(\rightarrow\) ambiguous

e. hotondo-no hon-o  
most-GEN book-ACC

'most of the books'  \(\rightarrow\) unambiguous

All structures but one, namely (9e), are ambiguous with respect to their interpretation and could be understood either as referring to parts of the book(s) or to the total number of books in that context. In other words, only the structure in (9e) can unambiguously be interpreted as *most of the books* and not as *most parts of the book(s)*, for instance, pages or chapters. Since this reading is neither achieved by word order alone – such as the noun following the quantifier as in (9c) – nor by the genitive marker alone (9d), and since there are no effects on interpretation – that is, no ambiguity resolution due to word order variation in (8a) and (8b) – it looks as if the plurality of the total number reading of *most of the books* is achieved if the genitive marker is attached to the quantifier. Only then can the noun clearly be identified as plural. Put it differently, the reading *most of the books* requires the DP to be perceived as plural even if there is no plural marker. Since there is no regular plural marker in Japanese, this is achieved by means of the genitive marker on the quantifier.

In languages where plurality is not marked in numeral noun constructions, such as Welsh, the plural marker allows a partitive reading. The nominal thus quantifies over a set of items. In other words, plural morphology in these cases (or the genitive marker in Japanese) achieves individuation. This is in opposition to the findings of the last chapter, where the plural marker added a kind-/type reading in bare plurals and type-shifted mass nouns. The languages under consideration in the last chapter, however, are languages that overtly mark plural. Germanic bare plurals,
however, find their equivalent in Romance partitive structures and the question arises why this is so, especially as so far the findings point in the direction of kind reading for bare plurals and individuation for partitives. The next section will shed some light on this issue.

4.1 Are Romance plural indefinite constructions real partitives?

A question that needs to be addressed is whether Romance plural indefinite constructions such as des bijoux actually are partitives or not, that is, whether des is a plural indefinite article similar to some in English, or whether it is composed of the preposition de plus definite article les. This is of interest here, because if we want to relate Romance plural indefinite constructions to Germanic type-shifted object mass nouns, then expressions such as des meubles should not turn out to be partitives that involve a presupposed set of items referred to by one of the nominals, but rather a subset which is selected from the nominal. Otherwise, the DP-structure developed in this thesis, which includes a projection that singles out the individuals denoted by the noun (cf. also chapters 4 and 8), would not hold for the structures in question. Or, to express this differently, the issue is whether Romance plural indefinite constructions quantify over individuals, or over kinds, the latter being what Selkirk (1977) refers to as 'pseudo-partitives'.

Expressions such as des bijoux seem to be perceived of as individuated (cf. preceding chapter). This is why I think it is legitimate to compare them to similar structures in the Romance languages that employ plural indefinite determiners and 'count' nouns (10). Here, too, the question arises as to whether degli and des are plural indefinite determiners or combinations of preposition plus definite determiner respectively, as in (11).

(10) a. Ho incontrato degli studenti.  
I have met of the students.  
'I have met some students.'
(11) a. Ho incontrato tre degli studenti.
    I have met three of the students
b. J'ai rencontré trois des étudiants.
    I have met three of the students. Zamparelli (2008:301)

According to Chierchia (1998a), (10) and (11) are structurally identical apart from the overt numeral; he therefore assumes that both structures are real partitives involving preposition plus definite article. Thus the 'bare partitive' in (10) denotes a presupposed set of items. In other words, the structures in (10) qualify over individuals and not over kinds. As Zamparelli (2008) notes, this assumption is problematic in some ways, especially since its predictions are too strong and include, for example, that there is no semantic difference between (12a) and (12b), which is not (always) the case.

(12) a. Dei folletti
    of the elves
b. Alcuni dei folletti
    some of the elves Zamparelli (2008:302)

Zamparelli (2008) convincingly argues that plural indefinite determiners in French and Italian denote a set of individuals that instantiate a kind and thus are not real partitives – or 'bare partitives' in Chierchia's terms - but rather 'defective partitives' where "the 'partitive' semantics applies not to a normal definite nominal, but to a kind-denoting [nominal]" (Zamparelli 2008:302). His reasoning is partly based on cross-linguistic differences – between Germanic and Romance languages on the one hand, and French and Italian on the other. Following the arguments in Zamparelli (2008), I thus conclude that French des-nominals resemble Germanic existential bare plurals and can be analyzed in the same way, as can (object) mass
nouns. Hence, the kind-denoting nominal moves to a higher projection, ClassP, to be individuated and to identify the individuals of the denotation, i.e., the [ident] feature, des is merged in the corresponding functional projection\textsuperscript{28}. The same analysis holds for Spanish unos-nominals and Italian dei-nominals.

Regarding the Scandinavian dialect data, I follow Delsing (1993), Koptjevskaja-Tamm (2001), and Dahl (2007) in assuming that the extended use of an article in cases where Standard Swedish uses bare plurals or mass nouns is also a partitive structure reminiscent of the Romance pattern. I further follow Koptjevskaja-Tamm (2001) and suggest that these are not cases of real partivity expressing a part-whole relationship, but instances of pseudo-partitivity that refer to non-specified quantities.

5 Relevance for the structure of the DP and syntactic analysis

The last section shows that there is a very close relation between defective partitives in Romance and bare plurals/(object) mass nouns in Germanic. For a theory of the DP it would therefore be desirable to analyse the different constructions employing the same structure without introducing further functional material such as, for example, a Partitivity Phrase. This is desirable because it would support my assumption that there is a relatively small, if not minimal, set of functional projections within DP that holds cross-linguistically. The differences between linguistic expressions then would not be reflected in different structures or the use of different functional projections, but in the content of the very same functional projection. In this way, similar semantics would be expressed via the same syntactic structure, differing maybe in the interior configuration of a particular functional projection.

Previous analyses of partitives such as four of the boys / a piece of the cake mainly agree in that of the boys / of the cake form a constituent (Selkirk 1977, Jackendoff 1977, Barker 1998, Matthewson 2001) but vary on the content of the preposition of from deducing that of accounts for the partitive reading (e.g. Barker

\textsuperscript{28} Zamparelli (2008), too, merges des below D, namely in Num.
1998) to saying that it has no semantic content at all (Matthewson 2001). As mentioned before, there are languages where partitives and non-partitives adopt the same structure, that is, they are ambiguous with respect to the two readings (cf. the Serbo-Croatian example (3)). One issue to be addressed then is what it is that resolves the ambiguity. Furthermore, and following from this, the question arises as to what this tells us about the overt marking of (pseudo) partitivity. Consider, for example, English in (13) and the use of the preposition of or the addition of of plus determiner.

(13) a. *a glass wine
   b. a glass of wine
   c. a glass of the/that wine
      a glass wine

5.1 Ambiguity resolution

Example (3) from above, repeated here as (14), has two readings and can be understood as either referring to six mice or to six of the mice.

(14) Ivan uze šest miš-eva.
    Ivan took six mice-GEN
    'Ivan took six mice.' / 'Ivan took six of the mice'

    Serbo-Croatian, Danon (2009)

In the terminology employed thus far this could be rephrased as quantification over kinds in the former case and quantification over individuals in the latter case. This ambiguity does not arise in all Slavic languages. Russian, for example, has two different genitive endings, one of which is used solely in partitive contexts. A feature all Slavic language share, however, is a genitive marker on the
nominal following a numeral higher than 4\textsuperscript{29}. Nevertheless, it is not surprising that Serbo-Croatian displays ambiguity in the structure under discussion, since it does not have a definite article, and at its most basic, the distinction between partitive and pseudo partitive can be seen as one of the absence vs. presence of a definite determiner (of water vs. of the water).

The structure put forth here can account for both the defective and the proper partitive reading in (14) without assuming any further functional projections that would not be necessary in other constructions, and without assuming varying structures for the two readings: \textsuperscript{30}

\begin{align*}
(15) & \\
& \quad \cdots \\
& \quad \begin{array}{c}
\text{FP} \\
\text{[ident]} \\
\text{DP}_1 \\
\text{[ind]}_j \\
\text{GEN} \\
\text{t}_j \\
\text{NP} \\
\text{Ni} \\
\text{[ind]}_i
\end{array}
\end{align*}

The reading six mice is achieved in the same way as the kind reading of (object) mass nouns and Romance des-nominals in that the nominal moves to ClassP to be individuated and to acquire the genitive, which is hosted in the head of ClassP, attached to it. The [ident] feature in the projection above ClassP is identified by merge of a numeral in #P. The second reading six of the mice differs in that it quantifies over specific individuals. To accommodate this I will resort to a split DP layer. This has not been used in the preceding chapters but it will prove very useful in the following chapters that deal with the Scandinavian DP. This split DP-layer has

\textsuperscript{29} This is a most fascinating phenomenon, which unfortunately is way too far away from the topic of this thesis to be thoroughly discussed here. Intuitively, a couple of questions arise. First, why from five on, does this have to do with conceptual countability, i.e. comprehension of numbers vs. counting of numbers; second: is it possible that numbers from five, six onwards once were nouns whereas one to four/five were perhaps adjectives? What exactly is the interaction like between inflected numbers and case or remnants of case on the noun? These are very interesting questions whose range of answers and subsequent questions I cannot even begin to estimate yet, but where more research would certainly be worthwhile.

\textsuperscript{30} In the Scandinavian DP, DP\textsubscript{1} hosts the suffixed determiner, which identifies 'specific reference' [sref], (see chapter 8).
been widely accepted in the literature (for an overview and discussion see Alexiadou, Haegeman & Stavrou 2007). As in the other constructions discussed so far, the nominal moves to ClassP, the genitive ending can be attached, and then nominal+GEN moves to the next higher projection, DP1, to get a specific reading.

Assuming the structure and mechanisms in (15), both readings – the partitive one six of the mice and the numeral noun reading six mice – can be accounted for without postulating additional functional material in the DP. Whether this also holds for the difference between real partitives and pseudo partitives will be discussed in the following subsection.

5.2 Pseudo partitives and partitives proper

In order to analyse the constructions in (16), the first question to be addressed is which constituents we are actually dealing with and what they add to the interpretation of the pseudo-partitive in the former case and the partitive in the latter case.

(16)  a. a glass of wine
      b. a glass of the/that wine

      The difference between the two examples lies in the selected elements. (16a) selects kinds, and (16b) selects tokens from a reference set, i.e., quantifies over individuals. Their syntactic behaviour differs as well: of wine cannot be extracted from the pseudo-partitive, while of the/that wine can be (cf. also Stickney 2004, McNay 2006).

(17)  a. How many glasses of wine did you drink?
      b. *How many glasses did you drink of wine?
      c. How many glasses of that wine did you drink?
      d. How many glasses did you drink of that wine?
The ungrammaticality of (17b) shows that in the case of the pseudo-partitive, only the whole DP can move. This suggests that pseudo-partitives are mono- phrasal while partitives proper consist of two full-fledged DPs with the preposition *of* being the head of a PP-complement. With this observation taken together with the plausible diachronic assumption that pseudo-partitives developed from regular partitives (see, for example, Koptjevskaja- Tamm 2001), it seems reasonable to assume that this development is the result of grammaticalisation, that is, functional material evolved from lexical material (Roberts & Roussou 2003). How then can we account for (16a) within a single DP?

First, the element *of* cannot be the head of a PP. Otherwise it would be unclear why this PP is not be able to be extracted. When compared with other languages such as German and Swedish, it is noticeable that these languages do not allow a prepositional element between the noun of measurement and the noun. Other languages, such as Finnish or Russian, resort to particular pseudo-partitive affixes (see Russian partitive –*u* mentioned above) or use the genitive to mark partitive constructions. I will thus assume that the *of* in pseudo-partitive constructions is a functional marker of partitivity comparable to the Serbo-Croatian genitive marker analysed in the previous section, and that this functional partitive marker is also located in a functional projection above NP, namely ClassP.

With respect to grammaticalisation theory there is still one lexical element too many (*glass* in a *glass of wine*). What I assume is that the measuring noun in pseudo-partitive constructions is actually not a noun but a functional element. This might sound quite peculiar at first, but if we have a closer look at the function of this first 'noun' in pseudo-partitives, this suggestion becomes plausible. According to Koptjevskaja-Tamm 2001, only certain nouns can occur in this position, such as measures (*litre* etc.), containers (*cup* etc.), fractions (*slice* etc.), quantums (*drop* etc.), collections (*herd* etc.), or forms (*pile* etc.). Basically, it is measure items that go into that slot; in other words, this measure item quantifies or, in a broader sense, modifies the kind selected (cf. Löbel 1996, Koptjevskaja-Tamm 2001, Stickney 2004, Rutkowski 2007). Previous analyses therefore have suggested a Measurement Phrase, (MP), between NP and DP that accommodates this functional 'noun'. In my view, adding an additional phrase simply to be able to accommodate for pseudo-
partitives is not in line with an economic representation of syntactic structure. In the spirit of a DP structure that is as minimal as possible and an employment of functional phrases that vary with respect to their content, and in view of the actual function of the measurement noun, which – in the broadest sense – is the modification of an unspecified amount denoted by the noun, I thus suggest that a functional projection FP that can host different sorts of modifiers (such as adjectives) accommodates these sorts of nominals. The syntactic structure for pseudo-partitives would thus be the one in (18).

(18) …

\[ \text{FP} \]

\[ \text{glass} \]

\[ \text{DP}_1 \]

\[ \text{ClassP} \]

\[ \text{of} \]

\[ \text{NP} \]

\[ \text{wine} \]

As mentioned before, the only difference with regard to the other structures analysed so far consists in the lower DP-layer DP\(_1\). This DP however will be needed anyway in representing the analysis of the Scandinavian data in the chapters to follow.

6 Conclusion

This chapter was mainly concerned with the question of whether Romance partitive structures can be analysed along the lines of comparable Germanic structures. To this end, I looked at partitive structures in combination with plural marking in different languages and concluded that languages that do not overtly mark plural in non-partitive constructions achieve the individuating effect of partitive readings by employing plural morphology or genitive markers. The comparison of real partitives and pseudo partitives led to the conclusion that Romance indefinite plural
constructions are pseudo partitives, thus supporting the view that they can be compared to Germanic bare plurals and analysed in a similar fashion. The syntactic structure used so far and extended in this chapter could also accommodate ambiguous readings in Serbo-Croatian as well as pseudo partitive and partitive constructions in English without assuming additional functional material for partitives.
PART III – INTERFACES, SEMANTIC & SYNTACTIC ANALYSIS
CHAPTER 6 – INTERFACES

1 Introduction

Work on linguistic interfaces explores how the components of the grammar interact. These interfaces are those in a narrow sense, namely these between modules of grammar, and not the interfaces of the grammar modules with the auditory-perceptual system and with the conceptual-intentional system, PF and LF respectively.

The question at the heart of this chapter is the interaction of morphology and syntax on the one hand, and the interaction of semantics and syntax on the other. Or, more precisely, how do these components influence each other? Other questions arise as well: the question of whether UG plays a role and whether structures are universal, and which functions do functional projections fulfil? Since this is not a work of syntactic theory as such, I will have to leave questions regarding linguistic theory open and will restrain myself to showing the interaction of morphological material, semantic considerations, and syntax, and how the data found can be linked to the modules of the grammar. Following the conviction that empirical data should be the starting point of any theoretical consideration, I will investigate morphological and semantic issues in Scandinavian DPs, suggesting that DPs are interpreted through fully specified syntactic representations.

In the first part of this chapter I will look at the syntax-morphology interface; in the second part, the syntax-semantics interface will be first discussed in general and then with respect to Scandinavian. A summary will then conclude this brief chapter.
2 Notes on the interfaces

2.1 The syntax-morphology interface

Important questions regarding the syntax-morphology interface are, for example, whether morphology and syntax follow the same rules, and also whether there is such a thing as a lexicon. In the spirit of DM, I will without much further discussion (at least mainly) adopt the view put forth by, among others, Halle & Marantz (1994), Harley & Noyer (1999), Julien (2007), and Embick & Noyer (2007) and assume that morphological patterns are a reflexion of syntactic structure. In other words, I assume that word formation follows syntactic operations and that syntax proper provides the correct order of the morphemes.

In the case of the Scandinavian DP, this explicitly means that nouns carrying the definite suffix are not inserted as a complex morpheme but are constructed in syntax. The same applies to the adjectival inflection, which in my analysis is a terminal node heading its own phrase, thus forming – together with the AP – the adjective that contains an adjectival inflection in syntax. However, I will not further elaborate on whether words correspond to syntactic representations or whether syntax operates solely on morphemes, as Julien (2007:210) suggests. Julien (2007:211) remarks: "although it may be easy to pick out the words in a given language, it is much more difficult to characterize them in grammatical terms."

Embick & Noyer (2007) assume a restrictive mapping from syntax to vocabulary insertion and that words are inserted at syntactic terminals after syntax proper. Morphology in DM refers to processes after syntax proper which ensure the correct order of the morphemes. These processes operate on the PF branch and are constrained by syntactic conditions.

In the spirit of a very minimal hypothesis, I assume that word formation strictly follows/is built on syntactic structure, that is, operations that occur after syntactic spell-out in order to ensure a correct linear ordering should not be necessary, because syntax already provides the correct relations between morphemes. That post-syntactic components of the grammar are not able to deal with the phenomena found in Scandinavian DPs is shown in chapter 10, section 4.1. An
answer I cannot give here is how the realization of these morpheme relations is achieved. The question arises why the notion of word or morpheme is important for syntax at all. It is important because if word formation follows syntax, then boundaries of words can be tested syntactically in that "additional material can be inserted" (Julien 2007:213). In *Syntactic Heads and Word Formation*, Julien (2002) shows in a survey of 530 languages that the order of morphemes is clearly syntactically determined. As the following sections will show, Scandinavian DPs are also best captured when word formation is not seen as a separate module of the grammar.

### 2.2 The syntax-semantics interface

Syntax is concerned with the structure of an utterance, whereas semantics is about its interpretation. Theories about the syntax-semantics interface try to answer questions regarding the interaction of these two components. In other words, to what extent does syntactic structure influence interpretation, and/or how much does semantic output affect syntactic structure? More precisely, which information is mapped from the syntactic component to the semantic one, how is this achieved, and which information originates in the semantic component? This issue is more or less independent of the theoretical framework used. Chierchia (1997:91) remarks:

"Grammar generates through a computational process subject to certain general economy principles pairs of representations <r1,r2>, where r1 is a set of instructions for the phonetic-articulatory system, while r2 is a set of instructions for the conceptual-intentional system. Whatever advantages the new model [Minimalist Program] turns out to have […], the issue of its interface with semantics remains unaltered. Either we know how r2 […] can be mapped into a logic […]. Or we don't"

Much recent work, however, has shown that semantic properties can be captured by including syntactic considerations. One example is the work on passives and anticausatives (see, for example, Kratzer 1994). This is also true for the Scandinavian DP. As the following chapters will show, syntactic structures function to express meaning; that is, syntax proper and semantics are clearly related.
The languages discussed in this thesis can achieve the same semantic output but may use different means. If syntax and semantics are as closely related as I assume, then the syntactic structures should be alike, if not the same. The following sections will show that this hypothesis is borne out and that all Scandinavian languages can be accounted for by the same structure and mechanisms. Variation lies in the means the respective languages have at their disposal to make a DP definite.

A further argument which supports the view that syntax and semantics closely interact lies in the behaviour of so-called mass nouns. As shown in chapter 4, they are interpreted as individuated or as mass nouns depending on the syntactic operations they undergo. Syntactic movement operations, in the case of mass nouns to ClassP, change the behaviour of the element in question and its interpretation. If the noun moves, it is interpreted as individuated and can combine, for example, with plural morphology. If there is no movement and the noun remains in situ, this combination is out, along with the interpretation as individuated.

2.3 The syntax-semantics interface of Scandinavian modified definite DPs

This section tries to capture the relationship between the syntax and the semantics of DPs in Scandinavian and claims that every functional morpheme involved in making a noun phrase definite makes a semantic contribution to that noun phrase. A detailed analysis of the semantic contribution of the respective morphemes is offered in the next chapter; the syntactic analysis, in the chapter after next.

The functional morphemes in modified definite DPs in Scandinavian are the preadjectival article, the adjectival inflection and the suffixed article, as shown in (1).

(1) den ny-e  bil-en  Norwegian
    DEF new-W car-DEF
    'the new car'

Regarding the syntax-semantics interface, the following questions arise: i) Does the use or elimination of (one of) the functional morphemes change the
semantic interpretation of the phrase?, and ii) Are changes in the semantic interpretation regular? To this end, I will look at the respective morphemes used in isolation and in combination with each other. The different combinations lead to the following grammaticality judgements in Norwegian (2). In (3), a further special use of the adjectival inflection in Icelandic is illustrated.

(2)  a. DEF A-W<sup>31</sup> N-DEF  
     b. DEF A-W N  
     c. A-W N-DEF  
     d. INDEF A-S N  
     e. INDEF A-W N  
     f. *DEF A N  
     g. *DEF A N-DEF  
     h. *A N  
     i. *A-W N  
     j. *A N-DEF

(3)  a. A-W N-DEF  
     b. A-S N-DEF  

The list in (2) shows that there is a certain range in which the different morphemes can be used. If the suffixed article is omitted, the reading becomes a non-referential one (2b). The elimination of the preadjectival article, on the other hand, leads to a reading that assumes familiarity with the object denoted by the phrase (2c). However, not just any combination of the three functional morphemes yields grammatical results, as the ungrammaticality of examples (2f) to (2j) shows. Even the adjectival inflection seems to contribute to the semantics of the phrase: (2d,e) shows that, depending on the use of the weak or strong ending on the adjective, phrases with indefinite pronouns receive different interpretations. The same holds for the Icelandic example in (3), where the use of the strong adjectival inflection in

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<sup>31</sup> A-W refers to adjective plus weak inflectional ending, A-S refers to strong inflection on the adjective.
combination with definite noun phrases – in contexts where the weak ending is the default one – leads to non-restrictive interpretations of modification.

Even if not every single possible combination in the list above neatly carries over to all other Scandinavian languages, it can be clearly concluded that the morphemes involved in noun phrases in Scandinavian seem to contribute to the semantics of the phrase and thus are not mere agreement phenomena or copied elements, but that the elements in question are necessary for the interpretation of the phrase and thus represent a clear case of interaction between syntax and semantics.

3 Summary

In this small chapter I have given a short introduction into the notion of the interfaces that are relevant for this dissertation, namely the interfaces between modules of grammar, that is between morphology and syntax on the one hand, and between syntax and semantics on the other. The following tree illustrates the interaction between syntax, morphology, and semantics.
I have suggested that word formation strictly follows syntactic structure and that syntax is able to provide the correct order of morphemes so that post-syntactic rearrangement is not necessary – at least not for the languages under discussion. Furthermore, I have hypothesised that the use of the respective functional morphemes in Scandinavian DPs contribute to the semantics of the phrase and that this is represented in the syntactic structure. The patterns shown in the examples in (2) are productive and lead to regular changes in the interpretation of noun phrases, which additionally support the claim that semantic interpretation and syntactic structure interact.

In the following two chapters, I will look in detail at the syntax and semantics of Scandinavian DPs and at the interaction of the morphemes involved. I will also motivate the syntactic structure depending on the information that originates in the semantic component.
CHAPTER 7 – THE SEMANTICS OF THE ARTICLES AND THE ADJECTIVAL INFLECTION

1 Introduction

In this chapter I will discuss the semantics of the suffixed article and the preadjectival article as well as that of the adjectival inflection. Building on examples from earlier chapters, the contribution of the two articles to the notion of definiteness will be briefly formulated in section 2. I will come back to the articles regularly in subsequent sections. Section 2 mainly deals with Norwegian and Swedish data. Since the articles in Danish and Icelandic occur in complementary distribution, the content of the articles cannot be tested against the same background as in the Scandinavian double definiteness languages. Nevertheless, even in Danish and Icelandic the content of the articles can be extracted, as the remaining sections of this chapter will show. Section 3 deals with the adjectival inflection. This detailed discussion also leads to patterns found in relative clauses which support the content of the functional morphemes identified in this chapter. These findings lead to section 4, the heart of this chapter, and namely to the question of why some of the Scandinavian languages display double definiteness, while others – even though they have two articles – do not. Section 5 summarizes the findings and concludes the discussion on the semantics of the functional morphemes in Scandinavian definite DPs.
2 The semantics of the articles

2.1 The suffixed article

Julien (2005a) suggests that the semantic content of the suffixed article is *specificity*: the suffixed article can be omitted if a non-specific reading is intended, and a specific reading is only possible if the suffixed article is spelled out. I largely agree with Julien but consider the term *specificity* problematic. I suggest extending the term to *specific reference* (1), thus including that the denotation of the noun plus suffixed article yields a referential reading and that the denotation is identifiable and locatable for the hearer.

(1) THE SUFFIXED ARTICLE brings about *specific reference*.

Examples (12) and (13) from chapter 2, repeated here as (2) and (3), illustrate this point (for more examples see chapter 2). In the examples without the suffixed article, the reading is non-referential in the sense that the speaker is not referring to specific people. If the suffixed article is present, however, the speaker is referring to particular people and a referential reading is obtained.

(2) a. Dei oppfører seg som dei verst-e bøll-ar Norwegian
  they behave 3REFL as DEF.PL worst-W brute-PL
b. Dei oppfører seg som dei verst-e bøll-a-ne
  they behave 3REFL as DEF.PL worst-W brute-PL-DEF
  ‘They behave like the worst brutes’

(3) Han uppför sig som den värst-e buse Swedish
  He behaves REFL as DEF worst-W brute
  'He behaves like the worst brute'

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32 Indefinite DPs can also be specific (‘I've bought a book’).
This observation is supported by restrictive relative clauses. Here, too, the suffixed article is redundant.

(4) De turist-er som åkte till Island fick mycket sol.

DET tourist-PL who drove to Island got a lot of sun.

‘The tourists who went to Island got a lot of sun.’

Swedish, Holmes & Hinchliffe (2003:146)

The relative structure in (4) does not require the definite article. Since restrictive relative clauses limit and specify the denotation of the noun and thus help to identify the denotation of the noun, the suffixed article is superfluous. In (4), the independent item *de* is introduced preceding the noun, even though the noun is not modified. This independent morpheme is called a ‘determinative pronoun’ (Holmes & Hinchliffe 2003:146).

(5) a. DE bil-ar som jag gillar bäst
    DEM car-PL which I like best
    ‘Those cars that I like best’

b. DE bil-ar-na som jag förresten aldrig riktigt gillat
    DEM car-PL-DEF which I incidentally never really liked
    ‘Those cars, which incidentally I never really like’

c. De bil-ar som jag gillar bäst
    DEF car-PL which I like best
    ‘The cars that I like best’

d. De stor-a bil-ar som jag gillar bäst
    DEF big-W car-PL which I like best
    ‘The big cars that I like best’

Since the determinative can be stressed (unless it is followed by an adjective), I assume that it functions like a demonstrative if it is stressed (5a), but that in cases like stressless *de* (5c) and adjectival modification (5d), the preadjectival article is

33 Stress is indicated by the use of capitalisation.
triggered, and the determinative is not kept. (5b) illustrates the default use of the demonstrative pronoun, which results in a non-restrictive reading as opposed to the restrictive reading in (5c). See also section 4 for more detailed comments on this pattern. The example phrases in (5), apart from (5d), are from Holmes & Hinchliffe (2003:146).

2.2 The preadjectival article

The role the preadjectival article plays in the notion of definiteness is commonly called inclusiveness (cf. Hawkins 1978, Lyons 1999, Julien 2005a). This term was introduced by Hawkins (1978) to express ‘uniqueness’ of plurality, that is, to include mass and plural nouns because uniqueness implies singularity (see also chapter 1). Inclusiveness assimilates uniqueness and is meant to express reference “to the totality of the entities that satisfy the description” (Lyons 1999:11). In my opinion, this definition does not cover the function of the preadjectival article. I suggest replacing it with the definition in (6).

(6) THE PREADJECTIVAL ARTICLE introduces a discourse referent that contains a new discourse variable.

In other words, what the preadjectival article does is signal that a new modified definite noun is entering the discourse, thus contributing to the interpretation of a modified DP as definite. Example (7) suggests that the preadjectival article introduces a new discourse variable.

(7) a. den talentfulle akademiker-n og den dyktige administrator-n
b. den talentfulle akademiker-n og dyktige administrator-n
(7a) can be understood as referring to two people – this is the favoured reading – or it can refer to only one person; (7b), however, unambiguously refers to one person only. This suggests that the preadjectival article introduces a new, modified *discourse variable*. If (7a) is understood as referring to one person, the context makes it clear that the *specific reference* of the noun denotes the same entity.

Example (8) supports this view: since the 'new car' in (8b) is a familiar entity for those involved in the discourse (cf. chapter 2, section 2.3.2), there is no need to introduce it as a new discourse variable.

### 3 The adjectival inflection

In chapter 2, the inflectional system of adjectives in Scandinavian was characterized as depending on the definiteness of the context the adjective occurs in: in indefinite contexts, the strong adjectival inflection appears; in definite contexts, the adjective carries weak inflection. However, there is quite some variation to be found, and so the question arises as to what the function of the adjectival inflection is.

Example (9) illustrates this variation. In (9a), the strong adjectival inflection is used, while in (9b), the weak adjectival inflection is used.

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34 Note that there is no change in the role of the suffixed article – its function is independent of the presence of the preadjectival article.
b. Legg hvert umodn-e eple i denne kassen.
   put every unripe- W apple in this box-DEF
   ‘Put each unripe apple in this box’

The two Norwegian sentences in (9) are identical apart from the adjectival inflection. (9a) shows the strong ending, (9b) shows the weak one, but the meaning is different: (9a) is not presuppositional so that it is not clear whether there are any unripe apples at all, while in (9b) the reading is presuppositional, that is, there is at least one unripe apple. This presuppositional reading is rendered by the weak adjectival ending.35

If it is correct that the weak adjectival ending presupposes the existence of the A+N denotation – at least in Norwegian, then we should not find this ending if the existence of the A+N denotation is stated otherwise. The adjective egen ‘own’ might be such a case.

(10) a. den egn-a torv-an
   DEF own-W garden-DEF
   ‘one’s own garden’

b. hans/mammas egen-ø hemlighet
   his/Mummy’s own-S secret
   ‘his/Mummy’s own secret’

c. deras ege-t fin-a hus
   their own-S fine-W house
   ‘their own fine house

d. hans egn-a uppträdande
   his peculiar-W behaviour
   ‘his peculiar behaviour’

35 As noted by Vangsnes (2007), Kester (1996) shows similar patterns for Dutch.

(i) Welk ziek- ø / ziek-e kind kun je in bed houden?
Which sick-S / sick-W child can you in bed keep
‘What/which sick child can you keep in bed?’ (Kester 1996:105)

In the above example, too, the weak adjectival inflection picks out the relevant members of the referent of the noun. The reading with the strong adjectival inflection, on the other hand, does not presuppose this existence, that is, there is no set of sick children, and consequently none can be picked out of the set. For H. Perridon (p.c.), only welk ziek kind is acceptable.
(10a) displays the default structure: double definiteness plus weak adjectival inflection. In (10b), *egen* follows a possessive/genitive and shows strong inflection, although these contexts normally require the weak ending. This is shown in (10c), where *eget* has the strong ending, and the other adjective *fina* the weak one. If, on the other hand, *egen* is used after the possessive but carries the weak adjectival ending (10d), the meaning changes.

Two things are remarkable here. First, the adjectival inflection clearly interacts with interpretation, as the change in meaning in the above example shows. Second, the question arises as to why *egen* carries the strong adjectival inflection when following possessive and genitive structures. The use of *egen* in (10b) and (10c) differs from (10d) in that in the former examples the adjective does not have to help identify the referent of the noun, since it clearly refers back to the possessor, whereas in the latter, *egen* refers solely to the noun it describes. In other words, the use of a possessive/genitive structure presupposes the existence of the possessor so it is not necessary to otherwise state this existence. The weak adjectival inflection therefore does not have to be chosen.

These different observations point to the following conclusion:

(11) THE WEAK ADJECTIVAL INFLECTION seems to identify the member(s) of the subset in the A+N denotation.

Vangsnes (2007:3) observes that the presuppositional contribution of the weak adjectival article in example (9) "squares" with the fact that *hver* 'each/every' combined with "non-restrictive relative clauses are licit only if the adjective has weak inflection". What he probably means is that a presuppositional function of the weak adjectival inflection on the one hand, and resulting non-restrictiveness of relative clauses on the other, does not seem to be easy to combine in one morpheme. This is somewhat misleading, because this pattern actually supports the hypothesis in (11): it is exactly the adjectival inflection that leads to the interpretation of *hver* either as 'each' or as 'every'. The following example illustrates this.
In (12a) *hver is interpreted as 'each' because the weak adjectival inflection is used. If the weak adjectival inflection picks out the relevant members in the set, as I argue, then a restrictive as well as a non-restrictive reading should be the result. That is, either the relative clause helps define the referent(s) of the noun, or it is just there as additional information. This is borne out, as example (12c) shows. However, adding additional, non-defining information to something that has not yet been defined is impossible, and that is why *hver in the sense of 'every', which is achieved by the strong inflection, cannot be modified by a non-restrictive relative clause (12b). Hence Vangsnes' (2007) observation can be rephrased such that non-restrictive readings of relative clauses are licit if the denotation of the noun refers to a defined set. This is achieved by the weak adjectival inflection. Therefore the example in (12) supports the above hypothesis regarding the adjectival inflection (see also the discussion below).

If it is the case that the weak adjectival inflection picks out the relevant members of a subset in the denotation of adjective and noun, then the question arises as to why the weak adjectival ending occurs in structures of the kind illustrated in (13). The denoted item in (13) is not a subset in the sense that there is a particular white house among others of the same or a different colour, but it clearly denotes one particular building, namely the seat of the United States government, which does not even have to be necessarily white.
Note also that in (13) the preadjec tival article is missing. This has been attributed to the concept of familiarity and inclusiveness that has been assumed to be represented by the preadjec tival article (see Holmes & Hinchliffe 2003, Julien 2005a, Schoorlemmer 2009). However, familiarity is a concept that is not without difficulties (cf. discussion in chapter 1), and it is not the one most fitting to describe the function of the preadjec tival article. If, on the other hand, it is considered that the preadjec tival article introduces a new discourse variable that is a subset, as argued for in section 3 of this chapter, then it becomes clear why the use of det in the phrase above is redundant: there is no subset to be introduced in the first place, unlike the one in (14), where a house that has the attribute of being white, as opposed to yellow, for example, is introduced into the discourse.

The above considerations obviously still do not answer the question of why the phrase in (13) display the weak adjectival ending. However, there is a certain regularity that might lead to an explanation. In the default structure in (14), the adjective is stressed, while in (13), it is the noun that receives prominent stress. This pattern is, as mentioned, regular, and shows up in other constructions as well (Holmes & Hinchliffe 2003:86). This is reminiscent of the English pattern of forming compound nouns of the blackbird-type. Compare (15) to the English example in

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36 The corresponding Norwegian example is shown in (i). The form without the suffixed article is used because det hvite hus is a proper noun (Stranskogen 1995:47). Cf. page 118 for the analysis of the Swedish example as a proper noun.

(i) det hvite hus
    DEF white-W house
    ‘The White House’
(16)\textsuperscript{37}, where stress regularly shifts from the noun to the adjective, displaying a mirror image of the Swedish data.

\begin{itemize}
\item[(15)] a. det VIT-A hus-et
\hspace{1cm} DEF white-W house-DEF
\hspace{1cm} 'the white house'
\item b. Vit-a HUS-ET
\hspace{1cm} white-W house-DEF
\hspace{1cm} 'the White House (in Washington)'
\end{itemize}

\begin{itemize}
\item[(16)] a. the black BIRD
\hspace{1cm} 'the bird that has the attribute of being black'
\item b. the BLACKbird
\hspace{1cm} 'proper name for a particular kind of bird'
\end{itemize}

This pattern suggests that structures of the \textit{Vita huset}-kind can be viewed as compound proper nouns\textsuperscript{38}, as is the case in the English example. To be more precise, they can be seen as attributive endocentric compounds in the classification of Bisetto & Scalise (2005), where “the adjective expresses a property and is in a modifier relation to the noun” (Bisetto & Scalise 2005:326). The analysis of \textit{Vita huset}-nominals as compounds is supported by the fact that other adjectives cannot intervene between adjective and noun (Börjars 1996 cited in Schoorlemmer 2009:42).

But again, following the analysis above, there actually is no reason for the adjectival inflection to be present. Also, if assuming that \textit{Vita huset}-structures are proper nouns, then the question arises as to why the suffixed article is attached to the noun, since proper nouns in Standard Scandinavian do not normally take the suffixed article (17). However, in northern dialects, definiteness markers can co-occur with proper nouns.

\textsuperscript{37} Stress is indicated by capitalization.
\textsuperscript{38} Spelling is mere convention and does not necessarily indicate compounding, i.e., compounds can involve separate spelling.
The prenominal articles \(en\) and \(a\) – the masculine and feminine article respectively – are obligatory with given names (18a-c). Delsing calls these articles *prepositional articles* (glossed ART). In many dialects, they are homonymous with weak or clitic forms of personal pronouns and may also be used with terms of kinship (Delsing 1993:54). The suffixed article, on the other hand, can be used with family names. Its use, however, is not obligatory (18d). The co-occurrence of proper nouns and determiners is not a peculiarity of Northern Scandinavian dialects. It is also found in other varieties of Germanic, for example, in Southern German dialects (19). Here, too, a weak determiner form is chosen (\(d\) instead of *der*).

(19) d Polizei hot *(d) Anna verhaftet

\[\text{DEF police has DEF Anna arrested}\]

‘The police has arrested Anna’

This suggests that – at least in these languages – a DP containing a proper name does not differ from a DP containing a common noun. That is, the proper noun also is in N, but the D-position does not necessarily have to be spelled out because...
proper nouns are inherently deictic (see also Delsing 1993, Schoorlemmer 2009). This is also in line with the framework of Distributed Morphology where roots are not categorized. In other words, syntax proper does not differentiate between proper and common nouns.

As discussed above, *Vita huset* in (13) is a compound proper name. The question as to why it carries the adjectival inflection is nevertheless still unanswered. I argue that in the postsyntactic operation of Vocabulary Insertion, the compound is inserted under N as a whole, that is, *Vita huset*-compounds behave like heads (X°) that are lexicalized, hence inflection may occur on the adjective but it does not contribute anything to the meaning of the expression. I follow Harley (2008) in assuming that the whole phrase *Vita huset* is adjoined to a head n, thus being categorized as noun. This is illustrated in (20).

(20) 
\[
\begin{align*}
& n \\
\mid & \sqrt{P} \\
\mid & n \\
DP & \triangleup \text{vit-a hus-et}
\end{align*}
\]

The result of (20) is inserted after syntax proper under the N-node as a complex compound noun that syntactically behaves "like a Root, rather than like an internally complex XP" (Harley 2008:151). The question arises how this could be achieved technically. Harley (2008:151f) suggests the following.

"[...] we could propose that the XP is created in a separate derivational workspace from a separate Numeration, sent off to LF for interpretation, and then 'renumerated' as a Root. [...] Hence the XP behaves like a Root, morphosyntactically speaking."

In a nutshell, structures of the *Vita huset*-kind at first sight seem to contradict the function of the adjectival inflection expressed in (11). This apparent contradiction is resolved by showing that these structures are compound proper names. As proper names they are inserted under N, not under D, and as compounds they are lexicalized and behave like Roots.
The adjectival inflection clearly contributes to the meaning of the DP. Apart from the distinction in Norwegian illustrated in (9), repeated here as (21) for convenience, there are other examples that show that the adjectival inflection plays a role in the interpretation of the phrase. In Icelandic, strong adjectival inflection combined with definite contexts results in a non-restrictive reading. Example (22) illustrates this.

(21)  
| a. | Legg hvert umod-ent eple i denne kassen. |  
| put every unripe-S apple in this box-DEF |  
| ‘Put every unripe apple in this box’ |  
| b. | Legg hvert umod-ne eple i denne kassen. |  
| put every unripe-W apple in this box-DEF |  
| ‘Put each unripe apple in this box’ |  

(22)  
| a. | gul-i bil-inn |  
| yellow-W car-DEF |  
| ‘the yellow car’ |  
| b. | gul-ur bil-inn |  
| yellow-S car-DEF |  
| ‘the car, which by the way is yellow’ \textit{Icelandic}, Delsing (1993:132) |

(22a) shows the default structure. In definite DPs in Icelandic, the article is suffixed to the noun and the prenominal adjective receives weak inflection. The adjective in (22b), however, carries strong inflection although the definite article is suffixed to the noun. The result is a difference in meaning: (22a) is interpreted restrictively, whereas (22b) receives a non-restrictive interpretation. Pétursson (1987:69) sees this difference in an individual property (strong inflection) as opposed to a general or comparative property (weak inflection). In the example with the strong inflection, it is apparently not necessary to know that the car is yellow in order to identify the car. The referent of the noun phrase can clearly be identified without this bit of knowledge, that is, the information given by the adjective is, in this case, not defining – literally. This supports the definition in (11) above.
As mentioned, the description in (22b) is non-restrictive: the adjective cannot be stressed, which entails that the context probably is such that there is only one car, and this car by the way is yellow. If there were more cars in different colours, then the weak adjectival declension would be used to clearly identify the car, and stressing the adjective (which equals contrast) would be possible. If there were more cars and all of them were yellow, then some more modification would be required, either by further description such as brand or location, or by using a demonstrative. Since it is evident which car is meant, there is consequently no need to pick out the relevant member in the subset. The following paragraphs clarify and support this view.

Delsing (1993:132) notes that the semantic distinction between (22a) and (22b) depends on whether

“the adjective is restrictive or not. If a noun phrase of the type *den gula bilen* [the yellow car-the] is not meant to identify ‘the yellow car’, but only to identify a car, which happens to be yellow, Icelandic marks this with the strong form of the adjective”.

This statement is somewhat misleading. First, there are no restrictive or non-restrictive adjectives, rather their use or interpretation is (non)-restrictive. The interpretation depends on context. Compare the following examples (taken from Alexiadou to appear).

(23)  In Annas Garten sind bunte Blumen
     ‘In Anna’s garden there are colourful flowers’

World knowledge tells us that flowers are colourful, thus the adjective has to be interpreted non-restrictively. A restrictive interpretation of (23) is ungrammatical. A possible diagnostic for a restrictive reading is stress, and *bunte* ‘colourful’ in the above example cannot be stressed. Example (24a) is ambiguous between a non-restrictive reading (24#1) and a restrictive reading (24#2). Word order can disambiguate (24b): in English, post-nominal position of adjectives results in an unambiguously restrictive reading.
(24)  a. All of his unsuitable acts were condemned.
   #1 ‘All of his acts were condemned; they were unsuitable’
   #2 ‘All of his acts that were unsuitable were condemned’

b. Every word unsuitable was deleted.
   ‘Every word that was unsuitable was deleted’

In this sense, the weak adjectival inflection in (22a) results in a restrictive reading, whereas the strong adjectival inflection (22b) leads to a non-restrictive reading. On other words, the information given by the adjective is additional, non-defining information. In this respect, adjectival inflection clearly contributes to the semantic interpretation of the phrase.

4 Extending the discussion

Restrictive relative clauses in Swedish show patterns comparable to the 'identifying contribution' of the Icelandic weak adjectival inflection. Restrictive modification seems to need additional identification. This is illustrated in example (25). The definite plural article –na on turister ‘tourists’ is omitted, and the preadjectival article de is inserted. The result is a restrictive reading – this pattern is not surprising if the semantic contribution of the respective articles is taken into consideration, which is what in this thesis is argued for: the preadjectival article signals that a new, modified noun has entered the discourse.

(25) De turist-er som åkte till Island fick mycket sol.

   DEF tourist-PL who drove to Island got a lot of sun.
   ‘The tourists who went to Island got a lot of sun.’

The above examples show that restrictive readings always include the notion of a subset relation.

“Kamp (1975:153) pointed out that an adjective modifying a noun restrictively helps identifying the individual that is the referent of the noun phrase. If […] the adjective modifies the noun non-restrictively,
then it does not provide information that is relevant to the reference of the noun. In other words, non-restrictive modification expresses a property of the referent that is taken to be *evident in the context* in which the sentence is uttered.” (Alexiadou to appear:11, Italics S.L.)

Taking this into consideration, it does not come as a surprise that the suffixed article, which normally is used in DPs of the kind in (25) – that is, in definite DPs without adjectives – can be ‘replaced’ by the preadjectival article. Specific reference, usually contributed by the suffixed article, is expressed by the relative clause, which specifies the information relevant to the interpretation of the noun. Nevertheless, the new subset – that is, the modified noun – still needs to be established, and this is what the preadjectival article does, both in modification by adjectives and relative clauses, hence the occurrence of the preadjectival article in both constructions.

The patterns found in both Icelandic strong/weak adjective alternation with reflex in meaning and in Swedish relative clauses (where the suffixed article normally is omitted but the preadjectival article inserted even if no adjective is present) support the semantic contributions of the articles and the adjectival inflection identified in this thesis, namely that the preadjectival article signals that a new subset is entering the discourse, the weak adjectival inflection identifies the relevant members of the subset, and the suffixed article brings about specific reference.

Similar strategies as in the above examples are employed in Danish (26) and Western Jutlandic (27). Both languages have two definite articles and use these articles depending on whether the interpretation is restrictive or non-restrictive. (26a) and (27a) result in a restrictive interpretation, while the respective (b)-examples are non-restrictive.

(26) a. den hest, der vandt løb-et
   DEF horse that won race-DEF
   ‘the horse that won the race’

b. hesten, der er fire år gammel
   horse-DEF which is four years old
   ‘the horse, which is four years old’

Danish, Julien (2002:298)
In the Danish example (26a), the preadjectival article is used. Although there is no adjective, the restrictive modification by the relative clause creates a new subset, consequently the preadjectival article is used. In the Western Jutlandic example (27a), exactly the same strategy is employed: if a modified DP is not strongly familiar, the article *de* is used, otherwise *æ* is used. So if the modified DP is to be interpreted as restrictive – that is, if the adjective is relevant for the identification of the referent of the noun – *de* is used instead of *æ*.

The above discussion combines modification by relative clauses and adjectival modification. In my view, this is justified for two reasons. First, both relative clauses and adjectives can modify a noun restrictively; and second, adjectives have been analysed as reduced relative clauses. I will not elaborate on the discussion whether adjectives are reduced relative clauses or not (cf. Cinque 2005; for an overview see Alexiadou et al. 2007). What is of importance for the analysis argued for here is that in order to interpret restrictive modification – in the form of a relative clause or in form of adjectival modification – additional identification seems to be necessary. That is, in modified DPs an additional feature needs to be satisfied unlike in non-modified contexts. This neatly carries over to the analysis here, namely that modification involves the additional feature [disc], discourse reference. If both articles can realize the [disc]-feature, as is the case in Icelandic (see discussion below), other mechanisms are employed to meet this end. In Icelandic it is the adjectival inflection.
5 Why some languages display double definiteness and others do not

In this section I want to clarify the different mechanisms used in the different Scandinavian languages to realize definiteness in modified DPs and to show the interaction of the different morphemes or constituents involved. In the end I hope to be able to show and explain why some languages with two definite articles actually make use of double definiteness and why others, despite having two articles as well, do not (see concluding section 6). To this end I will summarize the findings so far and look again at some examples of relative clauses from different Scandinavian languages discussed above.

5.1 Swedish and Norwegian

For Swedish and Norwegian, we have so far been able to establish the following pattern.

i) Double definiteness in modified contexts

ii) The preadjectival article can be omitted in very familiar contexts, that is, there is no need to realize the [disc]-feature

iii) The adjectival inflection picks out the relevant members in the subset of the A+N denotation

iv) The suffixed article realizes the [sref]-feature; if not realized, less information relevant for the reference of the noun is provided/needed

Modification by relative clauses supports the facts from double definiteness. In order to interpret an utterance of a new context as unambiguously restrictive, the new subset needs to be introduced (preadjectival article), and the referent of the noun phrase clearly needs to be identifiable (modification by relative clause or suffixed article).
According to Julien (2005a:78), it is possible to leave out the suffixed determiner in both languages (and in Faroese as well). However, it only happens with any degree of frequency in Swedish and this is why in Julien's original Norwegian example, the suffixed article is not put in brackets. "In Norwegian, examples where the suffixed article is absent [...] can sometimes be found in the written language, but they have a distinct bookish flavour."

In all Scandinavian double definiteness languages, there is another way to form restrictive relative clauses, namely by using the suffixed article without the prenominal one, as shown in (29). The suffixed article then is obligatory.

(29)  Flicka-n som jag känner

#1 Girl-DEF – which I know
#2 Girl-DEF that I know

‘The girl(,) which I know’  

Swedish, H&H (2003:450)

(29) is ambiguous between a non-restrictive (#1) and a restrictive (#2) modification. Disambiguation is achieved by comma intonation (H&H 2003:450), which results in a non-restrictive interpretation, or by stress40, which leads to the restrictive interpretation. According to Holmes & Hinchliffe (2003), the pattern in (29) is used “by some native speakers”, but only in informal register and spoken Swedish. A further condition is that the modified noun is in subject position (H&H 2003:147)41. Two questions arise regarding example (29). First, why is there no preadjectival article, although a modified subset is introduced?, and second, why is there a suffixed article when the relative clause should provide the relevant

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40 Tommy Resmark (personal communication).
41 I will have to abstract away from this fact here.
information regarding the reference of the modified noun? Regarding the latter I cannot offer an explanation. But, the use of the suffixed article in this context seems to be an exception (Holmes & Hinchliffe 2003), so perhaps this is an idiosyncratic pattern that does not necessarily detract from the function of the suffixed article put forth here. A possible answer to the first question is that Swedish apparently resorts to a further pattern that, too, is able to establish a new subset and lead to a restrictive interpretation, namely intonation (cf. the German example (23)). In other words, stress seems to take over the job of the preadjectival article. This is plausible, since a restrictive interpretation always implies contrast, as does stress.

In Norwegian, the case is somewhat more puzzling. Julien (2005a:78) found "considerable individual variation" regarding the use of the suffixed article in definite DPs modified by restrictive relative clauses. She assumes that this is due to regional differences and that speakers from the southeast of Norway tend to use the prenominal determiner, while speakers from other areas use the suffixed article. Julien concludes that the prenominal determiner must be interpreted as a demonstrative. In those cases where the prenominal determiner is stressed, I agree with her, however, in those cases in which this element is not stressed, I follow Holmes & Hinchliffe (2003:146), who point out that in the cases mentioned above, the job of the prenominal demonstrative is not to point out but to restrict. Contrary to Julien (2005a) I thus assume that it is not the demonstrative but rather the preadjectival article which is triggered in those contexts.42

In summary, Swedish and Norwegian have two articles at their disposal and can – at least in spoken Swedish – use either to achieve restrictive interpretations of nouns that are modified by relative clauses. The choice seems to depend on individual preferences or regional differences. A new subset relation is established either by the use of the preadjectival article, or, if the suffixed article is used, by stress. That is, whatever pattern is chosen, the content of the [disc]-feature needs to be – and is – realized, no matter whether the noun is modified by a restrictive relative clause or by an adjective.

42 There are other languages that have no strategy to disambiguate restrictive vs. non-restrictive interpretations in their written languages, for example German. Here, too, comma intonation and stress are used to disambiguate. In written forms of the language, however, for both kinds of relative clauses, commas are used and it is the overall context that helps disambiguate – this is what could be happening in Norwegian as well.
5.2 Danish

The Danish pattern of modification includes the following basic elements.

i) Simple definiteness, but two different definite articles
ii) The preadjectival article introduces the new discourse variant and specifies reference.
iii) The adjectival inflection picks out the relevant members in the subset of the A+N denotation\textsuperscript{43}
iv) The suffixed article realizes the $[\text{sref}]$-feature

As for Swedish and Norwegian, this pattern is mirrored in structures that involve restrictive relative clauses. Example (30) illustrates that in Danish relative clause constructions, the noun that is modified can occur with the preadjectival article or with the suffixed article.

\begin{enumerate}
\item[(30)]  
a. den hest, der vandt løb-et  
\hspace{2cm} \text{DEF horse that won race-DEF}  
\hspace{2cm} \text{‘the horse that won the race’}

\item[(b)] hesten, der er fire år gammel  
\hspace{2cm} \text{horse-DEF which is four years old}  
\hspace{2cm} \text{‘the horse, which is four years old’}  
\text{Julien (2002a:298)}
\end{enumerate}

The difference, however, lies in the semantic interpretation. While (30a) receives a restrictive interpretation, (30b) is non-restrictive (Julien 2002a:298). As seen above, restrictive interpretation requires the introduction of the subset in order to sufficiently identify the referent – and this is what the use of the preadjectival article does, even if no adjective is present. Non-restrictive information, such as that given by the relative clause in (30b), however, is independent of the definiteness of

\textsuperscript{43} I have not gone into detail testing whether Danish actually behaves like other Scandinavian languages where the adjectival ending identifies the members in the A+N denotation. For simplicity I will assume so, but this issue of course needs further research.
the noun phrase. That is, the suffixed article is necessary to make the noun a definite noun, irrespective of the modification by the (non-restrictive) relative clause.

5.3 Icelandic

The analysis of Icelandic so far results in the following pattern.

i) Simple definiteness, but two different definite articles
ii) The preadjectival article is used in literary or very formal style
iii) Strong adjectival inflection combined with definite DPs results in restrictive reading of the DP
iv) The suffixed article can realize both [sref] and [disc]

The distribution of the articles in Icelandic does not seem to be as straightforward as it is in the other Scandinavian languages. At first sight, iv) seems to point to a development that must have taken place only in the last decades. In older grammars and textbooks – for instance in Glendening (1961:7,57) – the distribution of the articles is described as follows: The article is suffixed to the noun if the noun is not modified by an adjective, and the prenominal freestanding article is chosen if an adjective modifies the noun. In other words, according to Glendening (1961), the distribution of determiners used to be / is exactly the same as in Danish. However, Blöndal & Stemann (1959:61, 81) claim in their textbook, which predates Glendening, that the freestanding article is used in writing. In colloquial speech, however, the article is suffixed to the noun. Accordingly, in their textbook the forms with the suffixed article are given in brackets (Blöndal & Stemann 1959:81): “hinn ríki maður (ríki maðurinn)”, ‘DEF rich-W man (rich-W man-DEF)’. Pétursson’s (1987) textbook makes the following statement:

“If an adjective precedes a noun, the definite article may precede the adjective. However, this pattern is part of a higher register in writing. In colloquial speech and informal writing, the article is postnominal.”
(Pétursson’s 1987:57, translation S.L.)
In *The Structure of the Icelandic NP*, Sigurðsson (1998) mainly made use of examples of the D-A-N type. He views the use of either the freestanding article or the suffixed as largely interchangeable, and claims that the difference is due to stylistic reasons (Sigurðsson 1998:180). The question that arises is whether there is actually a connection to the Danish pattern – where the two articles clearly contain different features, namely [disc] and [sref] in the preadjectival one and [sref] in the suffixed one – to the pattern found in Modern Icelandic today, or whether both articles in Icelandic can contain both features. The different descriptions, particularly in older grammars and textbooks, could be due to a preference of written language and formal style\(^4\). I think it not presumptuous to say that older grammars probably followed a prescriptive approach rather than a descriptive one. A look at older stages of the language hopefully could shed some more light on the discussion of articles in Icelandic.

Noreen (1923) and Załuska-Strömberg (1982) agree that Old Icelandic had two demonstratives that were used as articles: *Hinn* ‘that, yonder’, which was used before adjectives, and *(-)inn* (older *enn*) ‘the’, which was used before adjectives and after nouns. Both articles were originally independent morphemes; however, *-inn* came to be suffixed to the noun at around 1000 AD (Załuska-Strömberg 1982:83, Noreen 1923:316). This resembles the situation of the development of the articles in the double definiteness languages, where we also get two different sources for the two articles (see chapter 3). If this is really a parallel development, the question arises as to why the distribution of the articles in Modern Icelandic differs in the way it does. According to the findings of the preceding chapters, both of the Icelandic articles should be able to carry the same feature content and thus should actually go back to one source, if the argumentation put forward so far is right. This seems indeed to be the case: on closer examination, this is borne out.

Noreen (1923) and Załuska-Strömberg (1982) are grammars of Old Icelandic, with no attention paid to further development of the articles. Pétursson (2002), on the other hand, investigates the development of Icelandic from the mid-16\(^{th}\) century onwards and found the following.

---

“The old article –enn, the origin of which is unknown (Bandle 1956, 354) was largely replaced by the demonstrative pronoun himn ‘the other’ used as a suffixed article.” (Pétursson 2002:1266, Italics S.L.).

In other words, the suffixed article and the prenominal article in Modern Icelandic actually have the same source, namely the demonstrative pronoun himn. This demonstrative was already used as an article in preadjectival contexts before 1250 (Noreen 1923:316, Załuska-Strömberg 1982:83), and, according to Pétursson (2002), replaced the original suffixed article as well. It is not surprising then that in the majority of cases the two articles seem to be interchangeable. In other words, in adjectival modification either can be used. However, it certainly would be an oversimplification to claim that the potential content of the suffixed and the prenominal article in Icelandic is absolutely identical. There are cases in which one of the articles is preferred, for example, in very familiar modified DPs, where even in literary Icelandic the prenominal article is omitted and the suffixed article is used instead. Why this is so, I can only speculate and must leave for further research. A possible explanation could have something to do with a more determinative use of the preadjectival article in certain contexts, or with some other additional function of the suffixed article, or even with mere convention.

In summary, the Icelandic DP certainly deserves a more fine-grained in-depth analysis than can be offered within the scope of this thesis. However, it seems plausible to assume that the features discussed here, namely [disc] and [sref], are both present in the preadjectival article as well as in the suffixed article in Icelandic.

(31) maður-inn, sem sá hann
    man-DEF that saw him
    ‘the man that saw him’ Pétursson (1987:83)

Considering the above discussion, it comes as no surprise that in relative clauses the suffixed article is kept in both restrictive and non-restrictive readings (31). Disambiguation is achieved by intonation: a break in intonation makes the
relative clause a non-restrictive one (Gunnar Hrafn Hrafnbjargarson, p.c.)45. This is a strategy other languages that have only one article revert to as well. In fact Icelandic has only one article, even if it comes in two guises.

5.4 Western Jutlandic

Western Jutlandic has not been dealt with in depth here, but a few things can be said about the distribution of its determiners:

i) Simple definiteness, but two different definite articles, which are both independent morphemes preceding the noun

ii) The preadjectival article de introduces the new discourse variant and specifies reference.

iii) The prenominal article æ realizes the [sref]-feature

Unmodified definite nouns are preceded by the article æ (32a); modified definite nouns, by dæn (32b). However, if a non-restrictive interpretation is intended, then æ is used even in modified contexts (33).

(32) a. æ bi’l
DEF car
‘the car’

b. dæn gul bi’l
DEF yellow car
‘the yellow car’

45 In Icelandic it is also possible to form a relative clause using the prenominal article instead of the suffixed one (i), however, this is very marked and hardly ever used, if at all (Gunnar Hrafn Hrafnbjargarson, p.c.).

(i) hinn gul-i bi’l, sem …
DEF yellow-W car, which …

Interesting here is that the reading of this kind of relative clause always is a non-restrictive one. This pattern indeed seems puzzling, at least at first sight. In the concluding section of this chapter, however, an explanation will be attempted that supports the analysis regarding the prenominal article pursued in this thesis.
(33) æ gul bi’l

DEF yellow car

‘the car, which by the way is yellow’

When the above data is considered, preadjectival *daen* seems to realize what in Swedish and Norwegian is realized by double definiteness and in Danish is realized by the preadjectival article. By contrast, prenominal *æ* parallels the content of the suffixed article in the other Scandinavian languages, apart from Icelandic. Consequently, contexts that require the introduction of a new subset and restrictive interpretations of modified DPs occur with preadjectival *daen*, while non-modified DPs or non-restrictive modification shows the morpheme which realizes [sref], that is, the prenominal article *æ*.

6 Conclusion

What seems to be the case is that the languages under discussion realize the notion of definiteness with whatever means they have at their disposal to make a DP definite. Considering the above discussion, the following realization of features can be noted. Brackets in the table below indicate that a feature does not necessarily need to be realized.

<table>
<thead>
<tr>
<th>Language</th>
<th>prenominal article</th>
<th>suffixed article</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swedish</td>
<td>[disc]</td>
<td>[sref]</td>
</tr>
<tr>
<td>Norwegian</td>
<td>[disc]</td>
<td>[sref]</td>
</tr>
<tr>
<td>Danish</td>
<td>[disc] / [sref]</td>
<td>[sref]</td>
</tr>
<tr>
<td>Icelandic</td>
<td>([disc]) / [sref]</td>
<td>([disc]) / [sref]</td>
</tr>
<tr>
<td>Western Jutlandic</td>
<td>[disc] / [sref]</td>
<td>-</td>
</tr>
<tr>
<td>daen</td>
<td>[sref]</td>
<td>-</td>
</tr>
<tr>
<td>Western Jutlandic</td>
<td>[sref]</td>
<td>-</td>
</tr>
<tr>
<td>æ</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 - Feature content of articles
As table 1 shows, apart from Icelandic, in all the languages with a prenominal and a suffixed article, [disc] is obligatorily realized by the prenominal article. In Icelandic, it can be realized by both articles. Since the suffixed article in Swedish and in Norwegian cannot realize [disc], a second article is necessary – namely the prenominal one – in order to realize this feature in modified contexts. For this reason, these two languages display double definiteness. In Danish, the suffixed article cannot realize [disc] either, but the prenominal article can realize both features, and so there is no double definiteness in adjectival modification. In Icelandic, the suffixed article can realize both features, and thus definite modified DPs can have the form A – N+Def. However, if the prenominal article is used instead of the suffixed article, then the [disc]-feature must be realized. This is why even in literary Icelandic, modified definite DPs cannot have the prenominal article instead of the suffixed one in very familiar contexts. Even in those registers the suffixed article is chosen\textsuperscript{46}. This also explains why Icelandic has a different strategy in distinguishing between restrictive and non-restrictive adjectival modification. Example (34) helps explain this strategy.

\begin{align*}
\text{(34) a. } & \text{ gul-i bil-inn} \\
& \text{yellow-W car-DEF} \\
& \text{‘the yellow car’} \\
\text{b. } & \text{ gul-ur bil-inn} \\
& \text{yellow-S car-DEF} \\
& \text{‘the car, which by the way is yellow’} \\
\end{align*}

\begin{align*}
\text{(35) } & \text{ hinn goð-i maður} \\
& \text{DEF good-W man} \\
\end{align*}

Both articles have the same potential content. The preadjectival article (35), however, is very restricted in its use, and is in fact not used at all in spoken Icelandic (Hrafnbjargarson p.c.). Hence, a DP showing the default structure A-W N-DEF is ambiguous between a restrictive and a non-restrictive interpretation. Since the weak

\textsuperscript{46} cf. Norwegian, where the [disc] feature is not realized in familiar contexts and therefore the preadjectival article is left out
adjectival ending is able to pick out the relevant members of the subset, and since it is exactly this picking out that is not wished for in non-restrictive contexts, it follows quite straightforwardly that the strong adjectival ending is chosen instead of non-restrictive modification (34b).

In Western Jutlandic, *dæn* obligatorily comprises both features, whereas *æ* only realizes [sref]. Accordingly, the latter is chosen for non-restrictive modification, and the first one for restrictive modification.

In summary, depending on the realization of the respective features, either the preadjectival or the suffixed article is chosen. Both are chosen if none of the articles can realize both features. This results in double definiteness. Interesting is that the prenominal article obligatorily realizes [disc]. Consequently, if the prenominal article is present, restrictive readings can be achieved. Icelandic is different, though: the suffixed article developed out of the preadjectival article and not out of a different source. This is why both articles can contain both features or only one of them, leaving room for quite a bit of variation, yielding structures where the preadjectival article does not necessarily realize [disc]. These relative clause structures are non-restrictive (cf. footnote 43), thus, from a different point of view, supporting the hypothesis that it is the [disc]-feature that is responsible for restrictive interpretation. In other words, restrictive modification, whether via adjective or relative clause, needs the [disc]-feature to be realized.

The interaction between the introduction of a new discourse variable and the selection from the subset that is introduced (the first achieved by the preadjectival article; the latter by the adjectival inflection) is supported by the behaviour of superlatives. The examples are taken from Ramge (2002:75f).

(36)  

a.  
Hon är den trevligast-e lärar-en.  
she is DEF nice.SUP-W teacher-DEF  
‘She is the nicest teacher.’

b.  
Det här rummet är det trevligast-e.  
this here room-DEF is DEF nice.SUP-W  
‘This room is the most beautiful one.’
Regarding adjectival inflection, there is no distinction between attributive and predicative use of superlatives. In both cases, the weak ending is chosen: -e if the superlative ends in –ast, and –a, if it ends in –st. However, if the preadjectival article is not present, then the adjectival inflection is omitted altogether. This is shown in example (37).

(37) Det här rummet är trevligast.

this here room-DEF is nice.SUP

‘This room is the most beautiful one.’

The predicative use in (37) describes the object and does not create a new subset, that is, it does not necessarily compare the room mentioned to other rooms, for instance, in the same hotel. Uttering (36b), on the other hand, implies that it is the best room of a particular set of rooms, for instance, in the same hotel, in the same town, and so forth. Since a new subset is not introduced, the preadjectival article is not necessary, and hence the adjectival inflection is redundant in the predicative use of the superlative.

As the preceding sections have shown, the Scandinavian languages utilize different strategies to mark definiteness in modified contexts and to achieve restrictive vs. non-restrictive readings of modified DPs. The resulting interpretations can be seen as an interaction of three basic features, namely [disc], [ident], and [sref]. The question that arises here is how this could be represented syntactically. And exactly this is the topic to be dealt with in the next chapter.
CHAPTER 8 – SYNTACTIC ANALYSIS

1 Introduction

The syntactic analysis pursued in this chapter is based on the considerations discussed in detail in the preceding chapters on the nature of nominals (see chapter 4), on partitive structures (chapter 5), and the development of the articles and resulting semantic considerations (chapters 3 and 7). As this discussion and the motivation of the DP structure has shown, the proposed structure should not only hold for all Scandinavian languages but may also be valid cross-linguistically. I do not want to claim that the syntactic structure presented in the following sections is universal, but I believe I will be able to make some interesting contributions regarding the structure of the DP that are well worth considering when analysing DPs in other languages.

In section 2 of this chapter, I will summarize the assumptions that are at the heart of the analysis presented here as well as introduce some further assumptions that need to be considered when trying to develop the structure of the DP. These will be presented in section 3. In a subsection of 3, I will try to include issues concerning dialectal variation before concluding the discussion on the syntax of Scandinavian DPs in section 4.

2 Assumptions

Summarizing the discussion so far, the following assumptions can be formulated. The analysis of the nature of nominals has led to the hypothesis that nouns are not
classified but are individuated in a functional projection, which I refer to as Classifier Phrase, ClassP. My introduction of a classifier phrase goes back in part to Borer’s (2005) structure of the DP (1). Her analysis includes a classifier phrase, (CLP) as well, which has a dividing function. Her DP-structure also has a number phrase #P, which is the quantity phrase. The absence of CLP gives rise to mass interpretation. If no quantity interpretation is intended, #P is absent. The existence of CLP is a precondition for #P, but the existence of #P is not a precondition for CLP.

(1)

```
   DP
  /\   # max
 /   #
/     #
/ CL max
/   CL
  \ div N max
```

In chapter 4, I argued that nouns enter the derivation without being classified as count or mass nouns and therefore have to move to the classifier phrase ClassP to be individuated. It is therefore insignificant whether the noun is supposed to end up as a plural or as a singular noun, as both need to be individuated. It is also irrelevant whether the nominal is going to be modified or not. Individuation always takes place – unless the root that is adjoined to little *n* and thus classified ‘noun’ is to be interpreted unindividuated, or, in common parlance, as a ‘substance mass noun’. Borer (2005:94) assumes something similar. She concludes that

“[…] mass nouns are not inherently plural, but rather are simply unmarked for either count or mass, and that mass interpretation is, in a sense to be defined, a default interpretation associated with the absence of a dividing structure.”

I will go even further: assuming that mass interpretation is the default setting is, in my view, too close to saying that all nouns are mass nouns. This is not compatible with the findings of chapter 4, especially not with the findings of psycholinguistic and neurolinguistic studies reveal. Therefore, I will only assume
that all nouns are unmarked when they enter the syntactic derivation and whether they are interpreted as object mass noun, substance mass noun, or count noun depends on further syntactic operations.

2.1 Further assumptions

Apart from the assumptions discussed in the previous section, there are two more issues that need to be considered regarding the syntactic structure of the DP: the phrasal nature of prenominal adjectives and the lack of semantic import of declensional affixes.

2.1.1 The phrasal nature of prenominal adjectives

There has been some debate whether prenominal adjectives should be analysed as heads (‘adjective-as-head analysis’). There are, however, some arguments that have led me to take adjectives in Scandinavian to be APs. First, adjectives in Scandinavian can take complements and phrasal APs can appear prenominally (2).

(2) a. alla i stadsmiljö boende medborgare
   all in downtown living citizens
   ‘all citizens living downtown’

   b. en för rockkonserter olämpig lokal
   a for rock concerts unsuitable venue
   ‘an unsuitable venue for a rock concert’

   Swedish, Holmes & Hinchliffe (2003:456)

Second, as Julien (2005a) describes, there are constructions in which adjectives seem to be generated quite low in the tree, namely in postnominal position. The following examples are from Julien (2005a:7); e indicates the position the adjective is related to.

47 For an overview see Alexiadou et.al. (2007)
(3) a similar problem [to this one] from Svenonius (1994:445)

(4) en oerhört kritisk produkt [e mot dom alla] Swedish
    INDEF extremely critical product towards them all
    ‘a product that is extremely critical towards them all’

A third, and probably more convincing argument than the previous one was for the phrasal nature of prenominal adjectives, is the modification of adjectives by degree elements. “A degree element modifying the first of several adjectives would be expected to take scope over all the adjectives that follow it “ (Julien 2005a:8, cf. also Delsing 1993, Alexiadou to appear). As (5) illustrates, this is not the case.

(5) a. alt-for heit sterk kaffe Norwegian
    all-too hot strong coffee
    ‘much too hot strong coffee’

    b. [[altfor [heit]] [sterk] kaffe]

    _Altfor_ ‘much too’ only modifies _heit_ ‘hot’, but not _sterk_ ‘strong’ – that is, the degree element does not take scope over all adjectives but only over the one closest to the degree element. This implies that the degree element and the first adjective form a phrase ((5b), also taken from Julien 2005a:8)

Due to the above considerations I assume that prenominal adjectives in Scandinavian are phrases.

2.1.2 The lack of semantic import of declensional affixes

In plural formation, Swedish nouns are divided into essentially five declensions. For the following reasons, I assume that the _form_ of the declensional affix does not carry any semantic content apart from plural information.

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48 In the scope of this thesis I will not discuss whether APs actually are base generated lower in the tree, for example, as complements of NPs (see, for example, Larson 1998). For the present analysis this is not of importance. As far as I can see, the approach suggested here should hold for both merger of APs higher up in the tree in a functional projection FP or lower down as, for instance, complement of NP with subsequent movement to FP.
i) There is no clear-cut distinction with respect to the allocation of nouns to declension classes. Thus, I think it plausible to assume that – at least today – the declensional affix is phonologically motivated.

ii) Some nouns have alternative plural endings and can be used with either of the declensional affixes, for example *en katt/katta, katt-er/-or* 'cat, cats', *en kollega, kolleg-er/-or* 'a colleague, colleagues' (Holmes & Hinchliffe 2003:13)\(^49\).

iii) Often there is no distinction between the two declension classes –or and –er in spoken Swedish (Holmes & Hinchliffe 2003).

iv) The declension class can change. For instance, loan words that have become familiar may be used with an indigenous plural instead of the *s*-plural usually employed with loans (*reporter-s > reporter-ar; royalty-s > royalty-er*, Holmes & Hinchliffe 2003:23).

For the structure of the DP this suggests that the declensional affix is not a kind of thematic element and has no import other than pluralizing the noun.

3 Syntactic structure

The full syntactic structure I thus assume for Scandinavian DPs is the following (6). The DP is split into DP\(_1\) and DP\(_2\). Between these two DP-layers there is a quantity phrase, #P, which introduces counting function, and a functional projection that hosts the [ident] feature and has the AP in its specifier. A classifier phrase, ClassP, is below the lower DP. This is the phrase where nouns are individuated. Individuation/division, therefore, is achieved in ClassP.

\(^49\) An anonymous reviewer of Lohrmann (to appear) commented that the form *katt-or* is the plural of *katt-a* ‘female cat’, whereas *katt-er* is used as plural for *katt*, ‘cat, female or male’. However, gender is not relevant here. –or is not a feminine plural ending (Swedish only has neuter and non-neuter gender) but is chosen because in *katt-a* ‘female cat’, the final syllable is open, as opposed to *katt* ‘cat, female or male’, which ends in a closed syllable. This actually supports the first point made in this section. Furthermore, as iii) in the list above points out, in spoken Swedish these two endings are very often indistinguishable.
3.1 Swedish, Norwegian, Faroese

The following Swedish phrase serves as an example for the other double definiteness languages in Scandinavian. The syntactic analysis is illustrated in (7’).

(7) de tre ny-a bil-ar-na
DEF three new-W car-PL-DEF
‘the three new cars’

(7’) 50

50 Traces $t$ and Vocabulary Items have only been inserted for explanatory reasons.
The features specific reference [sref], discourse reference [disc], and identity [ident] each head their own phrase, DP₁, DP₂, and FP respectively. The syntactic structure in (7’) also contains a classifier phrase, ClassP, because the feature [ind], *individuation*, functions as a classifier that individuates nouns. With plural marking, the declensional affix is inserted here; in singular DPs, ø is inserted. The Vocabulary Item *bíl* enters the derivation as a mass noun and is individuated by its movement to the head of ClassP, where plural can be added. Nouns that are to be interpreted as mass nouns remain in situ. Bare plurals also move to the head of ClassP, as do nouns to be interpreted as typeshifted mass nouns and those that carry plural inflection and/or are combined with numerals. The head of ClassP then moves and adjoins to [sref] under D₁. The preadjectival article is realized in DP₂.

### 3.2 Icelandic and Danish

The distribution of the determiners in Icelandic and Danish in chapter 2 has shown that in modified definite DPs in Icelandic the adjective precedes the noun and the suffixed article is kept. This is illustrated in (8a). However, in very formal contexts, the independent determiner precedes the adjective and the suffixed article on the noun is absent (9a). This is also the default Danish construction (9b). However, there are exceptions, such as example (8b), where the adjective *hele* does not trigger the default case but instead the suffixed article (for an explanation see chapter 7). Basically, both languages show both patterns of definiteness: that is, either the determiner precedes the adjective or is attached to the noun. But neither Icelandic nor Danish displays double definiteness.

(8) a. goð-i maður-inn
    good-W man-DEF
    *Icelandic*

b. hel-e hus-et
    whole-W house-DEF
    *Danish*
As the preceding chapter has shown, however, the feature content of the respective articles in Icelandic and Danish is different. That means that while both languages share the same syntactic structure, the features on the D-nodes differ. Icelandic has one article in two forms and positions, and hence there is a choice as to whether the respective features \([\text{disc}]\) and \([\text{sref}]\) are realized under DP\(_1\) or DP\(_2\). This is illustrated in (8‘) and (9‘). (8‘) shows the default structure, and (9‘) illustrates the exceptional structure.

(8‘)  
\[
\text{DP}_2
\]
\[
\text{FP}
\]
\[
\text{AP}
\]
\[
\text{F}'
\]
\[
\text{god-}
\]
\[
[\text{ident}]
\]
\[
-i
\]
\[
[\text{[sref],[disc]}]
\]
\[
\text{DP}_1
\]
\[
\text{ClassP}
\]
\[
[\text{[sref],[disc]}]
\]
\[
\text{tk}
\]
\[
\text{NP}
\]
\[
\text{maður}_i
\]
\[
[\text{ind}]
\]
\[
-o
\]
\[
\text{inn}
\]
\[
\text{i}
\]
\[
\text{ti}
\]
\[
\text{ti}_i
\]

(9)  
\[
\text{a. } \text{hinn goð-i maður } \hspace{1cm} \text{Icelandic}
\]
\[
\text{DEF good-W man}
\]
\[
\text{b. } \text{det stor-e hus } \hspace{1cm} \text{Danish}
\]
\[
\text{DEF big-W house}
\]
The syntactic trees in (8’) and (9’) are identical to the Swedish/Norwegian/Faroese one, as Icelandic also needs access to the full structure. The only difference is the content of the feature bundles on the nodes: the features [sref] and [disc] do not head one DP each but are united either in DP₁ (8’) or in DP₂ (9’), thus leading to only one marker for definiteness that either precedes the modified noun or follows the modified noun.

Danish has the same distributional properties as Icelandic, but, as the semantic discussion of the articles has shown, the features [sref] and [disc] are not united in both articles. Only the prenominal article contains both features. The suffixed one, however, contains only the feature [sref]. The feature distribution on the D-nodes corresponds to that, that is, the lower D-head hosts [sref], and the higher one can host both. This is shown in (8'”) and (9'”), where the first shows the exceptional structure; the latter, the default.
3.3 Variation

The discussion so far has shown that Scandinavian makes use of several patterns regarding the marking of definiteness. Swedish, Norwegian and Faroese use two determiners; Danish uses one of its two determiners, depending on modification; and Icelandic, with some exceptions, uses one form of the determiner in all contexts, even though the language has two forms at its disposal. All of the Scandinavian
languages, however, have – and need – access to the very same DP structure, with the result that all kinds of definiteness marking can be accounted for. This variety of definiteness marking combined with the fact that one structure is sufficient to account for all patterns also leaves much room for dialectal variation. It can therefore be assumed that the Scandinavian dialects that deviate from standard definiteness have access to that structure, too. There are Northern Scandinavian languages that do not make use of double definiteness. I think it plausible to assume that these varieties can be accounted for by resorting to either the Danish analysis or to the Icelandic one. A definite DP from a Northern Swedish dialect serves as example (10).

(10) stor-e hus-e
    big-W house-DEF
    'the big house' Delsing (1993:123)

Regarding adjectival incorporation (11), I assume that incorporated structures are synthetic modifier compounds which are identified as "word-sized units by its syntactic and phonological behaviour and which contain two or more Roots" (Harley 2008:130), that is, Root-containing heads incorporate via syntactic head-to-head movement.

(11) a. stor-hus-e
    big-house-DEF
    'the big house'

b. gamm-svart-katt-a
    old-black-cat-DEF
    ‘the old, black cat’

The tree in (12) shows that the compound depicted is not a lexicalized element, as it is the case with compounds of the Vita huset-kind, but that it is a productive structure that creates a compound in which the modifier(s) may incorporate.
The result of this process is that the adjectival inflection cannot be present, since the FP that contains the adjectival ending as its head and the AP in its specifier is not present in the syntactic derivation. Furthermore, the syntactic derivation as such is not interfered with: that is, the $n$ that is to be realized as the compound can proceed to ClassP and to DP$_1$ to have the definiteness suffix attached.

4 Conclusion

I have argued that the notion of definiteness in Scandinavian modified DPs is made up of three particular components expressed by three distinct morphemes: discourse reference [disc], identity [ident], and specific reference [sref]. The suffixed article brings about specific reference and is merged under D$_1$; the adjectival inflection identifies the member(s) in the A+N denotation and is merged in FP to identify the [ident] feature; and the preadjectival article introduces a new, modified discourse variant and matches the [disc] feature under D$_2$. Movement operations then provide the correct word order.

All Scandinavian languages have access to the same structure, with the difference being that Danish and Icelandic use either DP$_1$ or DP$_2$, while DP$_1$ and DP$_2$ are used in Swedish, Norwegian and Faroese. Since the same full structure is necessary to account for the different Scandinavian languages, quite a range of definiteness marking can be captured and thus can probably also account for the vast dialectal variation found in Scandinavian.
CHAPTER 9 – RELATED PHENOMENA

1 Introduction

The Scandinavian languages are not unique in employing multiple exponence when it comes to determiners. According to the data in (1), it looks as if Scandinavian is similar to Greek, Romanian, French, Hebrew, and Slovenian in that an additional determiner is used in definite noun phrases if they are modified by an adjective (in French: by a superlative).

(1) a. den ny-a bok-en
    DEF new-W book-DEF
    'the new book'

b. to vivlio to kokino
   DEF book DEF red
   'the red book'

c. to kokino (to) vivlio
   DEF red DEF book
   'the red book'

d. om-ul acesta cel râu
   man-DEF this CEL bad
   'this bad man'

e. la maison la plus belle
   DEF house DEF most beautiful
   'the most beautiful house'

51 Cel is derived from the Latin distal demonstrative ille preceded by the demonstrative adverb ecce. (Marchis & Alexiadou 2007)
The above examples illustrate that multiple exponence of determiners is not dependant on the realization of definiteness in the respective language. Swedish and Romanian have affixal determiners, Greek and French use free morphemes, Slovenian does not normally show morphological marking of definiteness at all, and in Hebrew it seems unclear whether the article is an affix, a clitic, or a free morpheme (see the discussion in Wintner 2000). What seems to be more agreed on is that definiteness spreading in Hebrew is an agreement phenomenon (Siloni 2000, Wintner 2000, a.o.). This is not the case, in Swedish (see chapters 2 and 7). Slovenian ta is special, too: it cannot appear with bare nouns, but it can appear inside indefinite DPs (Marušič & Žaucer 2007). However, even if the behaviour of ta in the above contexts seems to be similar to that of a definite article, it does not seem to be comparable to a definite article (Marušič & Žaucer 2007). Pursuing the question of a possible relation between different multiple definiteness languages, I will not be dealing with Hebrew or with Slovenian, but will concentrate on the similarities and contrasts in Scandinavian, Greek, French, and Romanian respectively.

The questions that arise here are i) Is there a possible unified view on the phenomena discussed, ii) Is there a semantic correlate, and iii) What does this tell us about the structure of the DP? I will first examine each of the respective languages in turn and will then try to find the similarities and differences in the patterns and resulting semantics in the languages investigated.
2 Greek Determiner Spreading (DS)

The examples in (1b) and (1c) above show that in Greek the same determiner goes together with a noun as well as an adjective. This determiner is obligatory if the adjective follows the noun (1b), and optional if it is in the canonical prenominal position (1a). Moreover, if more than one adjective is present, each adjective has its own determiner (2), and word order can vary (3). The observation that the adjective in postnominal position requires an additional determiner is reminiscent of the situation with French superlatives.

(2) to vivlio to kokkino to megalo
DEF book DEF red DEF big
'the big red book'

(3) a. to megalο to kokkino to vivlio
DEF big DEF red DEF book
b. to megalο to vivlio to kokkino
DEF big DEF book DEF red
c. to kokkino to vivlio to megalο
DEF red DEF book DEF big
d. to vivlio to megalο to kokkino
DEF book DEF big DEF red
'the big red book' Alexiadou & Wilder (1998)

The adjectives that are permitted in DS are those that license restrictive readings and can be contrastive (Manolessou 2000, Alexiadou 2003, 2006). This observation is illustrated in (4).

(4) a. o diefthindis ipe oti i kali erevnites tha apolithun
DEF director said that DEF efficient researchers will be fired
b. o diefthinis ipe oti i kali i erevnites tha apolithun
\[\text{DEF director said that DEF efficient DEF researchers will be fired}
\]
'\text{the director said that the efficient researchers will be fired}'

Kolliakou (2004)

(4a) allows two readings: either only the efficient researchers will be fired (reading 1), or those efficient researchers that happen to be part of a larger group that will be fired (reading 2). DS disambiguates in that (4b) has only one reading: reading 1. Therefore, only a restrictive interpretation is possible.

The semantics of non-intersective adjectives is not compatible with DS, since the adjective must be able to pick out a subset from the set denoted by the noun, which explains why (5a) is ungrammatical\(^{52}\). Numerals (5b) and subjective adjectives (5c) are equally impossible with DS.

\[
\begin{align*}
\text{(5) a.} & \quad *o \text{ ipotithemenos o antagonismo} \\
& \quad \text{DEF alleged DEF competition} \\
\text{b.} & \quad *i \text{ somatofilakes i tris} \\
& \quad \text{DEF musketeers DEF three} \\
\text{c.} & \quad *i \text{ gigandiea i gafa} \\
& \quad \text{DEF gigantic DEF blunder} \\
\text{Alexiadou (2006)}
\end{align*}
\]

Based on the distribution of DS in Greek, Alexiadou (2006:6) concludes that determiners in Greek DS constructions are not just markers of definiteness; they also create particular readings, and can, for instance, make the structure a restrictive one:

"DS seems to have a special ‘restrictive’ interpretation; it seems to be related to the notion of familiarity, i.e. reference to a particular entity in a particular context. This explains why DS is unavailable in certain contexts, and why it is obligatory in certain others."

\(^{52}\text{As soon as a further determiner is introduced, “the semantics of the resulting construction can again be understood in terms of subsets: from the set of books we are referring to the red ones, and from the set of red books we are referring to big ones.” (Alexiadou 2006:7)}\)
According to Alexiadou (2006), the structural derivation includes two determiners (one base-merged with the noun and the other externally merged in D), which assume different semantic roles. The internally-merged determiner carries agreement, whereas the external determiner takes on a specific semantic reading.

3 French superlative constructions

Unlike Greek, French does not exhibit multiple definiteness in non-comparative adjective constructions. Instead, we only find a form of double definiteness in postnominal superlatives, in which an extra determiner needs to be inserted (6b).

(6) a. la plus belle maison
    DEF most beautiful house
b. la maison la plus belle
    DEF house DEF most beautiful
     'the most beautiful house'

Kayne (2004) claims that the insertion of a determiner in this kind of construction is due to the status of the determiner, which needs to be spelled out. He backs up his view with evidence from bare plural and bare mass noun constructions, which are not allowed in French (7).

(7) a. *Jean achetait livres.
    Jean achetait des livres.
    John bought books.
b. *Jean buvait bière.
    Jean buvait du bière.
    John drank beer.

What is interesting is that the doubling of the determiner occurs with postnominal adjectives – which is the canonical position for adjectives in French –
and only if superlatives are involved. In Italian, on the other hand, this pattern does not exist – even though the languages otherwise pattern similarly. In both French and Italian, adjectives may occur in pre- or postnominal position. While the prenominal position is mostly reserved for high frequency adjectives, the canonical position in Italian and French is the postnominal position – but only the French superlative construction needs a separate determiner.

Why should this be so? Romance adjectival modification and its distinct readings is an area where, to my knowledge, researchers do not agree regarding the placement issues of adjectives in general. This is why I will have to leave this issue for further research and will concentrate on Romanian cel-structures, comparing them to Greek DS, in order to answer the question whether the doubling patterns discussed here have particular functions in common, and, if so, to what end.

4 Romanian cel-structures

In Romanian superlative constructions along with a noun and the suffixed article, an additional element, namely cel, may precede the noun (8) – as is similar in French superlative constructions. The common pattern, however, is that cel follows the noun with the suffixed article (9). The examples in this section are taken from Marchis & Alexiadou (2009).

(8) Cel mai frumos fluture a disparut.
    CEL most beautiful butterfly has disappeared
    'The most beautiful butterfly has disappeared.'

(9) Drac e om-ul cel rău si nedrept.
    Devil is man-DEF CEL bad and unjust
    ‘Devil is the man that is bad and unjust.’

    Like Greek DS, cel disambiguates postnominal adjectives with a resulting stage level reading (9) or restrictive reading (10).
(10) a. Invizibile-le stele sunt foarte indepartate.
invisible-DEF stars are very far away
‘The stars which are generally invisible are very far away.’
b. Stele-le invizibile sunt foarte indepartate.
stars-DEF invisible are very far away
#1. The stars which are generally invisible are very far away.
#2. The stars which are now invisible are very far away.
c. Stelele cele invizibile sunt foarte indepartate.
stars-DEF CEL invisible are very far away
‘The stars which are now invisible are very far away.’

(11) a. Legi-le importante n-au fost votate
laws-DEF important have not been voted
#1. 'The laws which were important were not passed'
#2. 'Important laws were not passed; all of them were important.'
b. Legi-le cele importante n-au fost votate
Laws-DEF CEL important have not been voted
'The laws which were important were not passed'

(10a) and (10b, reading 1) display individual level reading, while (10b, reading 2) and (10c) have a stage level interpretation. (10b) is ambiguous, but (10c) is disambiguated by the use of *cel*. Likewise, in (11a) the adjective is ambiguous between a restrictive (reading 1) and a non-restrictive interpretation (reading 2); in (11b), on the other hand, with *cel* following the definite noun, the adjective is unambiguously interpreted as non-restrictive. *Cel* seems to make the context of an utterance more immediate, either in creating a temporal context that refers to the time of the utterance (stage level reading in (10c), or by limiting, and thus contrasting, the modified DP, which leads to a restrictive reading (11b).

53 The distinction *individual level* vs. *stage level* interpretation refers to readings that characterize (individual level) or relate to an occasion (stage level). Example (i) is taken from Bolinger (1967:4).

(i) a. the only river navigable
‘the only river that happens to be navigable at the moment’ occasion
b. the only navigable river
‘the only river that is generally navigable’ characteristic
Further similarities between Greek DS and Romanian *cel*-structures include that both are only licit with intersective adjectives, and both occur in elliptical constructions. Whereas *cel* in Romanian is optional, Greek DS is obligatory if the adjective is postnominal. In addition, Greek DS can occur only with adjectives and can be iterated depending on the number of the adjectives modifying the noun, while in Romanian, *cel* can also occur with other modifiers, such as PPs, and *cel* can occur only once. Considering the distribution of the doubled or multiplied element respectively, Marchis & Alexiadou (2009) conclude that *cel* is an adjectival determiner, but that Greek DS is an instance of clitic doubling.

5 Summary and conclusion

In this section I have tried to define the scope of double definiteness by looking at similar phenomena in other languages that also involve doubling. As the above discussion has shown, both Greek DS and Romanian *cel*-structures differ from Scandinavian double definiteness. Nevertheless, what the analysis of Greek and Scandinavian have in common is that the DP needs to be split to accommodate the different semantic contributions of D. This leads in both languages to an analysis of a split DP (for a split DP in Greek see Alexiadou 2006). However, the patterns shown in Scandinavian double definiteness, in Greek DS, and Romanian *cel*-structures do have features in common, as the following table illustrates.

<table>
<thead>
<tr>
<th></th>
<th>Swedish</th>
<th>Greek</th>
<th>Romanian</th>
</tr>
</thead>
<tbody>
<tr>
<td>ambiguity resolution</td>
<td>n.a.</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>restrictive reading</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>classes of adjectives</td>
<td>all</td>
<td>intersective</td>
<td>intersective</td>
</tr>
<tr>
<td>other modifiers</td>
<td>√</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td>multiple occurrence</td>
<td>-</td>
<td>√</td>
<td>-</td>
</tr>
<tr>
<td>independent reference</td>
<td>√</td>
<td>-</td>
<td>√</td>
</tr>
</tbody>
</table>

Table 1 – doubling patterns
As mentioned before, the Scandinavian languages resort to different strategies when it comes to marking definiteness in modified contexts and achieving restrictive or non-restrictive readings. Swedish is given as the exemplary language in the table, comparing the most salient properties of doubling phenomena discussed in this chapter with Greek and Romanian. What is striking is that for all languages it can be plausibly shown that doubling patterns are not a matter of mere agreement. In all the languages different semantics result from the use of doubling or multiplying a determiner or determiner-like element.

Greek and Romanian have more in common with each other when it comes to doubling patterns than Swedish does with either. However, all doubling patterns result in potential restrictive readings, and this neatly goes along with the assumptions why doubling patterns are employed: as shown in chapter 7, not every determiner present in a language seems to contain every feature necessary to cover the different instances and forms of definiteness. Thus, other mechanisms are employed using material or strategies already present in the language (cf., for instance, the use of alternating adjectival inflection in Icelandic vs. the use of the preadjectival article in Swedish to achieve restrictive readings). These elements and strategies interact with interpretation.

The doubling phenomena presented here are not only very interesting for a theory of modification and doubling patterns, they are also clearly in need of further research and a more fine-grained analysis. Within the scope of this thesis, however, it can be concluded that Greek DS, Romanian cel-structures and double definiteness in Scandinavian share properties, but that the doubling phenomena are not alike. For Greek and Romanian, Alexiadou (2006) and Marchis & Alexiadou (2007) arrived at the distinction adjectival determiner in Romanian vs. clitic doubling in Greek. In Scandinavian, the determiners are not doubled in a literal sense either, since this would imply using the same thing twice, but the determiners in Scandinavian contain different components of definiteness and are able to realize different features, which interact according to the intended outcome.
CHAPTER 10 – DISCUSSION OF PREVIOUS ANALYSES

1 Introduction

The analysis of the Scandinavian DP has recently attracted a lot of attention and has seen various possible solutions in many different frameworks. In this chapter I will discuss some of them and will show their advantages as well as their drawbacks.

Many analyses, for instance, posit N-to-D movement with the resulting problem that an intervening adjective blocks this movement, and so the insertion of an additional, free article in D becomes necessary (Delsing 1993, Embick & Noyer 2001, among others). This, however, presupposes that adjectives are heads. Independent of the question where exactly the adjective is located – i.e. independent of the different analyses in which, for instance, the adjective is a modifier of the noun (Riemsdjik 1992) or in the specifier of an intermediate AgrP projection (Cinque 1990, 1992) – the same problem arises: if adjectives are maximal projections, as I have argued for in chapter 8, then N-to-D movement should not be blocked. Thus the insertion of an additional determiner should not be required to achieve well-formed results.

Giusti (1993) proposes that N-to-D movement does not take place in syntax proper in Scandinavian but that the noun plus suffixed article is inserted in N and that the determiner is checked by N-movement after spell-out, i.e. at LF. Questions that arise are: i) If N is inserted inflected already for definiteness by carrying the definite article, this presupposes that N+Def is stored like that in the lexicon. This seems very unlikely, as why should definite and indefinite forms be stored in the lexicon?, ii) In several cases, the suffixed article is not necessary and can be omitted. How can this be explained?, iii) What triggers the checking of the affixal determiner after spell-
out?, iv) It has been shown that the suffixed article carries certain semantic aspects of definiteness. How is this then represented in syntax, if N+Def are inserted in the lexical projection N?, v) If the affixal determiner is checked after spell-out, how can it be explained that in the case of adjectival modification D needs to be checked by insertion of a free standing morpheme before spell-out?, vi) This approach assumes that the content of the freestanding article and of the suffixed article are identical; how can the different interpretations with respect to the presence or absence of preadjectival and suffixed article respectively then be accounted for?

Giusti (1993:91) also assumes that the suffixed article is an agreement morpheme. Furthermore,

"the co-occurrence of DEM with the apparent enclitic article in Scandinavian, is therefore reduced to the property of DEM, in certain variants, to trigger morphological agreement with the head noun. Demonstratives and possessives are structurally in the same position, the only difference being that possessives in SpecDP do not trigger agreement on the head noun in any Scandinavian variant".

Leaving aside the position of possessives, I think I have been able to refute the assumption that the suffixed article is a mere agreement morpheme – if it were this, the semantic differences seen in previous chapters with the use of the articles should not arise.

As this brief discussion already shows, one of the most common approaches taken to solve the puzzle of the Scandinavian DP, namely N-to-D movement, raises many questions that have yet not been successfully dealt with. The aim of this chapter is not only to look at standard – and often also much-discussed – analyses, but rather to offer a discussion of less well-known hypotheses that have tried to eliminate the weaknesses of former approaches by postulating, for example, phases in the DP. In section 2, I will discuss phase-based accounts for double definiteness in Scandinavian (Heck, Müller & Trommer 2008) and for DP structure in general (Lin 2008). The most recent approach to Scandinavian DPs – at least to my knowledge – is that of Schoorlemmer (2009), which I will discuss in some detail in section 3. The fourth part contains a review of a previous account in the framework of Distributed Morphology (Embick & Noyer 2001), and section 5 will briefly sketch much-discussed analyses (Delsing 1993, Julien 2005) and Kester’s (1993) approach, which
not only offers a solution of double definiteness but also deals with the issue of adjectival inflection in Scandinavian. Section 6 then concludes the discussion on previous approaches and summarizes the comparison between the findings of these analyses and the findings presented in this thesis.

2 Phases in the DP

The basic idea of phases (Chomsky 2000, 2001, 2005) is the notion that syntactic derivations are cyclic. The *numeration* in Minimalist frameworks was replaced by smaller *Lexical Arrays* (LA) which feed *derivational cycles*, i.e. particular *phases*. The motivation for this approach lies in the reduction of derivational complexity, since after completion each phase is transferred to the interfaces. Thus there is not one Spell-Out, after which PF and LF are created, but Multiple Spell-Outs (Uriagereka 1999), that is, a kind of recurring Y-Model replaces the simple Y-Model (Fig.1). In phase-theory, a completed phase is no longer accessible for further operations outside the phase. Only the head $H$ of the phase and its edge (specifier or elements adjoined to the phase $HP$) can be probed by a higher head.

![Multiple Spell-Out Diagram](image_url)
Traditionally, only transitive *Ps and CPs were assumed to be phases. However, if the parallels between clausal and nominal structures are considered (Abney 1987 a.o.), it seems plausible to assume that DPs are phases as well (Svenonius 2004, Chomsky 2005, Matushansky 2005 among others).

Heck & Zimmermann (2004) argue that DPs are phases in the sense of Chomsky (2001). That is, like *Ps and CPs, DPs, too, induce locality restrictions for syntactic operations, the so-called Phase Impenetrability Condition (PIC).

(1) **Phase Impenetrability Condition (PIC):**

Material within a phase $\alpha$ is not accessible to operations outside $\alpha$ unless it is within the edge domain of $\alpha$.

(2) **Edge domain:**

The edge domain of a phase $\alpha$ comprises its head and specifier.

(3) $Z[\text{XP} \ldots X [\text{HP} \ldots \underline{H} [\text{YP} \ldots Y [\text{WP} \ldots W\ldots]]]]$

According to PIC, the search pattern in (3) emerges\(^{54}\) (Richards 2007). As soon as HP is complete, the domain of the phase head H is spelled out with the result that YP is no longer accessible for further operations; in other words, X cannot see into the complement of YP.

Heck & Zimmermann (2004) claim that DPs are phases due to PIC-effects regarding agreement, overt movement, quantifier raising, and reconstruction. They argue that syntactic operations that involve DP-external as well as DP-internal material have access only to the edge of the DP.

Svenonius (2004) assumes that there are two phase heads in the DP that correspond to C and v. His "speculative" (Svenonius 2004:268) model of parallel projections is as follows (4).

(4) $\text{Top}^* - [C - T - \text{Asp}^* - [v - V]\(^{55}\)$

$\text{Op}^* - [Q - K - \text{Num}^* - [n - N]\(^{56}\)$

\(^{54}\) Phase heads are underlined.

\(^{55}\) Brackets indicate Spell-Out phases, asterisks mark triggers for Spell-Out.
According to (4), QP and nP are phases. The trigger for Spell-Out of nP is the head of the number projection Num, the trigger for Spell-Out of QP is the Operator head Op. The derivation would thus look like the following (5).

\[
\begin{align*}
\text{(5)} & \\
[\text{nP } \text{nN}] & \\
[\text{NumN } \text{nP } \text{nN}] & \rightarrow \text{nP Spell-Out} \\
[\text{KP K } \text{NumN } \text{nP inaccessible}] & \\
[\text{QP Q } \text{KP K } \text{NumN } \text{nP inaccessible}] & \\
[\text{OpP Op } \text{QP inaccessible}] & \rightarrow \text{QP Spell-Out} \\
\end{align*}
\]

The derivation in (5) immediately raises a question: if it is assumed that predicative adjectives are reduced relative clauses and thus are merged as complements of N low in the tree, it is unclear how these APs could possibly move up to the specifier of a functional projection, which would be situated in the above model below Q. By the time the AP should be moved, it would already have long been inaccessible, i.e. it could not be moved out of its position to appear prenominally. I do not mean, however, to discuss the notion of phases in general; I only seek possible analyses of the Scandinavian data. In the next section, I will therefore discuss two different approaches: first Heck, Müller & Trommer (2008), followed by Lin (2008).

2.1 A phase-based approach to Scandinavian DPs

Heck, Müller & Trommers' (2008) analysis is based on Embick and Noyer (2001)\(^{57}\) and Hankamer and Mikkelsen (2005). Their basic assumption is that the [def]-feature, which is situated on N and not on D, can undergo movement. This means that it is copied, with the highest copy undergoing Spell-Out. They also assume PIC, but their definition of the edge domain differs (6), which makes PIC sensitive to

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\(^{56}\) K = Case; Q stands for # in the structure argued for in this dissertation, and Num and n for Class.  
\(^{57}\) Embick and Noyers' (2001) account is discussed in section 4 of this chapter.
overt material. A further stipulation is that movement is not feature driven due to Last Resort (7), but that movement to the edge of phase is triggered by the need to ensure Phase Balance (8) in violation of Last Resort.

(6) **Edge domain:**

The edge domain of a phase XP comprises the left area up to and including the leftmost overt element within XP.

(7) **Last Resort:**

Movement must result in immediate feature valuation.

(8) **Phase Balance:**

For every probe in the numeration, a matching goal must be accessible in the current phase.

Heck, Müller & Trommer (2008:229) assume that the [def]-feature must undergo an Agree relation with a higher phase head. To ensure that it remains accessible it must occupy the left edge of the DP phase, and "this sometimes involves creating a higher copy of [def] by feature-movement, which is then spelled out as a prenominal [def]-marker". 'Sometimes' refers to structures involving double definiteness. In simple definite contexts, the noun plus definite article remains in situ. There is no need to move because N-Def is already in the edge domain of the DP, that is, N-Def is the leftmost overt element within the DP. As soon as the noun is modified by a prenominal adjective, [def] has to move into the edge domain of DP to remain accessible, despite the intervening adjective. This higher copy then is spelled out as the preadjectival article. In the Scandinavian double definiteness languages, however, it is not enough to spell out the higher copy, there the lower copy is spelled out as well.

Heck, Müller & Trommer (2008) rightly criticize Embick and Noyer (2001) and Hankamer and Mikkelsen (2005) in noting that their respective approaches cannot account for the different semantic contributions of the articles. The first is a post-syntactic approach and "therefore, dissociated [def]-features cannot feed the LF-
side of the derivation and consequently [can] not contribute any meaning" (HMT 2008:231). The latter is a lexical approach that assumes that the preadjectival article cannot appear without adjectives due to blocking. If blocking occurs, the two articles must per definition be regarded as semantically equivalent.

However, HMT's (2008) analysis cannot account for the semantic differences of the articles either. Even though they assume that the syntactic position of an item is responsible for its interpretation, I cannot see how the different semantic interpretations could be achieved. HMT (2008) do not comment on this but only claim that it should be possible. Further questions arise: if it is the combination of the syntactic position and the [def] feature that is to be held responsible for the different interpretations of the two definite articles, then the Scandinavian languages would not only vary in the realization of definiteness but actually also in the notion of definiteness. To illustrate this, the higher D-node plus [def] may be $D_{a\text{DEF}}$, resulting in a particular aspect of definiteness DEF-A, the lower node may be $D_{b\text{DEF}}$, resulting in DEF-B. Danish, as a simple definiteness language, would only need to realize DEF-A, whereas the double definiteness language Swedish would need DEF-A and DEF-B to make the same DP a definite one. This, however, is not what is found in the data, as the chapters on definiteness and the semantic contribution of the articles have shown.

A second question not answered in HMT's approach is that of the spell-out of the lower copy in contexts of double definiteness. Why are there cases where spell-out of the lower copy is optional? HMT's analysis also leaves unanswered the question of adjectival inflection; they resort to dummy $d$- to host the preadjectival article. This is not tenable diachronically (cf. discussion in section 2.1 of chapter 3). They also assume that adjectives in Scandinavian are heads. It is much more likely that they are XPs. However, maybe the most problematic point is the following: if feature movement is triggered by the need to ensure Phase Balance, then DPs cannot be grammatical in isolation because movement is dependent on higher functional heads that trigger the operation.

In summary, Heck, Müller & Trommer (2008) cannot sufficiently account for the Scandinavian patterns, and they postulate a trigger for feature movement that renders DPs in isolation ungrammatical.
2.2 A (universal) probe-goal approach

Lin (2008) offers a probe-goal approach to parametric differences in nominal phrases and in this way tries to account for variation in the DP by the notion of feature strength, which leads to DP-internal head and/or XP movement. She has not (yet) explicitly dealt with Scandinavian DPs, but is trying to find a universal structure for DPs. In other words, she sees the projection of DP as a property of UG, with only the realization of the different elements of DP varying. Lin (2008) poses the following assumptions:

(9) (i) DP structure: $[\text{DP D [NumP Num [SpecificityP Specificity [n P [NP ]]]]}])$

(ii) D hosts the [def]-feature; Num, the [number]-feature; specificity, the [specific]-feature; $n$, the [referential]-feature.

(iii) Apart from their respective interpretable feature, D, Num, specificity, and $n$ host all other features as uninterpretable features. For example, D hosts interpretable [def] and uninterpretable [number], [referential], and [specific]; Num hosts an interpretable [number]-feature and uninterpretable [referential], [specific], and [def]; and so forth.

(iv) The interpretable features interact with the uninterpretable ones via Agree.

(v) Parametric differences are due to either how the EPP feature can be satisfied or how features are phonetically realised.

I expect that Lin (2008) assumes Multiple Agree, i. e. that Agree applies to all the matched goals derivationally simultaneously, otherwise the first Agree relation should block all other Agree relations with lower goals due to the Defective Intervention Constraint (DIC) (Chomsky 2000:123): Agree($\alpha, \gamma$) is impossible if $\alpha$ is a probe and $\beta$ is a matching goal, and $\beta$ is inactive due to prior Agree. According to Hiraiwa (2001), covert multiple feature-checking is ruled out by the DIC, i.e., if $\alpha$ is a probe and $\beta$ and $\gamma$ are matching goals. As soon as $\alpha$ enters into Agree with $\beta$, $\beta$ becomes inactive and blocks further Agree relations with lower goals.
Taking the above considerations into account, at first sight Lin's (2008) assumed universal structure actually seems to be able to cover the Scandinavian data. The suffixed article realizes what I have termed specific reference; a possible derivation could thus include that N first moves to n to attach to the definite article before adjoining to the head of SpecificityP. On closer examination, however, a couple of questions arise: if D carries the interpretable [def]-feature, I assume that a phrase can only be interpreted as definite, if D is realized in some way. This leads to two possible solutions: either the N adjoined to n and Specificity moves up to D to identify the [def]-feature, or the [def]-feature is expressed via a null determiner, i.e. not realized phonetically\(^{58}\). The first option entails N-to-D movement and with that the problem discussed at the very beginning of this chapter, namely that it is not clear what prevents movement to D in cases of adjectival modification. Since adjectives are XPs in Scandinavian, the Head Movement Constraint no longer has any effect. If the latter case is assumed in which the D is not realized phonetically, the question remains unanswered why double definiteness is needed in the first place. In addition, there is also the question of what it is that actually triggers the phonetic realization of the preadjectival article in modified contexts.

Nevertheless, a universal approach is very tempting. As argued for in the preceding chapters, I assume that semantically similar or equivalent expressions should show syntactically similar structures. Schoorlemmer (2009) also pursues this kind of approach and argues for a unified account for Germanic and Romance DPs. In the following section, I will discuss Schoorlemmer's analysis in some detail, since it is, at least to my knowledge, the most recent proposal regarding Scandinavian DPs.

3 Double definiteness as a combination of syntactic and morphological operations – Schoorlemmer (2009)

Schoorlemmer (2009) assumes that double definiteness arises from the interaction between the syntactic component of grammar and the morphological component. The syntactic module generates a structure involving two D heads, while the

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\(^{58}\) This is what Lin (2008) proposes for Chinese nominals.
morphological module is responsible for the spell-out of both Ds, which, in his view, are both suffixal in nature.

This assumption is based on the structural and semantic differences of adjectives in attributive and predicative contexts. Attributive and predicate adjectives in Scandinavian inflect differently and are interpreted differently with respect to the definite article. Schoorlemmer (2009:8) claims that "attributive adjectives are necessarily interpreted in the scope of the definite article of the DP they occur in […]. Predicative adjectives […] are interpreted outside the scope of the definite article of their subject". However, this is an over-simplification, since, on the one hand, this only holds for attributive adjectives under a restrictive reading, and, on the other hand, there are non-predicative uses where the adjective is outside the DP, as Schoorlemmer correctly notes in a footnote.

The two Ds are derived based on the hypotheses in (10), which he subsumes under the term c-command paradox (Schoorlemmer 2009:12), leading to the structure illustrated in (11), which involves adjunction of AP to DP.

(10) a. Attributive adjectives in definite DPs must be c-commanded by a definite D in order to be interpreted in the scope of a definite D.
b. If the inflection of the adjective is sensitive to definiteness, the adjective must c-command a definite D.

(11) In (11), the lower D head is c-commanded by the adjective and is thus in the search domain of the adjetival probe. The adjective is interpreted in the scope of the
definite D since it is itself c-commanded by the higher D. Both Ds are phonologically realized: the first is realized as the preadjectival article, the latter via Local Dislocation as a suffix. Local Dislocation is a post-syntactic movement operation in Distributed Morphology which operates only after Vocabulary Insertion is completed. While structures involving double definiteness have two D heads, simple definite DPs contain only one D, namely the lower one.

3.1 Simple definiteness

In simple DP-structures, the head D hosts definiteness and takes NP as a complement. After syntax proper Vocabulary Insertion (VI) takes place, that is, the definiteness suffix is inserted in D and the noun in N, yielding the string in (12). In order to ensure correct order before phonological spell-out, Local Dislocation takes place after VI. Through this post-syntactic operation, the suffix is attached to its host, the noun (13).

(12) -et * hus

(13) Local Dislocation:

\[
\begin{array}{c}
\_
\\[-2em]
\hline
\end{array}
\begin{array}{c}
\ast \ \text{[hus-et]}
\end{array}
\]

Schoorlemmer (2009) sees his analysis supported by deverbal nouns ending in –ende, as in studerende 'student'. These nouns regularly block suffixation of the definite article and instead occur with the prenominal free article (14).

(14) a. *studerend-en
    student-DEF

b. den studerende
    DEF student
    'the student'

Schoorlemmer (2009:18)

Following Embick & Noyer (2001), * here stands for adjacency and precedence.
He claims that this property of –ende nouns shows that suffixation is sensitive to the properties of the N inserted and thus has to be a post-syntactic operation. If suffixation of the definite article were part of syntax proper, noun properties should not matter, hence Local Dislocation must be responsible for this process. Since Local Dislocation fails in the context of –ende nouns, Schoorlemmer (2009) resorts to a dummy d-, which is inserted to host the definite article.

This immediately raises questions concerning the order of operations. Local Dislocation operates after Vocabulary Insertion. If Local Dislocation fails to attach the suffix to the noun, how can the derivation then go back to Vocabulary Insertion? If Schoorlemmer is right, should –ende nouns then not rather result in zero-affixation? Also a problem is d-support, a tool which was also employed in Embick & Noyer's (2001) analysis of Scandinavian DPs, and which has not yet been satisfactorily motivated. The claim that noun properties do not matter in syntax is too simple as well. Certainly, the properties of the roots inserted play a role.60

In my view, the properties of nominalizations such as studerende, i.e., of participial deverbal nominalizations, are not such that suffixation of a definite article can take place. I assume that due to some aspectual inheritance, N cannot adjoin to [sref] under DP₁ and therefore they have a definite suffix attached, comparable to nouns of the jumping kind, which, for instance, cannot combine with numerals due to their aspectual nature (cf. chapter 4, section 6).61

### 3.2 Double definiteness

As mentioned above, in Schoorlemmer's (2009) analysis, attributive adjectives are adjuncts adjoined to DP. He adopts Heck & Zimmermann's (2004) analysis of DPs as phases and assumes that attributive adjectives are merged after the phase head is merged, but before the phase is sent to the interfaces. Adjunction of AP to DP, that

---

60 I will, however, not go into the details of the properties of roots, which is not in the scope of this thesis.

61 -ende nouns behave differently in other contexts, too. For example, Icelandic –ende nouns cannot carry case inflection, which also might go back to aspectual inheritance of the root. Perridon (p.c.) observes that studerende is an adjective that is used as a noun. According to him, real deverbal nouns in –ande/-ende are usually used in the singular, apart from some exceptional cases.
is, external merge of AP, creates a type mismatch\(^{62}\), which is the trigger of an internal merge operation, namely that of D. In other words, internal merge of D prevents the derivation from crashing in taking one of the mismatched types and moving it to a higher D-position, thus creating a chain of two copies. At this point, it is unclear to me why only the head is extracted and internally merged and not the whole DP (or the adjoined AP, which actually causes the mismatch).

The structure then is sent to the interfaces. At the CI-Interface, the lower copy of D is deleted, while the higher one is interpreted. At the SM-Interface, however, both copies are spelled out. To achieve this, similar morphological operations are employed as in the case of non-modified definite DPs. After VI, Linearization takes place and then Local Dislocation of the lower copy of D, in this way attaching the suffix to the noun. The higher copy cannot undergo Local Dislocation due to adjacency requirements and this is why dummy \(d\)- is inserted to host the suffixal definite article. The operations are illustrated in (15).

\[
\begin{align*}
(15) \quad & a. \quad \text{Linearization} \\
& \text{-et * stora * -et * hus} \\
& b. \quad \text{Local Dislocation} \\
& \text{-et * stora * ___ * hus-et} \\
& c. \quad \text{D-Support} \\
& \text{d-et * stora * hus-et} \\
& d. \quad \text{Spell-Out} \\
& \text{det stora huset} \\
& \text{Schoorlemmer (2009:29)}
\end{align*}
\]

According to Pesetsky (1998) and Nunes (2001), all copies save one are deleted before the chain is spelled out. This mechanism is called Chain Reduction. Crucial to Schoorlemmer’s approach is that Chain Reduction takes place after Local Dislocation. That is, all copies are carried to the interfaces in full, i.e., before they are deleted. If Chain Reduction were to be applied before Local Dislocation, the lower D copy would be deleted before it could undergo Local Dislocation. However,

\(^{62}\) Type mismatch: a constituent is matched with another constituent that is not of the required type. Attributive adjectives need to be combined with predicative constituents, which definite referential DPs are not (cf. Heim & Kratzer 1998).
according to Schoorlemmer, the order of operations is language specific. While in the Scandinavian double definiteness languages Chain Reduction takes place after Local Dislocation, in simple definiteness languages it is the other way round. It has to be this way in his account, otherwise all Germanic languages should display double definiteness, which they do not. The most common pattern among the Germanic languages is simple definiteness. This is so even in the Scandinavian varieties, where only Standard Swedish, Norwegian, and Faroese make use of the doubling of determiners. There are several dialectal varieties of Scandinavian that use only one article. The question arises why some languages should employ a pattern that involves a re-ordering of operations, especially as I consider these kinds of mechanisms to be located very deep in a language. It also raises the question as to why an approach like this should be posited only in order to account for one single instance of the grammar in a language. In a unified account of DP-structure, would it not be desirable to place differences at a level not quite as deep in the grammar?

Schoorlemmer's derivation of modified definite DPs partly raises the same questions as his analysis of non-modified definite DPs. In the above analysis, only the lower copy of D can undergo Local Dislocation; the higher one cannot, since the suffixed article is a nominal article and thus cannot be attached to an adjective. The adjective, however, would be the target of the higher copy, since Local Dislocation is strictly local and can only affect adjacent material. Hence the same question arises as above: if Local Dislocation fails to attach the suffix to the adjective, how can the derivation then go back a step in the derivation, namely to Vocabulary Insertion, and insert a dummy $d$?

Apart from this technical and theoretical problem, a far more crucial point has not been considered at all. In deleting the lower copy of D at the CI-Interface, Schoorlemmer claims that both definite determiners in Scandinavian are semantically equivalent. This is not the case, as both the investigations in chapters 2 and 7 and previous analysis (see, for example, Delsing 1993, Julien 2005a) have shown. Even if Delsing (1993) and Julien (2005a) arrive at a different semantic interpretation of the respective articles, there seems to be agreement that the content of both articles is clearly different.
Further questions that arise are those regarding derivational complexity and the basic motivation for phases. The reduction of derivational complexity is at the heart of phase theory. To that end operations in syntax proceed in derivational cycles which are carried off to the interfaces via multiple spell-out. Real reduction of the derivational load can only be achieved if the semantic and phonological information that is transferred to the post-syntactic components is relevant. Material which is needed in a later stage of the derivation, such as Schoorlemmer's lower D head, can only escape Spell-Out by movement. This ensures that spelled out phases contain only that material that is no longer necessary for the further derivation, thus reducing derivational complexity. In claiming that spelled-out phases still contain full copies that are deleted at a later stage, namely after their transference to the interfaces, Schoorlemmer (2009) contradicts the very idea of phase theory. Non-relevant material would be stacked at the interfaces and it is not clear to me what actually should trigger chain reduction at such a late stage in the derivation and how chain reduction could then delete the copy that needs to be deleted. Further mechanisms that control chain reduction would have to be stipulated, a kind of further derivation at the interfaces, thus extending derivational complexity, and hence reducing ad absurdum the whole idea of phase theory. Schoorlemmer (2009) takes the distribution of double definiteness and its absence respectively in demonstrative contexts (16) and possessive structures (17) as verification for his analysis, which says that it is the affixal status of the determiner that triggers double definiteness.

(16)  a.  den här bok*(-en)
the here book-DEF
'this book'
(16a-c) Swedish
b.  den där bok*(-en)
the there book-DEF
'that book'
c.  denna bok-(en)
this book-(DEF)
d.  dette hus-et
this house-DEF
Norwegian, Delsing (1993:113)
In demonstrative contexts with *den här/den där* 'this/that', the internal merge of D is not triggered by a type mismatch but by the contrastive interpretation of the DP, that is, D is copied and merged to the head of a Focus Phrase, FocP. The derivation then follows the principles outlined above for definite DPs containing an adjective, according to which at the CI-Interface the higher copy is interpreted, and in the morphological component, the lower D undergoes Local Dislocation and dummy *d-* is inserted to host the higher copy. A complication that arises is that in the morphological component, the higher copy is adjacent to N+DEF and thus Local Dislocation should apply here as well. Schoorlemmer therefore needs to postulate an additional rule to prevent Local Dislocation of the higher copy, which he terms *haplology rule*.

The problem I see here is the following: Due to Local Dislocation, the sequence N+DEF is reinterpreted as N, that is, the suffix is no longer visible as such but interpreted as part of the noun. This is why chain reduction does not delete this copy, and this is why Schoorlemmer had to rearrange the order of operations, namely that chain reduction applies after Local Dislocation and not before. However, if the suffixed article is interpreted as part of the noun, it is not clear why Local Dislocation should not apply to the higher copy of D, which is adjacent to N, yielding the string in (18a). Local Dislocation of the higher copy would result in (18b).

(18) a. -en * [bil-en]  
    b. ___ * [bil-en] –en
The rules for suffixation of the definite article are quite straightforward in Swedish: nouns ending in a consonant add *–en* when non-neuter and *–et* when neuter. The only existing exception is: non-neuter nouns ending in unstressed *–el, -er, -or* add only *–n*. According to this, there is no reason why the second instance of Local Dislocation should not take place. Introducing a new rule only for double definiteness with complex demonstratives seems to flatter the hypothesis rather than the grammar. Furthermore, it would be desirable to have a single account for all instances of double definiteness in a language. Schoorlemmer's analysis, however, creates two types of double definiteness.

*Denna*-type demonstratives, as illustrated in (16c), are accounted for by the independent morpheme status of the demonstrative. Hence, Local Dislocation cannot apply and the lower copy in D is not attached to the noun. Consequently, it is still full visible when it comes to chain reduction and is thus deleted. This is "why double definiteness never occurs" (Schoorlemmer 2009:38). This is not the case, as was shown in chapter 2. Furthermore, I find it a bit unfortunate to merge *denna* in D.

As for possessors, Schoorlemmer (2009:39) remarks that double definiteness "does not occur because the element in D is not a suffix" and his analysis is the same as with *denna*-type demonstratives. This entails that the possessive pronoun is merged in the lower D-position and then internally merged with the higher D. (17c) illustrates a Northern Swedish example where the possessive pronoun follows the head noun. If this is the case, then the suffixed article is attached to the noun. The same is possible in Norwegian (19). Schoorlemmer notes that he cannot account for these instances of double definiteness. Even if at first sight structures of that kind look like double definiteness, in my point of view they are not. Instead what we are dealing with are two full fledged DPs, where the latter is a real argumental genitive DP.

(19) a. mitt hus
    my house

b. hus-et mitt
    house-DEF my

Delsing (1993:87)
Schoorlemmer (2009:41) also runs into problems explaining the "absence of double definiteness" in possessive structures without pronominal character (20a). He leaves this issue open for further research. However, the data is similar to that of pronominal possessors, apart from (20c), which shows double definiteness even in contexts where the canonical order is respected. (20a,b) are Standard Swedish and Northern Swedish examples from Delsing (1993). (20c) is a Northern Swedish example from Holmberg & Sandström (2003).

(20) a. Per-s hus
    Per-GEN house
    'Per's house'

b. hus-et Per-s
   house-DEF Per-GEN
   'Per's house'

c. Per-s bok-a
    Per-GEN book-ART
    'Per's book'

This variation can be accounted for along the lines of pronominal possessors. That is, they are instances of D and are merged in the higher D projection. Since the lower D is empty, the noun remains in ClassP. Hence there is no double definiteness. The article in (20c) is not the suffixed definite article standardly used but a weak pronoun, which I take to be a clitic, i.e., there is no real double definiteness there either.63

I have discussed Schoorlemmer (2009) in quite a bit of detail because it is the most recent approach dealing with the characteristics of the Scandinavian DP. As the above discussion has shown, his analysis cannot sufficiently account for the data we find in Scandinavian.

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63 Perridon (p.c.) suggests analysing structures of the kind in (20c) as compounds.
4  A Distributed Morphology analysis of Scandinavian DPs

In chapter 1, I explained not only the core idea of Distributed Morphology, but also why I decided to use this framework as a basis for my analysis of Scandinavian DPs. Other scholars – apart from Schoorlemmer (2009) – have also tried to account for the Scandinavian data within DM. A relatively recent account is that by Embick & Noyer (2001), which I will discuss here.

Embick & Noyer (2001) claim that DPs in Swedish “always” (E&N 2001:581) show marking for definiteness, and therefore two requirements have to be met to get well-formed results.

(21)  a.  The head N must be marked with definiteness when D is [def].
   b.  D_{[def]} must have a host.

Embick & Noyer (2001:581)

Both requirements are imposed at PF, i.e. in Morphology. For non-modified DPs Embick & Noyer (2001) assume that N moves to D in syntax and thus meets both requirements are met: N is marked [def] and N is the host of D_{[def]}. If an adjective intervenes, N cannot move to D and further PF processes must apply to meet the requirements in (21): therefore, a dissociated morpheme is assigned to N. Dissociated morphemes are purely morphological material, they are not syntactic projections and they are not interpreted at LF. “Because of the existence of requirement [21a.] in Swedish morphology, we find the doubling of a head that is relevant to LF interpretation; but there is no doubling at the syntacticosemantic level, because the feature [def] is only copied in PF” (E&N 2001:583). In other words, the [def] feature is copied in PF and is not interpreted at LF. The feature that is interpreted at LF is the [def] feature on D.
Since Swedish morphology requires a host for [def] on D, dummy $d-$ is inserted. With respect to variation Embick & Noyer (2001) argue that the differences among the Scandinavian languages do not lie in syntax but in the requirements for well-formedness at the level of PF: Danish, for instance, does not require the type of agreement that results in the doubling of [def] in Swedish. Hence, there is no double definiteness in Danish.

There are several problems with this analysis. First of all, Embick & Noyer’s claim that the head N must be marked for definiteness. As shown in chapter 2, this is not the case. In addition, the omission of the suffixed article cannot be seen as an exception but rather follows regular patterns.

In Embick & Noyer’s (2001) account, the [def]-feature is copied and assigned to N because the noun cannot raise to D if an adjective intervenes. The question arises what it is that prevents the [def] feature from being copied in a modified definite DP in those cases where the suffixed article is not present, especially as this feature is not interpreted at LF. According to Embick & Noyer (2001), the examples in section 2.3 of chapter 2 should be ungrammatical: if there are two [def]-features in PF but only one at LF, a bad result is predicted since it does not seem to matter whether a phrase consists of two realizations of the [def]-feature or one. This also implies that the content of the preadjectival article and the suffixed article is identical, which clearly is not the case.

A further problematic point in their analysis is when Embick & Noyer follow Santelmann’s (1993) idea of den-support. Santelmann assumes that den supports the [def] feature in D as do does with the features of INFL. Santelmann argues that noun traces cannot license adjectival agreement, so N has to remain in situ and den is
inserted to support the features in D. Since adjectives agree, too, if the preadjectival article is not present, the question arises how this could work. But I do not want to go into the details of Santelmann’s analysis: the interesting point here is that Embick & Noyer (2001) follow Santelmann’s idea and then split the preadjectival article in d- plus suffixed article. Where does this d- come from? Diachronic evidence raises serious questions for Embick & Noyer’s analysis.

Apart from the drawbacks N-to-D movement analyses pose, I have one last bit of criticism: Embick & Noyer (2001) do not account for the differences in meaning that arise from the use of the weak or strong form of adjectival inflection, which has been shown for Icelandic, Norwegian, and to some extent also for Swedish (see chapter 7). This, however, is a point that should not be neglected in an analysis of Scandinavian noun phrases, since adjectival inflection clearly is of semantic import. Adjectival inflection interacts with definiteness and carries one of the three components of definiteness in Scandinavian DPs.

The question that arises at this point is if there is a morphological explanation for double definiteness at all.

4.1 Is there a morphological explanation?

Embick & Noyer’s (2001) account is basically a morphological one. For the above reasons, their analysis is not entirely unproblematic and the question arises whether other tools of DM-Morphology could solve the problem, apart from the morphological tools Schoorlemmer (2009) tried to employ.

Since definiteness in Scandinavian DPs comprises three features – [disc], [ident], and [sref] – it seems plausible to see them in one functional head, with the feature bundle split up in several positions. There is an operation in DM that allows a single syntactic node to be realized in more than one morphological position, and this is *Fission*: a Vocabulary Item that is competing for insertion into a syntactic node (23a) may be underspecified, which means that the features of the Vocabulary Item (23b) are a subset of the features on the syntactic node. If the most highly specified Vocabulary Item contains only a subset of the features on the terminal node, not all
of the node’s features are satisfied by Vocabulary Insertion. The remaining features form a subsidiary morpheme and thus yield an additional morphological position (24).

(23) a. 
\[
\begin{array}{c}
\text{XP} \\
[F1, F2, F3] \\
\text{YP}
\end{array}
\]

b. /#1/ \leftrightarrow [F1]
/#2/ \leftrightarrow [F1, F2]
...

(24) 
\[
\begin{array}{c}
\text{XP} \rightarrow \text{XP} \rightarrow \text{XP} \\
[F1, F2, F3] \\
\text{YP} \rightarrow [F1, F2, F3] \\
\text{YP} \rightarrow [F1, F2] \\
\text{YP} \\
\uparrow \\
/#2/ \leftrightarrow [F1, F2] \\
[F1, F2] \\
[F3]
\end{array}
\]

However, Fission is a morphological tool that cannot be applied to Scandinavian DPs because the relevant features are distributed over three distinct Vocabulary Items. An additional problem a Fission account would face is the fact that the Morphemes inserted into the additional morphological positions would have to be lowered\(^{64}\), and it is far from clear how the lowered nodes would reach their respective destination. Lowering may be non-local, but it involves adjunction of a head to the head of its complement, i.e., the two fissioned nodes would head for the same host. A further postsyntactic variety of movement known as Local Dislocation poses other problems, as discussed in the preceding sections. Thus we can conclude that the postsyntactic tools of Distributed Morphology cannot account for the patterns found in Scandinavian DPs – a possible solution seems to lie in syntax proper rather than in Morphology.

\(^{64}\text{Lowering is a kind of merger in Morphology.}\)
5 Syntactic analyses of Scandinavian DPs

In the preceding sections, I discussed more recent analyses of double definiteness that were based on a phase theoretic framework or on Distributed Morphology. In this section, I will look at previous approaches that have already been much discussed in the literature, specifically Delsing (1993) and Julien (2002a, 2005a). Both offer an extensive discussion of the phenomena typical for Scandinavian DPs, and both analyses suffer from problems that have already – at least partly – been mentioned in the sections above. Since they have already been discussed to some extent, I will, for the sake of completeness, only mention some general points. The third approach discussed in this section is Kester (1993), who included adjectival inflection in her hypothesis.

5.1 Delsing (1993)

Delsing (1993) discusses all Scandinavian languages and some of the dialects within a principles and parameters based theory. That is, basic lexical properties of words and phrases are part of D-structure, which via Move-α operations result in S-structure, which in turn is the point where interpretational and phonetic rules apply, LF and PF respectively.

Delsing's proposal is basically an N-to-D movement analysis in which the head noun is moved to the D-position to have the suffixed article attached65. Furthermore, he argues for the head status of adjectives in Scandinavian66. Hence, movement of N to D is blocked due to the Head Movement Constraint as soon as an attributive adjective intervenes. He claims that a head movement analysis would straightforwardly account for the behaviour of the suffixed article in, for example, Danish. In non-modified contexts, N is free to move to D; in modified contexts, movement is blocked, and this is why there is no suffixed article. Since Delsing

65 According to Delsing (1993), cross-linguistic differences with respect to head movement arise from different settings of the head raising parameter.

66 Attributive adjectives are analysed as lexical heads of the noun phrase that take the noun as its right hand specifier, i.e., the NP is the right branching sister of A’ (Delsing 1993:81).
assumes that a definite D needs to be spelled out, definiteness is realized by insertion of an independent determiner.

For the Scandinavian double definiteness languages, Delsing proposes an analysis that postulates that the suffixed article is base generated on the noun and that the preadjectival article is a mere expletive, that is, in itself void of any content. Hence the suffixed article alone carries the definiteness of the phrase. He concludes that both articles are only obligatory if the noun phrase has *anaphoric reference*, that is, in his understanding of the term, when a noun phrase refers to an item previously mentioned in the context.

Delsing (1993:130) assumes that the same mechanism holds for Icelandic. For Danish, however, he claims that “the definite article must be generated in D”. In summary, Delsing’s (1993) proposal results in parameter settings illustrated in the following table (E = expletive article, D = deictic reference, M = strong morphology).

<table>
<thead>
<tr>
<th>Language</th>
<th>N-to-D raising</th>
<th>Definiteness in N</th>
<th>Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. Jutlandic</td>
<td>-</td>
<td>-</td>
<td>E/D</td>
</tr>
<tr>
<td>Danish</td>
<td>+</td>
<td>-</td>
<td>E/D</td>
</tr>
<tr>
<td>Swedish</td>
<td>+</td>
<td>+</td>
<td>E/D</td>
</tr>
<tr>
<td>Icelandic</td>
<td>+</td>
<td>+</td>
<td>M</td>
</tr>
</tbody>
</table>

Table 1: Parameter Setting in Scandinavian (from Delsing 1993:132)

Apart from the drawbacks of N-to-D movement approaches, a further question arises, also noted by Julien (2005a): if D needs to be spelled out, why not move N to A and then subsequently to D? Since Delsing (1993) claims that definiteness is brought about by the suffixed article, it is also not quite clear to me what consequences arise for definite DPs that do not contain the suffixed definite article (see chapter 2 for examples).

Finally, I cannot agree with the claim that strong morphology licenses D and that therefore there is no need for an expletive in Icelandic and the D-position does not need to be lexicalized. Arguing for this seems like saying that morphological material is the cause of syntactic variation (and not its reflection). This cannot be
maintained empirically. In the case of the Scandinavian languages, Faroese provides a counter example: Faroese has richer morphology than the other Scandinavian languages (apart from Icelandic): it still has case endings. But, nevertheless, Faroese does not show the Icelandic pattern regarding definiteness. It instead shows the patterns of the less inflected languages. Delsing in fact notes that Faroese inflection is less rich than Icelandic inflection and that this may be the reason for the different realizations of definiteness. What, however, is the precise content of his assumption? Which morphology can be regarded as strong and which not? In other words, why should the implication from strong morphology to D-licensing hold, while D-licensing of other sorts does not imply weak or absent morphology (cf. Faroese)?

Delsing (1993) is invaluable regarding the data compiled and the description of the differences between standard and dialectal variation. However, his analysis could be improved.

5.2 Julien (2002a, 2005a)

Julien’s analyses are based on phase-based considerations. \( n \) is seen as a phase head analogous to \( v \). Her \( n \) differs though from that commonly used in the literature in that it does not supply the nominal categorial feature to the root. In Julien’s analyses, this is already done in NP, and \( n \) hosts definiteness.

Julien (2005a) – who offers one of the most comprehensive studies of the DP in Scandinavian – has been mentioned at various points in this dissertation. This is why I will restrict myself to some structural considerations that have not yet been mentioned.

She suggests the following structural analysis for the Scandinavian languages.
CardP and αP can only be created if lexically realized; all other phrases contain features that are necessary for every DP in Scandinavian. CardP roughly corresponds to earlier NumP and is projected if a numeral is present. The specifier of αP hosts adjectival phrases, nP contains the definiteness feature of the suffixed article, and NumP hosts number morphology. In unmodified DPs, all Scandinavian languages apart from Danish (and formal/literary Icelandic) realize the suffixed article in n. Danish and literary Icelandic realize the freestanding article in D. This entails that the nominal moves from its base position to the heads of Num and then further on to n. Subsequent movement to the specifier of the DP then licenses the DP irrespective of the realization of the article. It does not matter, therefore, whether it is in n or in D. This movement is blocked in modified DPs, since Julien assumes that the modifying AP in Spec, αP intervenes. Therefore D needs to be licensed by overt realization of D, that is, by the insertion of a free morpheme. This is assumed for Swedish, Norwegian, Faroese, Danish, and for literary Icelandic. For Icelandic, however, she assumes that the αP moves to the specifier of DP, this way licensing D without the insertion of additional material.

In my view, Julien’s (2002a, 2005a) analyses are the most convincing ones of those discussed in this chapter. As mentioned in previous chapters, Julien, too, assumes different semantics for the suffixed and the preadjectival article, namely specificity for the former, and inclusiveness for the latter (see the discussion of definiteness in chapter 1 and the development of a semantic account in chapter 7). However, apart from the non-observance of the function of the adjectival inflection, there are other questions that remain unanswered. The most crucial ones are, first, why a phrase should block phrasal movement, and second, Julien (2002a, 2005a) has
to stipulate different mechanisms for the syntactic derivation not only in order to account for the inner-Scandinavian variation but even within one language, namely Icelandic. Third, if the suffixed article contained only specificity, and the preadjectival determiner only inclusiveness, then different semantics are predicted for modified DPs in Scandinavian. (26) illustrates this point.

(26) a. den ny-a bil-en
      DEF new-W car-DEF
      ‘the new car’

b. det stor-e hus
      DEF big-W house
      ‘the big house’

The Swedish example in (26a) realizes inclusiveness and specificity, while the Danish example (26b) can do with inclusiveness only. Thus the semantics of the same modified DP should differ in double definiteness languages and simple definiteness languages. This, however, is not in accordance with the facts.

5.3 Kester (1993)

Kester’s (1993) analysis is the only account that includes a discussion of adjectival inflection. In fact, she even takes the adjectival inflection as the starting point of her investigations.

Kester (1993) distinguishes between *adjectival inflection* and *dummy affixation*. Adjectival inflection is marked for number and/or gender, while dummy affixation draws on morphemes that are “not marked for specific phi-features” (Kester 1993:140) and which are licensed by definiteness features in D. For Scandinavian, Kester (1993) hypothesizes that both patterns exist: weak adjectival inflection corresponds to dummy affixation, while strong inflection is ‘real’ adjectival inflection. She further claims that the weak adjectival inflection found in Scandinavian resembles patterns found in Hebrew and (Classical) Greek.
In her analysis, definite DPs are complements of a definite head \( A \); the dummy affix is triggered by the [def] feature of its DP complement. “Under this scenario, dummy affixes are an instance of head-complement agreement, just like clitic-doubling in Romance” (Kester 1993:145). The structure of a DP containing double definiteness would thus be as in (27).

(27)

\[
\text{DP} \\
\quad \text{D'} \\
\quad \text{D} \\
\quad \text{det} \\
\quad \text{AP} \\
\quad \text{A'} \\
\quad \text{store} \\
\quad \text{DP} \\
\quad \text{D'} \\
\quad \text{D} \\
\quad \text{-et} \\
\quad \text{NP} \\
\quad \text{N'} \\
\quad \text{N} \\
\quad \text{hus}
\]

In (27), the adjective phrase is sandwiched between two DPs. Thus, the intervening adjective does not block N-to-D movement. In the lower DP, N has moved to D to have the suffixed article attached. The reason for the presence of the preadjetival article is assumed to be due to syntax, because according to Kester (1993), there is no semantic reason for this – thus, determiner doubling must be a parametrized property. In her view, the syntactic reason for determiner doubling and hence for the presence of the independent determiner is to bind the dummy affix. This becomes necessary because the postnominal determiner cannot govern the adjective.

Inner-Scandinavian differences are accounted for by assuming that the preadjetival article differs in status. In the double definiteness languages this determiner is a mere expletive, while in Danish it is a real determiner. As evidence
for the expletive status of the Swedish and Norwegian determiner, Kester (1993) cites example (28).

(28) Vit-a hus-et
     white-W house-DEF
     ‘the White House (in Washington)’

Due to the omission of the preadjectival determiner, Kester (1993:150) concludes that definiteness is realized by the suffixed article and that the independent determiner is “semantically vacuous”.

Several problems result from this analysis. First, if the weak adjectival inflection is licensed by the definiteness features in D, then the inflectional ending should not be present if the definiteness feature in D is absent. Furthermore, only weak inflection could then be combined with definite noun phrases. Neither is borne out, as sentences show in which the suffixed article is omitted but the weak adjectival inflection is present, and Icelandic cases where the strong adjectival inflection is combined with definite phrases to achieve non-restrictive readings (see chapters 2 and 7). Second, as the sections on the semantics of the articles (chapter 7) have shown, the preadjectival article contributes to the notion of definiteness. It is not, as Kester claims, semantically empty. Third, if in Swedish and Norwegian the suffixed article is the real determiner and the independent one is an expletive, while in Danish the independent article is the determiner, then the question arises what the status of the Danish suffixed article is, to say nothing of those in Icelandic, which she does not mention apart from the remark that “Icelandic is exceptional, either because there is no government condition on dummy affixation, or the superior D°-position does not need to be filled by a lexical element” (Kester 1993:151). No further explanation is given. Another problematic point is the comparison of Scandinavian double definiteness to Romance clitic-doubling. As the preceding chapter shows, while the two phenomena might share some aspects, they are nevertheless different. And last but not least, although Kester’s (1993) analysis has adjectival inflection at its heart, the semantic contribution of the adjectival inflection is not discussed.
6 Conclusion

In this chapter I hope to have shown that all theories discussed here show disadvantages of some sort. N-to-D movement approaches (Delsing 1993, Embick & Noyer 2001, Heck, Müller & Trommer 2008, Schoorlemmer 2009) cannot ensure the correct order if adjectives are maximal projections. Furthermore, what many approaches discussed have in common is that either the different semantic contributions of the respective articles are not paid any attention at all, or that it is not clear how the different interpretations could be achieved. The most recent approach, that of Schoorlemmer (2009), not only extends the derivational load beyond what is necessary, thus needing to stipulate additional rules in order to account for the distribution of double definiteness, but there is also an assumption of two different kinds of double definiteness. Some theories resort to Santelmann's (1993) idea of den-support and introduce a dummy d- into the derivation (Embick & Noyer 2001, Heck, Müller & Trommer 2008, 2009, Schoorlemmer 2009). This is neither necessary nor plausible if looked at diachronically. And last but not least, not a single approach offers a solution regarding the semantic interpretation of the adjectival inflection.

As discussed in the preceding chapters, in the account put forth in this thesis, all these aspects are accommodated: the distribution of double definiteness, the development of double definiteness, the different semantic interpretations due to the use of the articles (and with that the differing semantic content of the respective articles), and the semantic interpretation of the adjectival inflection, which clearly also contributes to the interpretation of a DP as definite. I do not want to claim that my analysis is without flaws, but I hope I am on the right track and that further research will show whether the structure advocated for in this thesis can be maintained as minimally as I suggest and with as few stipulations as I have put forth.
CHAPTER 11 – CONCLUSION

1 Conclusion

The main aim of this thesis was to investigate the structure of the DP and its effect in Scandinavian. To this end I have looked at the distribution of determiners in the different Scandinavian languages and also included dialect data in my research. Furthermore, the adjectival inflection was investigated as well as other factors that allow one to draw conclusions regarding the structure of the DP, such as the nature of nominals.

The detailed analysis of the determiner systems, their function, and the semantics of the determiners has shown that the morphemes under investigation consist of different features and thus lead to double definiteness in Swedish, Norwegian and Faroese, but to simple definiteness in Danish and Icelandic. The function of the preadjectival determiner is what I termed discourse reference, which introduces a discourse referent that contains a new discourse variable. In other words, the preadjectival article signals that a new subset is entering the discourse. The function of the suffixed article is to bring about specific reference, thus ensuring that a referential reading is obtained and that the denotation of the noun is identifiable and locatable for the hearer. I was able to show that these features are subdivided into two morphemes in the Scandinavian double definiteness languages so that neither morpheme can realize both features, which therefore leads to the introduction of a further definiteness marker in Swedish, Norwegian and Faroese. In Danish, the preadjectival article can express both features. Consequently there is no need for two determiners in modified contexts and thus the determiners in Danish occur in complementary distribution. Icelandic determiners occur in complementary
distribution, too, but for a different reason: Both determiners in Icelandic can contain both features, and therefore it is – at least theoretically – possible to use either in modified contexts. In fact, however, the suffixed article is used in all contexts, whether modified or not. Why the two determiners have the same content in Icelandic as opposed to split features in the other Scandinavian languages has been shown to originate from different diachronic developments.

The investigation of the adjectival inflection has confirmed the hypothesis that the weak form of the inflection contributes to the meaning of the phrase and interacts with definiteness. This contribution can be describes as the identification of subsets in the sense that the members of the denotation of adjective and noun are selected. The contribution of the adjectival inflection to the interpretation of the phrase leaves its mark in the structure of the DP, where the adjectival inflection heads its own functional projection, FP.

The nature of nouns and that of partitives have also influenced the structure of the DP suggested in this thesis. Based on the behaviour of nouns, I have claimed that nouns cannot be classified pre-syntactically but that the interpretation of nouns depends on syntax and syntactic operations. These findings were supported not only by psycholinguistic experiments and neurolinguistic data, but also by the discussion on partitive structures, which has shown that there is a very close relation between Germanic bare plural/mass noun constructions and Romance defective partitives and that these structure can be analysed alike. Those findings have led to the introduction of a classifier phrase, ClassP, into the structure of the DP. Nouns enter the derivation without being classified as mass or count, and move to the head of ClassP if they are to be interpreted as so-called count nouns, object mass nouns or type-shifted mass nouns.

The claim that utterances should be analysed alike if they mean the same has been a guiding theme throughout the discussion. This demand actually could be met in that it was shown that all the different kinds of definite marking in Scandinavian – including the dialect data – can be accounted for by assuming one single syntactic structure. This simple structure employs – apart from the phrases mentioned above – two DP layers that host the definiteness features. Depending on the distribution of these features on the D-nodes, a second determiner is, or is not, introduced, resulting
in the patterns mentioned above, namely double definiteness in some of the Scandinavian languages and simple definiteness in others.

The interplay of the three functional morphemes involved in modified definite DPs in the Scandinavian languages has been supported by facts from superlative constructions and from relative clauses, whose affects regarding the marking of definiteness go along with the functions identified for the respective morphemes under discussion. Interestingly, parts of these functions can be found, too, in other doubling patterns, such as Greek Determiner Spreading and Romanian \textit{cel}-structures. This not only supports the claim made in this thesis that doubling of definiteness markers is not a mere agreement phenomenon but it also establishes that discourse reference is clearly involved – at least to some extent – in all the cases of doubling patterns investigated.

As opposed to the traditional view that morphology creates words and syntax takes these words as input, I hope to have shown that an analysis which assumes that syntax and morphology are not two different modules (but rather that morphology reflects syntactic structure and that interpretation depends on syntactic structure), is able to capture the empirical data found in the Scandinavian languages. In my view it is also important to note that it is not only the focus on grammar – in this case an approach on the interfaces between modules of grammar – that has led to the findings presented in this thesis. Diachronic investigations, which can explain certain facts and support the hypotheses here put forth, have also been of importance.

2 Further research

Despite the findings presented here and summarized above, the discussion of DPs and its reflex in Scandinavian is obviously in need of further research. There were many things that lay outside the core claims of this thesis and so have to await further investigation and discussion.

The function of the adjectival inflection in Danish, for example, has not been dealt with, and it would be interesting to see if similar patterns – or remnants of them – can be found in there. Furthermore, possessive structures in Scandinavian are still
awaiting an account of placement tendencies, as are genitive structures, especially in Icelandic. Moreover, it would be interesting to investigate DPs when modified by PPs. Modified indefinite DPs, specifically the multiple exponentence of the adjectival article in some variants of Scandinavian are in need of further research as well as the absence of the suffixed article in nominalized adjectives.

Regarding an approximate universal structure of DPs, it would also be of great interest to investigate the relations of nominals cross-linguistically; specifically the question of why some languages do not have object mass nouns and what the relation among languages is like, which nouns tend to be understood as quantifying over individuals and which as quantifying over kinds.

Even if there are many topics that are in need of further research, and even though the analysis presented here could be improved, I very much hope that I am on the right track and that this thesis can contribute to the discussion of the structure of the DP.
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(1) hus-et
   Haus-DEF
   'das Haus'

(2) det ny-a hus-et
    DEF neu-W Haus-DEF
    'das neue Haus'

(3) gaml-a hús-ið
    alt-W Haus-DEF
    'das alte Haus'

(4) det stor-e hus
    DEF groß-W Haus
    'das große Haus'

Eine weitere Besonderheit der skandinavischen (und anderen germanischen) Sprachen ist die schwache und starke Flexion der Adjektive. Spielt diese Flexion eine Rolle bei der doppelten Definitheit? Diese Frage stellt sich vor allem deshalb, weil es skandinavische Sprachen gibt, in denen die Wahl der adjektivischen Endung bedeutungsrelevant ist.

(5) a. Legg hvert unmod-ent eple i denne kassen.  
lege jeden unreif-S Apfel in diese Kiste-DEF  
‘Lege jeden unreifen Apfel in diese Kiste’

b. Legg hvert unmod-ne eple i denne kassen.  
lege jeden unreif-W Apfel in diese Kiste-DEF  
‘Lege jeden (der) unreifen Äpfel in diese Kiste’

(6) a. gul-i bil-inn  
gelb-W Auto-DEF  
‘das gelbe Auto’

b. gul-ur bil-inn  
gelb-S Auto-DEF  
‘das Auto, das übrigens gelb ist’

In beiden Beispielen ändert sich die Bedeutung je nachdem, ob die schwache oder die starke Endung verwendet wird. Es stellt sich daher die Frage, was die syntaktische/semantische Funktion der Adjektivflexion ist, inwiefern adjektivische Endungen mit Definitheit interagieren, und was das für die Struktur der DP bedeutet.
Das Markieren von Definitheit ist eine relativ junge Entwicklung in den
germanischen Sprachen und wenn man ihre diachrone Entwicklung betrachtet, dann
lässt sich das Konzept der Definitheit auf eine Unterscheidung zurückführen, die
zusammengefasst als *individuierend* vs. *nicht-individuierend* bezeichnet werden kann
(Meier-Brügger 2003). Dieses Konzept der Individuation ist auch entscheidend in der
herkömmlichen Unterscheidung zwischen Massennomina und Individualnomina. Die
Verwendung von Massennomina in Individualkontexten und umgekehrt führt zu
speziellen Interpretationen und es stellt sich die Frage, ob es sich dabei um lexikalisch oder syntaktisch bedingte Reinterpretation handelt, und falls Letzteres der
Fall ist, was das für die Struktur der DP bedeutet.

Diese Dissertation gliedert sich in drei Hauptteile: Teil I behandelt die
Grundlagen der Untersuchung und führt in die zu untersuchenden Daten ein. In Teil
II wird die Struktur der DP motiviert und in Teil III werden die Daten semantisch
und syntaktisch analysiert und repräsentiert.

In Teil I werden sowohl die theoretischen als auch die empirischen
Grundlagen dargestellt. Dabei werden zum einen Begriffe der Definitheit geklärt,
wie z.B. Referenz, Spezifizität, Familiarität usw., zum anderen die Theorie erläutert,
die die präsentierte Analyse verwendet (Distributed Morphology). Der empirische
Teil macht mit den Daten vertraut, die die Basis der Analyse darstellen. Dabei
werden die skandinavischen Standardsprachen Schwedisch, Norwegisch, Dänisch,
Isländisch, Färöisch, aber auch dialektale Variation untersucht, so wie z.B. der
erweiterte Gebrauch des suffizierten Artikels und Besonderheiten der
Adjektivflexion und Adjektivinkorporation.

Im nachfolgenden Teil wird die Struktur der DP motiviert. Dazu werden drei
Bereiche diskutiert: die diachrone Entwicklung von Definitheit – vor allem in den
skandinavischen Sprachen –, die Klassifikation von Nomen, und die von Partitiven.
Die Betrachtung der diachronen Entwicklung der Artikel und der Adjektivflexion
unterstützt meine Hypothese, dass sowohl die beiden Artikel als auch die
Adjektivwendung bedeutungstragend sind. Die Untersuchung von Nomen zeigt, dass
diese nicht klassifiziert werden können. Dies wird nicht nur sprachübergreifend
bestätigt, sondern auch durch psycholinguistische Untersuchungen und Daten aus
dem Spracherwerb. Die Analyse partitiver Strukturen bestätigt die Ergebnisse, die durch die sprachübergreifende Untersuchung von Nomen erzielt wurden.


In den skandinavischen Sprachen mit doppelter Definitheit werden die Funktion der Diskursreferenz und der spezifischen Referenz auf zwei Morpheme verteilt, da keiner der beiden Artikel beide Merkmale tragen kann – folglich kommt es zu doppelter Definitheit im Schwedischen und Norwegischen. Im Dänischen kann

\[
\text{(7)} \quad [\text{DP}_2 [\text{disc}] [\text{FP} \text{ AP} [\text{F}' \text{ ident}] [\text{DP}_1 [\text{sref}] [\text{ClassP} [\text{ind} \text{ NP}]]]])]
\]

Die Untersuchung der Adjektivflexion bestätigt, dass die schwache Form der adjektivischen Endung bedeutungstragend ist und mit Definitheit interagiert. In der von mir vorgeschlagenen Struktur der DP ist die Adjektivendung daher der Kopf einer funktionalen Projektion (FP). Auch die sprachübergreifende Untersuchung von Massennomina (MN), Individualnomina (CN) und Partitivstrukturen hat ihre Spur in der Struktur der DP hinterlassen und zur Einbeziehung einer sogenannten Classifier Phrase (ClassP) geführt, die für die semantische Interpretation von Nomina als entweder MN oder CN verantwortlich ist. Demnach sind Nomen nicht präsyntaktisch klassifiziert, sondern werden erst durch die Bewegung zu ClassP und die dortige Individuation als CN interpretiert, bzw. als MN, wenn diese Bewegung nicht stattfindet.

Die aus den vorangegangenen Überlegungen entwickelte Struktur der DP, die in (7) dargestellt ist, kann sowohl die unterschiedlichen Definitheitsmustern in den skandinavischen Standardsprachen als auch dialektale Variation erklären. Diese Struktur und die daraus resultierende Interaktion der drei funktionalen Morpheme...
(freistehender Artikel, suffigierter Artikel, Adjektivendung) wird auch durch Superlativkonstruktionen und Relativsätze gestützt.

Die in dieser Arbeit präsentierte Analyse zeigt zudem, dass im Gegensatz zu traditionellen Ansätzen, in denen die Morphologie Wörter generiert und die Syntax diese Wörter als Input verwendet, Morphologie und Syntax nicht als zwei unterschiedliche Module gesehen werden müssen, sondern dass Morphologie syntaktische Struktur reflektieren kann und die Interpretation einer Phrase ebenfalls syntaktisch erfasst werden kann.
ERKLÄRUNG


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