

THE MORPHO-SYNTAX OF THE GERMANIC NOUN PHRASE:  
DETERMINERS *MOVE* INTO THE DETERMINER PRHASE

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Für Rosen und Siggin ☺

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When I arrived in the German Department of the University of Connecticut as an exchange student in August 1997, I did not know that I was going to stay in the United States for my graduate studies. My then advisor Terry McCormick suggested that I take a course in the Linguistics Department. With my interest in linguistics already piqued by my former professors Dr. Eisenberg and Dr. Wegener (*Universität Potsdam*), I enrolled in phonology with David Michaels. He opened the door to Generative Grammar for me, a door that Andrea Calabrese held wide open. Having briefly explored this new “world”, I took syntax with Howard Lasnik and Željko Bošković – I have been interested in generative syntax ever since. Thanks to Howard Lasnik, I could return to UConn as a visiting scholar in 2002-03. I would like to take this opportunity to thank the entire UConn Linguistics Department for their wonderful hospitality during my stay there.

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Dorian Roehrs, Bloomington, June 2006

## ABSTRACT

Dorian Roehrs

### THE MORPHO-SYNTAX OF THE GERMANIC NOUN PHRASE: DETERMINERS *MOVE* INTO THE DETERMINER PRHASE

Clausal auxiliaries exhibit agreement and undergo movement. This dissertation proposes that determiners are nominal auxiliaries. Also showing agreement, demonstratives and (in-)definite articles are argued to be base-generated in an article phrase (artP) above the theta domain of nouns and below adjectives, and subsequently undergo movement to the determiner phrase (DP) to value features on D. Three main arguments are provided for this proposal.

Chapter 2 discusses the syntactic distribution of the definite article in the Scandinavian languages from a diachronic and synchronic point of view. Interpreting adjectives as interveners for long-distance agreement between DP and artP, languages are proposed to vary in the way they circumvent this blocking effect. While Old Icelandic and Danish move the determiner to the left periphery overtly, (common) Modern Icelandic does so covertly. After demonstrating that the two determiners in Faroese, Norwegian, and Swedish have different semantic import, I propose that these languages move one part of their determiner to the left while stranding the other in situ.

Chapter 3 deals with the semantic distribution of the determiner. Interpreting determiners as scope-bearing elements, I propose that, when modifiers are in their scope, they are restrictive in interpretation, and, when not, they are non-restrictive. Specifically, assuming movement of the determiner, the restrictive reading of adjectives is explained

by interpreting the determiner in its derived position and the non-restrictive reading follows from interpreting the determiner in its base-position.

Chapter 4 considers some morphological consequences of this proposal for German. Concentrating on the weak/strong alternation of adjective endings, I propose that the strong ending is licensed on the highest (appropriate) element in the DP at the time the noun phrase is merged into the clause. The weak ending is argued to be a default option. Exceptions to this pattern follow from the assumption that certain determiners may move to the DP at different times. This discussion is then extended to morphological alternations in split NPs and pronominal DPs.

More generally, making the assumption that determiners are nominal auxiliaries that move to the left, these syntactic, semantic, and morphological phenomena, although apparently unrelated, find a uniform account.



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# Chapter 1: Introduction

## 1. Introduction

One of the leading ideas of generative grammar is that all languages are the same at some sufficiently abstract level of representation. Assuming that Universal Grammar makes the same syntactic representation available for all languages, this strong, and thus interesting, claim is challenged every time there seems to be evidence to the contrary, that is, when languages apparently differ with regard to their structure. However, to the extent that the idea of a uniform abstract representation is correct, these differences must be taken to hold only on the surface. In other words, this variation is only apparent, not real in any “deep” sense. For the past twenty years or so, generative syntacticians have sought to account for these differences by appealing to the notion of parameters, morphosyntactic choice-points where individual “languages” may differ in superficial ways.

From a cross-linguistic perspective, the apparently different determiner systems in the world’s languages pose a particularly challenging problem. To illustrate, consider the following quotation taken from work on language typology:

“...[I]t is mistaken to treat demonstratives which often function like definite articles as articles. After all, the evidence here suggests that they do not exhibit the word order properties that “true” definite articles do. Nevertheless, there is evidence that even when such definite articles are identical to demonstratives, they are still subject to different word order “pressures”...

- (1) a. yule mtu (Swahili)  
the man  
b. mtu yule  
man that

...This suggests not only that the *position of definite articles* cannot be explained (at least not in all cases) *in terms of the position of the demonstrative from which they arose*, but also that words with the meaning of definite articles are subject to word order “pressures” that demonstratives are not subject to.” (Dryer 1989: 90-1; emphasis added)

Making the well-documented assumption that linguistic reanalysis occurs in a local domain (for the development of complementizers out of demonstratives, see van Gelderen 2004), the different syntactic distribution of historically related determiner-like elements is unexpected. I will call this phenomenon “the Panchronic Paradox”:

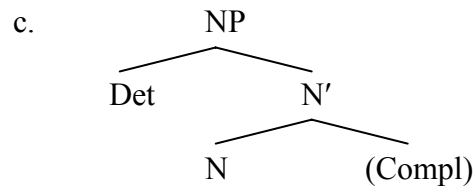
(2) *Panchronic Paradox*

Diachronically related elements may occur in different synchronic positions.

If it is correct that reanalysis occurs in a local domain, then related lexical items are in the same domain at some point in the history of the language. In order to explain the different syntactic distribution of determiner-like elements over time, one can exploit the well-documented displacement property of languages. In other words, the differing distribution can be reduced to some general operation, that is, movement or lack thereof of the corresponding elements. Consider the above-mentioned paradox in light of earlier X'-theoretic assumptions.

Assume the following generalized phrase structure schemata  $XP \rightarrow (Spec) X', X' \rightarrow X (Compl)$  where  $X = N$ . The linear order of the elements is assumed to be a matter of language-specific parameterization (cf. Chomsky 1986: 2-3):

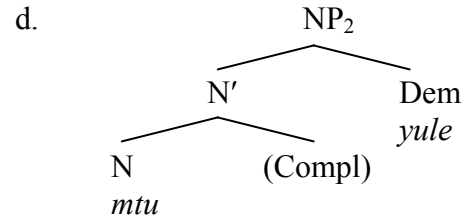
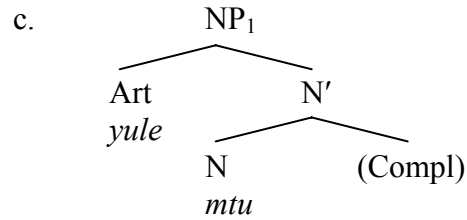
- (3) a.  $NP \rightarrow (Det) N'$   
 b.  $N' \rightarrow N (Compl)$



In order to derive the different distribution of the article vs. the demonstrative in (1), one can proceed in two ways: (i) excluding the demonstrative from complement position in (3b), the phrase structure schema in (3a) could be “broken up” into two subschemata, or (ii) one could keep (3a) as is and formulate a transformational rule. Considering each in turn, I will show that neither approach can account for the Swahili facts in (1) without problems. The conclusion will be that the noun phrase must contain more structure.

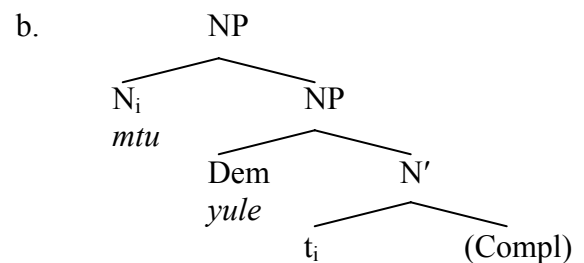
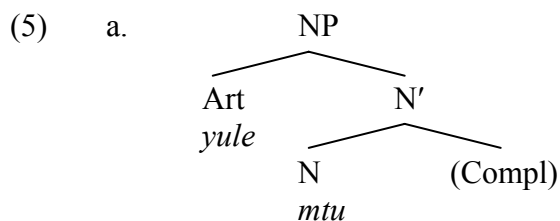
As a first option, I reformulate (3a) as two subschemata. I assume that due to a parameter, the article is a Specifier on the left ( $NP_1$ ) and the demonstrative is a Specifier on the right ( $NP_2$ ):

- (4) a.  $NP_1 \rightarrow Art N'$   
 b.  $NP_2 \rightarrow N' Dem$



Although the schemata in (4a-b) describe the facts in (1) correctly, this comes at a high cost. For instance, note that these two statements can only be language-specific as the language Ute has the opposite distribution (Dryer 1989: 90). More generally, breaking up the category “determiner” by a parameter, the article and the demonstrative are no longer part of a natural class. As a consequence, we lose some important generalizations with regard to their morphological and semantic properties. Moreover, the two historically related elements are not in a local relationship in any obvious way. That is, according to the representations in (4c-d), the historical relationship of the two elements becomes accidental and it is not clear how a smooth transition from the demonstrative to the determiner can be accomplished.

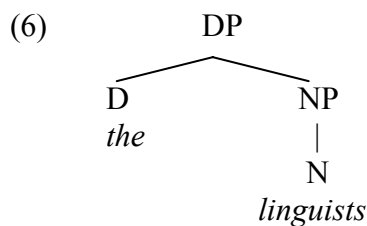
As a second option, one could leave the phrase structure schemata in (3) unchanged and formulate a transformational rule that, in contrast to (5a), raises the noun across the demonstrative in (5b):





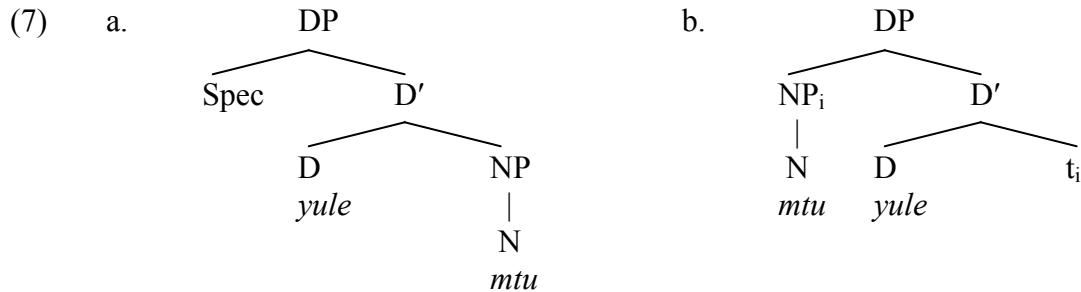
This provides the correct surface orders. Employing the same schemata in (3), the historical change from a demonstrative to an article can proceed in a local domain (i.e., in Spec,NP). However, note that the transformation in (5b) adjoins a head to a maximal projection. Assuming structure-preserving operations, this is not allowed (the same would hold if one were to move N' to adjoin to NP). I conclude that this is not a viable option either. Apparently, more structure is needed. Below, I shall outline a more promising syntactic representation.

In the 1980's, a number of linguists noticed that the traditional structural representation of noun phrases as NPs suffered a number of shortcomings (e.g. Bowers 1987; Brame 1981, 1982; Cowper 1987; Fukui & Speas 1986; Hellan 1986; Horrocks & Stavrou 1987; Hudson 1984: 90-2, 1987: 121-4; Lamontagne & Travis 1987; Lyons, J. 1977: 392, 464; Ritter 1988; Stowell 1989; Szabolcsi 1981, 1983-84, 1987; various manuscripts cited in Abney 1987: 77, and work on different languages in Delsing 1993: 72). As an alternative, it was proposed that the determiner D is a functional head which projects its own phrase, a DP, and takes NP as its complement:



Abney (1987) was the first to discuss the DP-Hypothesis in greater detail. With regard to Swahili, this more complex representation allows for a smooth historical development without violating structure-preserving principles. Leaving all elements in situ in the noun

phrase with the article, as in (7a), the NP containing the head noun is moved across the demonstrative to Spec,DP, as in (7b):



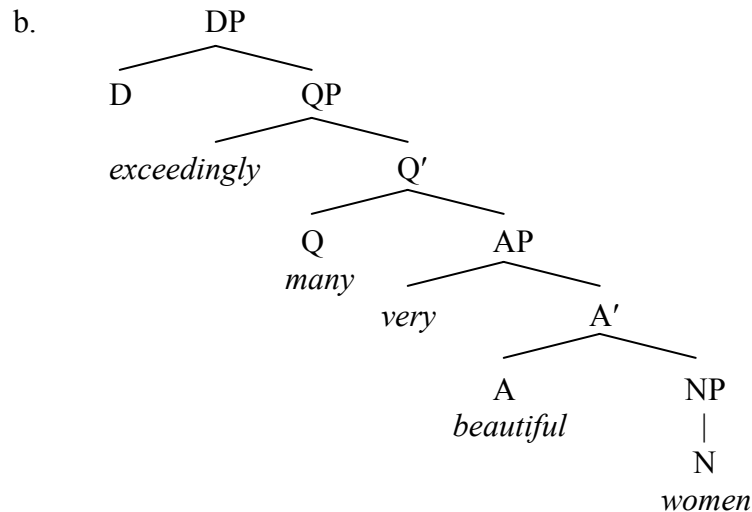
This brings about the correct word orders and structure-preserving principles are adhered to. Furthermore, the historical change can occur in a local domain (i.e., in D). Finally, assuming movement, the DP-Hypothesis has provided a straightforward account for the different distribution of the historically related determiners (the Panchronic Paradox). However, as we will see below, there is evidence that the demonstrative is not a head in D but a phrase presumably in Spec,DP. If so, we are left with the conclusion that (7b) is not sufficient either.<sup>1</sup>

In a different context, already Abney (1987) suggested that the noun phrase was more complex in that there were intermediate phrases such as a Quantifier Phrase (QP) and an Adjective Phrase (AP) (p. 339):

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<sup>1</sup> The derivation in (7b) also raises questions with regard to anti-locality. This notion is proposed to ban movement that is too short as, for instance, from the complement to the Specifier position of the same phrase (for discussion, see among others Abels 2003).

(8) a. exceedingly many very beautiful women



Although the basic make-up of the DP in (6) has remained more or less unchanged since that time, the nominal middle field in (8) has undergone substantial revisions. For instance, in an influential paper, Ritter (1991) proposed a Number Phrase (NumP). Following that, other intermediate functional phrases have been identified, although there is little consensus on the kind, number, or sequence of those phrases.

Rather than surveying the literature (see Bernstein 2001b, Coene & D'hulst 2003, Longobardi 2001b; for typological overviews, see Plank 2003, Rijkhoff 2002), I proceed to my own goal: in the spirit of "charting out" the noun phrase, I will provide arguments for yet another phrase in the nominal *Mittelfeld*. I will argue that (overt) determiners move from a phrase I call article Phrase (artP) to the DP. Assuming movement operations and that referential noun phrases have an overtly licensed DP (cf. Longobardi 1994), my proposal accounts for both patterns in (1) using one and the same syntactic representation.

Base-generating the article in art and the demonstrative in Spec,artP, I propose that the article moves in (1a) and the noun in (1b). Compare the corresponding simplified derivations in (9) (for more detailed discussion in a Scandinavian context, see chapter 2):

- (9) a. [DP **yule**<sub>i</sub> [artP Spec t<sub>i</sub> [NP **mtu** ]]]  
 b. [DP **mtu**<sub>i</sub> [artP **yule** t<sub>i</sub>+art [NP t<sub>i</sub> ]]]

The ultimate goal of the entire enterprise is to offer a unified account of the different types of determiners and determiner systems across the world's languages. However, this is too ambitious an objective to achieve here. Rather, the more immediate goal for this dissertation is to shed some light on the distribution of determiners in some languages, primarily the Germanic ones. If correct, this discussion will also contribute evidence to the claim that the CP and DP are, in many ways, parallel.

The introduction is organized as follows: after illustrating the basic proposal in more detail, section 3 motivates the assumed structure of the DP and briefly discusses issues such as concord and potential Relativized Minimality violations. In section 4, I provide a survey of the individual chapters.

## 2. Basic Proposal

Movement inside the noun phrase is not a novel claim. Perhaps the most well-known proposal of movement involves (partial) N-raising (e.g. Ritter 1988, Taraldsen 1990, Cinque 1994, Longobardi 1994). Besides that, other types of movement inside the DP

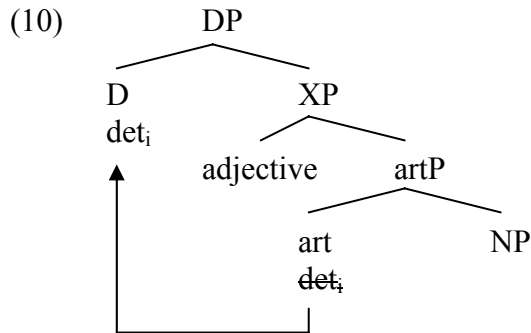
have been proposed: for instance, movement of possessors (e.g. Cardinaletti 1998), different kinds of (short) movement of quantifiers (Barker 1995: pp. 124; Zamparelli 2000: 264-5), movement of adjectives (Giorgi & Longobardi 1991: 123; Zamparelli 1993), and (short) movement of determiners (Valois 1991: 87, 138; Bernstein 1993: 128, 1997, 2001a; Bennis, Corver & den Dikken 1998 : 97 ; Batllori & Roca 2000). Relevant for present purposes, I focus on some cases of the last type.

Some analyses involving short movement of a determiner base-generate the determiner in a phrase below the DP-level but above adjectives and subsequently move it to the DP. Brugè (1996, 2002) extensively argues that this kind of movement is longer, that is, that the demonstrative is base-generated in a phrase *below* all adjectives but above the head noun and its complements and that it is moved from there to the DP (for similar proposals, see Campbell 1996; Carstens 1991; Giusti 1997, 2002; Grohmann & Panagiotidis 2004; Panagiotidis 2000; Vangsnes 1999: 119-20). Importantly, Delsing (1988: pp. 70) proposes that, besides movement of the demonstrative, articles may also undergo long movement (cf. also Vangsnes 1996: 17, 1999: 133-4; Alexiadou 2003: 15). Thus, building on work by these authors, I intend to unify and generalize these proposals to the effect that demonstratives as well as (in-)definite articles undergo this long movement (for a preliminary version of this claim, see Roehrs 2002). Disregarding the details of the nominal *Mittelfeld*, the simplest form of my proposal can be represented as follows:<sup>2</sup>

---

<sup>2</sup> There are also cases where the determiner has apparently moved out of the noun phrase:

- |     |    |                  |            |
|-----|----|------------------|------------|
| (i) | a. | am Ende          | (German)   |
|     |    | at.the end       |            |
|     | b. | Vimo-lo neno.    | (Galician) |
|     |    | saw.we-the child |            |



Before moving on, it is necessary to establish some terminology. I will refer to demonstratives and (in-)definite articles more generally as “determiners”. Furthermore, considering that unlike determiners, quantifiers are a more diverse group and can themselves be modified (e.g. Svenonius 1992: 102, 106), I take them to be similar to adjectives and thus not part of the group of determiners (cf. Ritter 1991 for Hebrew and Scabolczi 1987, 1994: 271 fn. 12 for Hungarian).<sup>3</sup> Finally, I will refer to projections of the head noun as “noun phrases” or “nominal phrases” if their inner make-up is not important for the relevant discussion, and as “DPs” and “NPs” if it is. Proposing that determiners move from a low position, as in (10), I need to clarify their categorial nature.

The focus of Abney’s work was to argue for a parallel structure between noun phrases and clauses.<sup>4</sup> In particular, not only was the structural representation argued to be parallel in the two domains but also lexical items were taken to be counterparts of one another. Concretely, Abney (1987: 265) took determiners to be the equivalents of modals, merging them in D. Furthermore, he interpreted pre-nominal descriptive adjectives as the

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Whatever the correct analyses of these cases may be (cf. van Riemsdijk 1998: pp. 651 for (ia) and Uriagereka 1995: 81 fn. 5 for (ib)), these explanations do not rely on movement of the determiner from a position below the adjective and so will not be discussed here.

<sup>3</sup> I am not claiming here that there are no syntactic or semantic differences between the different determiners, that is, between articles and demonstratives (see, e.g., Giusti 1997, 2002).

<sup>4</sup> I will not take a stance here as to whether or not the noun phrase is similar to IP (e.g., Abney 1987, Mohammed 1988, Saito & Murasugi 1999), or CP (e.g., Szabolcsi 1981, 1987, 1994; Valois 1991: pp. 30; Gavrusheva 2000), or both. The latter position could depend on the language (Horrocks & Stavrou 1987 propose that the noun phrase is similar to IP in English but CP in Greek).

nominal equivalent of auxiliaries in the verb phrase (p. 267). However, there is some evidence that Abney's parallelism is not correct. As a consequence, I will propose below that determiners are similar to auxiliaries and that adjectives are the equivalent of adverbs.

Starting with the first parallelism, note that English modals are somewhat special: for instance, they have defective agreement and do not seem to undergo movement from a lower position. In fact, they can never appear in a lower position, as shown in (11b-c):

- (11) a. She can(\*s) go home.  
b. \* I have (not) could go home.  
c. \* I (do) not could go home.  
d. I could not go home.

Discussing the distribution of different kinds of verbs with regard to various classes of adverbs, Pollock (1989) proposes to split up the traditional inflectional phrase into a Tense Phrase and an Agreement Phrase. In order to account for the special properties of English modals (defective agreement, no movement), he suggests, essentially following work of Chomsky's (1955 and subsequent work), that modals are base-generated in Tense (pp. 398-9). As they do not move through an Agr position by assumption, this lack of movement accounts for their defective agreement.

Importantly, in contrast to English, modals in other languages do show agreement and undergo movement (note that German has a morphological restriction called

*infinitivus pro participio* that, under certain conditions, spells out the past participle of the modal in (12b) as a second infinitive):

- (12) a. Du kann-st nach Hause gehen. (German)  
you can(2pers.sg) to home go
- b. Ich habe nach Hause gehen können.  
I have to home go could
- c. Ich konnte<sub>i</sub> nach Hause gehen t<sub>i</sub>.  
I could to home go

Returning to determiners, we will see below that they exhibit agreement. In that respect, determiners are more similar to German, than to English, modals. As for movement, if the parallelism between the clause and the noun phrase also holds in this regard, then we are in fact led to propose that, similar to movement of auxiliaries in the clause (e.g. Emonds 1978, Pollock 1989, and Chomsky 1991), determiners also move in the noun phrase. This is the main point of this dissertation. Compare (13b) to (10), repeated here as (14):

- (13) a. Peter would never have done this.  
b. Peter has<sub>i</sub> never t<sub>i</sub> done this.

- (14) the<sub>i</sub> nice t<sub>i</sub> girl



If these general considerations are correct, then determiners are similar to modals and auxiliaries in other languages. English modals, being exceptional, should not serve as a clausal counterpart of the determiner. I propose then that the categorial status of determiners is similar to that of auxiliaries in general (cf. Hudson 1984: 91), subsuming modals under the category of auxiliaries here.<sup>5</sup> Although a movement analysis for determiners is admittedly less obvious from a West Germanic perspective, I will show below that a large number of facts follow from this assumption.<sup>6</sup> The apparent parallelism between verbal and nominal auxiliaries can be extended.

Ritter (1995: 424) discusses Hebrew, where pronouns can apparently function as copulas in the present tense (see also Panagiotidis 2002a: 139):

- (15) a. dan hu xaxam. (Hebrew)  
 Dan he smart(masc)  
 ‘Dan is smart.’
- b. sara hi xaxama  
 Sara she smart(fem)
- c. sara ve dan hem xaxamim  
 Sara and Dan they smart(pl)

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<sup>5</sup> Interestingly, Matushansky (2006: 92, 104) argues that modal verbs in English do move to Tense from a position below negation.

<sup>6</sup> This does not exclude the possibility that certain cases might be analyzed by base-generating determiners in different positions in the DP and establishing some construal relationship between them. However, there is a trend in current theory to reinterpret construal relations as instances of movement, which is what I claim here.

Ritter proposes that third person pronouns consist of a NumP with specifications for gender and number and possibly a DP with features for person and definiteness. Although the analysis of the pronouns in (15) is perhaps not entirely straightforward, it seems that, as complex elements containing at least gender and number, they cannot be the spell-out of Tense (but perhaps the spell-out after a series of head movements). Whatever the exact account may be, for my purposes, it is enough to point out that pronouns are different from modals in English: they are presumably not just merged in Tense and show agreement with the subject.<sup>7</sup> In all these regards, pronouns are closer in their behavior to auxiliaries, and, considering that pronouns are determiners (chapter 4 part III), I take this as another indication that (pronominal) determiners are auxiliary-like.

Turning to the second parallelism, adjectives are an open lexical class and are thus dissimilar from auxiliaries (*pace* Abney). Furthermore, Baker (2003: pp. 230) provides evidence that they are similar to adverbs (also Valois 1991, Cinque 1994, Crisma 1996). In fact, he argues that adverbs ending in *-ly* are adjectives. To appreciate the same behavior, note that, while adverbs may modify both a verb and an adjective in the clause, related adjectives can modify the corresponding noun in the noun phrase. Consider the (a)-examples vs. the (b)-examples:

- (16) a. Italy brutally invaded Albania.  
b. Italy's brutal invasion of Albania

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<sup>7</sup> There are some complications with regard to agreement in person; for cases such as (15), see Ritter 1995; for the noun phrase in general, see chapter 4.

- (17) a. Chris is extremely shy.  
 b. Chris's extreme shyness

Similarly, degree words may modify both adverbs and adjectives.<sup>8</sup>

- (18) a. Die Musik wird zu laut gespielt. (German)  
 the music is too loudly played  
 b. die zu laute Musik  
 the too loud music  
 c. Die Musik ist zu laut.  
 the music is too loud

To sum up these introductory remarks, I proposed that determiners are similar to auxiliaries in the clause and adjectives are the equivalents of adverbs. In the next section, we consider the structure of the DP in more detail.

### 3. Assumptions and their Motivation

While my analysis will be cast in terms of Chomsky's (1995, 2000, 2001) Minimalist Program, I intend the discussion to be general enough so that it is also of interest to syntacticians working in other frameworks. Most relevant for present purposes, I discuss

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<sup>8</sup> There are some restrictions in English on noun phrases containing degree words (see, e.g., Felber & Roehrs 2004).

and motivate the structure of the DP in this section, followed by some remarks on concord within the DP and on potential Relativized Minimality violations.

### 3.1. *The Structure of the DP*

As in the clause, there is some disagreement on the kinds, number, and sequence of the phrases in the *Mittelfeld*. Following Julien (2002: 267), I will motivate the following hierarchical representation that, moving top-down, consists of a Determiner Phrase (DP), a Cardinal Number Phrase (CardP), an Agreement Phrase (AgrP = Julien's  $\alpha$ P), the proposed article Phrase (artP), a Number Phrase (NumP), a light noun Phrase (nP) and NP:<sup>9</sup>

(19) [DP D [CardP Card [AgrP Agr [artP art [NumP Num [nP n [NP N ]]]]]]]]

I consider the individual phrases in more detail.

In keeping with traditional terminology, the DP is a projection of D, here assumed to be a null head. This null head is proposed to have three general properties that will become relevant in the following discussion. Semantically, D is unspecified for definiteness and referentiality. While the former is a feature that will be valued by a determiner, the latter is a property that is brought about by movement of an element to D (cf. Longobardi 1994; also 1996, 2001a) or by movement of a phrase to Spec,DP (Julien

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<sup>9</sup> This structure is presumably even more complex (see also later footnotes). For instance, there must be at least another phrase between the DP and CardP that can host possessive pronouns as in Italian. Since possessives will not play a central role in the following discussion, I leave them aside here (but see Roehrs 2005b).

2002, Vangsnes 1996: 7). Syntactically, I assume that D has (abstract) case features that trigger movement of the DP to its surface position. Morphologically, certain null D's need to be supported by another element.

CardP hosts numerals or quantifiers in its Specifier position. Unlike adjectives, these elements may move to Spec,DP to bring about a strong quantificational reading (cf. Zamparelli 2000). Besides this difference, I provide two arguments that indicate that numerals or quantifiers in CardP have an independent status and, although similar to adjectives in some respects, should not be collapsed with them. First, unlike in literary Icelandic (20a), the numeral can be “stranded” in common Icelandic. Consider (20b) as derived in (20c) (Vangsnes 1999: 146):

- (20) a. hinar þrjár frægu bækur mínar (literary Icelandic)  
           the three famous books my
- b. frægu bækurnar mínar þrjár (common Icelandic)  
           famous books-the my three
- c. [<sub>DP</sub> [<sub>AgRP</sub> frægu bækurnar mínar ]<sub>i</sub> D [<sub>CardP</sub> þrjár t<sub>i</sub> ]]

As far as I am aware, it is not possible to strand adjectives in Modern Icelandic (but see below for Old Icelandic).

A second difference between numerals/quantifiers and adjectives comes from the discussion of so-called split NPs in German, where a “lower” part of a DP has apparently split off and moved to Spec,CP:

- (21) [ Hemden ] hat er immer nur [ diese ] getragen. (German)  
 shirts has he always only these worn  
 ‘He always wore only these shirts.’

As discussed in chapter 4 part II, all adjectives can be “stranded” below or split off and moved. Interestingly, Bhatt (1990: 251) points out that, while numerals and quantifiers can be “stranded” in split-NPs (22a), they cannot be part of the split-off itself (22b) (my examples):<sup>10</sup>

- (22) a. [ Hemden ] hat er immer nur [ diese [ drei / wenigen ] ] getragen.  
 shirts has he always only these three / few worn
- b. \* [ Drei / Wenige [ Hemden ] ] hat er immer nur [ diese ] getragen.  
 three / few shirts has he always only these worn

As in the case of Modern Icelandic above, we once again find a difference between numerals and quantifiers, on the one hand, and adjectives, on the other. These two differences can be straightforwardly captured by assuming that the relevant elements are in different types of phrases (CardP vs. AgrP) and stipulating that only certain phrases can undergo the relevant operations.<sup>11</sup>

<sup>10</sup> Strong stress on the numeral or the quantifier improves the example.

<sup>11</sup> As already noted in a previous footnote, the structure of the noun phrase must be more complex: although a focused adjective cannot precede a quantifier, this is possible with a numeral:

- (i) a. die (\*EHRlichen) vielen Studenten (German)  
 the honest many students  
 b. die (EHRlichen) drei Studenten  
 the honest three students

Since I will not focus on differences between quantifiers and numerals in what follows, I will not discuss the contrast in (i), although I assume that there is a focus position between the DP and CardP.

As far as the syntactic status of adjectives is concerned, I follow Cinque (1994) among others in that AgrP hosts an adjective phrase in its Specifier position.<sup>12</sup> Taking AgrPs to be recurring (in the sense of Cinque 1999, Scott 2002), each phrase contains one adjective in its Specifier. Discussing two other alternatives, I provide two arguments for the structural analysis involving adjectives in Specifiers (see also Kester 1996b: 30-50).<sup>13</sup> First, Svenonius (1993b: 445-6) observes that scopal facts show that modifiers such as *barely* take scope over the first adjective *hot* but not the second one *black*:

(23) some barely hot black coffee

To be precise, while the coffee in (23) may be completely black, it cannot be extremely hot. In order to account for this restriction, Svenonius (1992, 1993b) argues that adjectives cannot be heads of the extended projection of the noun, as in (24a), as *barely* would c-command both adjectives and thus take scope over both (this line of reasoning applies to both the NP being in the complement position of the adjective as in Abney

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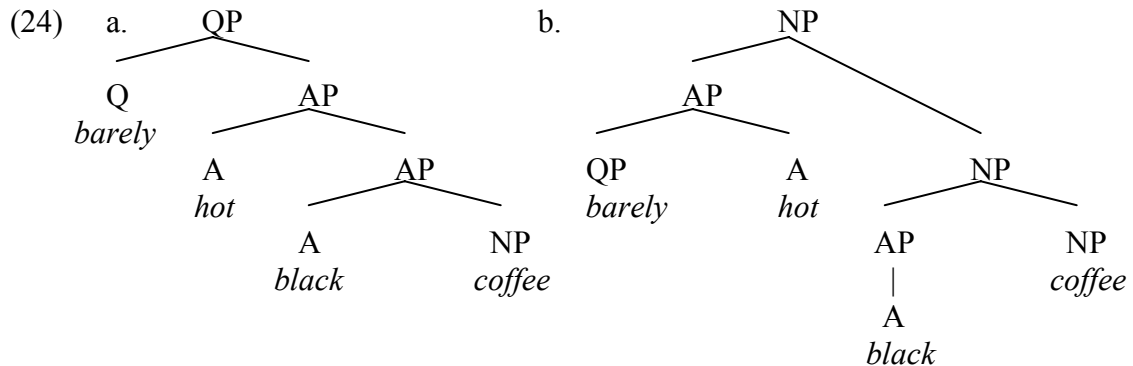
<sup>12</sup> Note here that care must be taken not to infer the status of adjectives from their ability to have an “effect” on the determiner. For instance, while the determiner in Swiss German is in a different form if it occurs before a noun (Leu 2001: 55, also Meyer 1967), the opposite state of affairs holds for French (cf. Radford 1993: 99). Importantly, no such difference seems to hold for Rumanian, where the determiner may suffix to both adjectives and nouns (Giusti 1994: 242):

(i)	a.	di alt autoban	vs.	d autoban	(Swiss German)
		the old highway		the highway	
	b.	d’excellentes oranges	vs.	des oranges (excellentes)	(French)
		some excellent oranges		some oranges excellent	
	c.	bătrîn-ul om	vs.	om-ul bătrîn	(Rumanian)
		old-the man		man-the old	

I take the differences in (ia-b) to be due to language-specific mechanisms.

<sup>13</sup> Besides the three options to be discussed, there are actually two other proposals that I am aware of: one derives pre-nominal adjectives from (reduced) relative clauses (e.g. Kayne 1994: section 8.4) and the other derives relative clauses from (sentential) pre-nominal adjectives (Fanselow 1986). While critiquing Kayne’s approach with regard to some languages (p. 312-3), Alexiadou & Wilder (1998) adopt it for Greek. Following Alexiadou & Wilder’s (1998) critique of Kayne for the languages at hand and considering the fact that Fanselow’s proposal has not been entertained for the languages under consideration in more recent work, I will not discuss these two proposals here.

1987: 326-7 and Barbiers 1992 or in the Specifier position on the right as in Bhatt 1990 and Delsing 1991, 1993: 81). Rather, he suggests that the adjective phrase is adjoined to NP (also Valois 1991) with *barely* in the Specifier of the AP, as in (24b).<sup>14</sup> Consider the relevant parts of the tree representations:



Furthermore, as pointed out by Giusti (2002: 84 fn. 15), a lexical adjective as an intervening head goes against Grimshaw's (1991) original proposal of extended projections – in this case – of the noun.

There is also evidence that the modifier itself is not a head in the extended projection of the noun. For instance, Haider (1992: 320) notes that modifiers such as *sehr* 'very' cannot be stranded in split-NPs:

- (25) a. [ Kostbare Vasen ] besitzt er nur [ drei (\*sehr) ]. (German)  
 precious vases owns he only three very

<sup>14</sup> Actually, Svenonius (1993b: 446) suggests that *barely* is adjoined to AP. However, as Željko Bošković (p.c.) points out this would allow *barely* to c-command into the NP and *black* would be c-commanded after all.



- b. [ Sehr kostbare Vasen ] besitzt er nur [ drei ].  
       very precious vases   owns   he only three

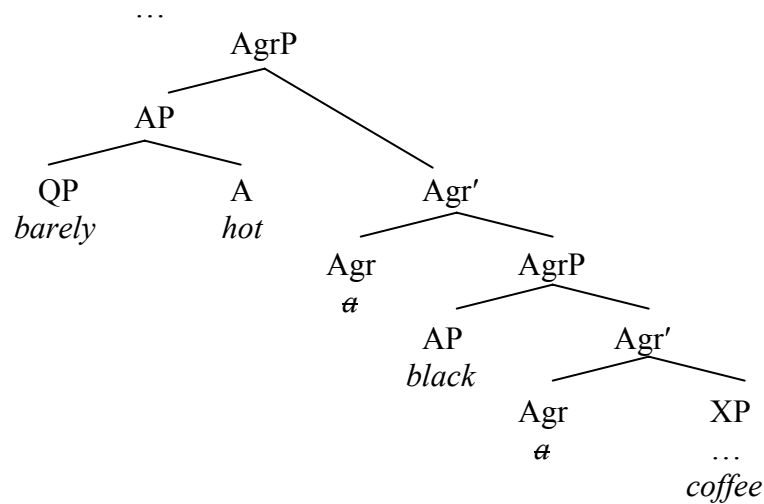
Although one could give an account of the ungrammaticality in (25a) by stipulating that the modifier cannot be stranded, arriving at the opposite state of affairs as in (22), the facts follow directly from the assumption that the modifier is in the Specifier of AP and intermediate A' may not be moved. In fact, Corver (1991, 1997) and Zamparelli (1993, 2000: chap. 7) argue that the modifier is part of the extended projection of the adjective.

There is also evidence against (24b). Going back to work of Delsing's (1993: 143), Julien (2002: 269-70) observes that indefinite determiners can follow pre-nominal adjectives in some Scandinavian dialects (26). Importantly, these articles cannot be interpreted as adjectival agreement as each adjective has its own (strong) ending marked separately by *-t*. She suggests that the articles are not part of the AP but are the realization of the head Agr (her  $\alpha$ ).

- (26) ? eit stor-t      eit styg-t      eit hus                      (Norwegian)  
       a   big(STRONG) an ugly(STRONG) a   house  
       'a big ugly house'

Collapsing both the scopal facts from above and the recurring determiners, we arrive at the following structure where the adjective projects its own phrase inside the Specifier position of Agr. Modifiers such as *barely* are assumed to be in Spec,AP and the article moves through Agr, with the option of deleting it, as in English:

(27)



Although I will basically employ this structure throughout the discussion, I suggest in chapter 3 that certain adjectives can also be in adjoined positions.<sup>15</sup> Finally, if this discussion is on the right track, then *pace* Svenonius (1993b), there must be two types of Specifier positions after all: one kind, where theta roles are assigned, case is checked or operators take scope; and another, where certain modifiers are located.

Turning to artP, it has been often observed that there is a special relationship between adjectives and determiners. To set the stage, note that semantically vacuous determiners can be optional in unmodified predicate noun phrases or with proper names:<sup>16</sup>

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<sup>15</sup> This is in keeping with Bernstein (1993) who discusses adjectives in the Romance languages. Interestingly, she argues that their analysis may vary with regard to the type of the adjective: adjectives of the type *mere* are heads in the extended projection of the noun (p. 61; also p. 71), pre-nominal adjectives are adjoined to NumP, and post-nominal adjectives are adjoined to NP (p. 55) (for ordering restrictions on adjectives, see Sproat & Shih 1991, Scott 2002). As I concentrate on descriptive adjectives throughout, I leave the structural representations of other types of adjectives open.

<sup>16</sup> English, for instance, is different here: predicates of this type take an obligatory determiner (Stowell 1991) and proper names do not allow a determiner.

- (28) a. Sie ist (eine) Lehrerin. (German)  
 She is a teacher
- b. (Der) Hans ist gestern hingefallen.  
 the Hans is yesterday fallen down

However, when modified, the determiner becomes obligatory (the adjective *arm* ‘poor’ in (29b) is to be interpreted with its “non-restrictive” meaning, cf. Gallmann 1997: 75):

- (29) a. Sie ist \*(eine) gute Lehrerin. (German)  
 She is a good teacher
- b. {Der arme Hans / \*Armer Hans} ist gestern hingefallen.  
 the pitiable Hans / pitiable Hans is yesterday fallen down

In other words, while the presence of the adjective is parasitic on that of the determiner, the determiner itself can appear independently. Bearing in mind that these determiners are semantically vacuous, their obligatory presence with an adjective (or, more generally, modifier, see chapter 2) should be captured in a syntactic way. I suggest that this unidirectional relationship can be straightforwardly expressed in the current system by assuming local obligatory selection of artP by Agr. Finally, if determiners are generated just below adjectives, then it is not unexpected that they (esp. demonstratives) are similar to adjectives in some languages. For the short version of more arguments for artP, see the survey in section 4 below.

As for NumP, taking Baker's (1985, 1988) Mirror Principle extended in the sense of Pollock (1989) and Chomsky (1991) as a guide for the investigation, the Scandinavian languages provide some initial evidence that the number morpheme is lower than the suffixal determiner (Julien 2002: 268-9):

- (30) de röda bil-ar-na (Swedish)  
 the red car-PL-the  
 'the red cars'

As the plural morpheme *-ar* is closer to the stem *bil* than the suffixed article *-na*, the phrase containing the determiner must be higher than that of the plural morpheme (in view of the discussion on multiple agreement in the DP by Spencer 1992, this can only be suggestive of the hierarchical order of the phrases). With this in mind, and considering that these elements are below the free-standing determiner and the adjective, artP, NumP, and NP must be below the adjective and in the hierarchical relation artP > NumP > NP. Besides this first indication, there is other evidence that there is a phrase between artP and the head noun.

In order to account for the word order facts and Binding relations between the possessor and the complement of the head noun in (31), I propose that the head noun raises out of the thematic domain of the noun phrase (the example and the discussion are inspired by Haider 1993: 30):<sup>17</sup>

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<sup>17</sup> There are at least two pieces of evidence that the possessor in (31) is higher than the complement. First, we know from extraction facts that possessors block the extraction of complements. This follows from a commanding possessor and an economy condition with regard to shortest movement. Second, there are

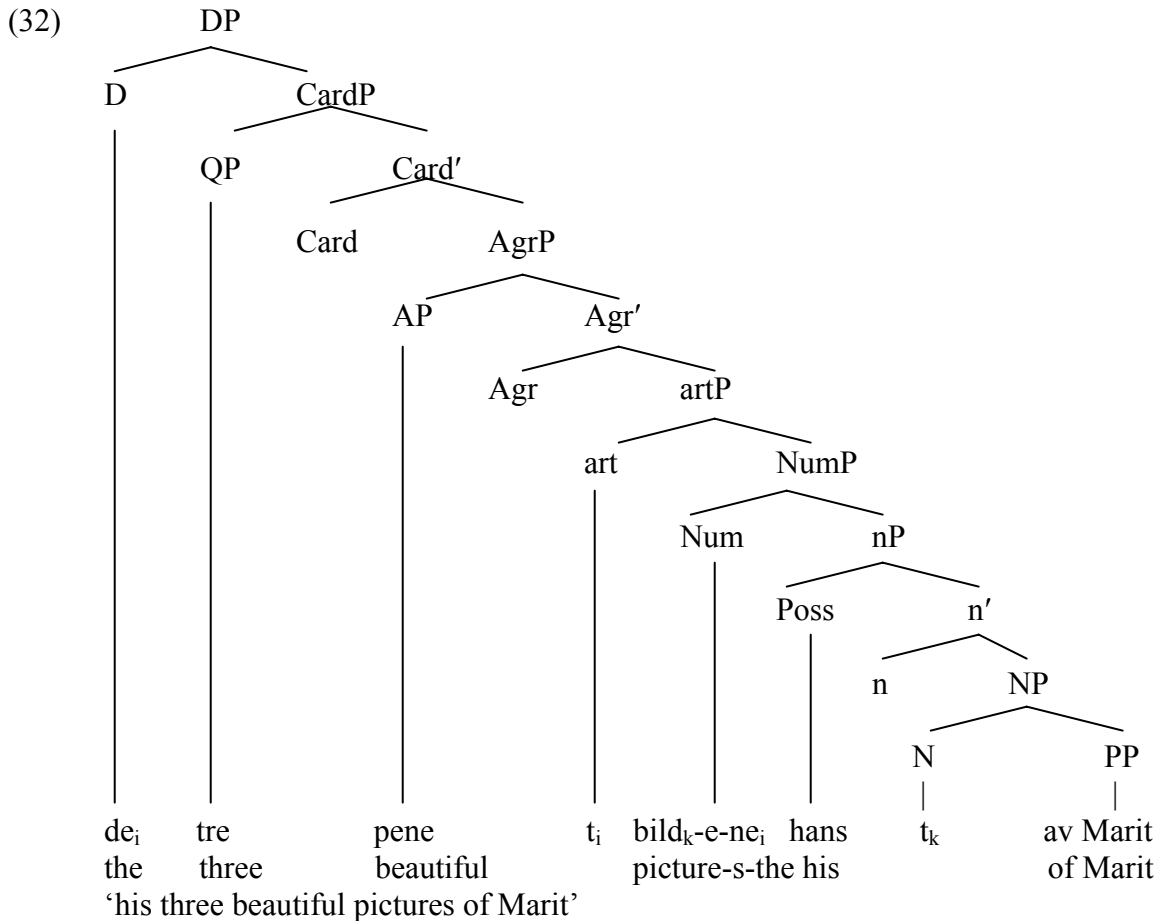
- (31) die riesige Wut<sub>k</sub> des Mannes<sub>i</sub> t<sub>k</sub> auf sich<sub>i</sub> (German)  
the enormous rage of-the man against himself

Observing that the noun does not incorporate into the determiner in art (\**Wut-die* ‘rage-the’) but does raise across the possessor (in Spec,nP, see below), there must be another head position between artP and nP, which I suggested to be Num in (30).

Finally, for the “shell” above the NP core (i.e., nP) and NP itself, see Valois (1991) and Ticio (2003) among many others. I illustrate the structure that we have arrived at by fleshing out (19) with an example from Norwegian in (32) (I omit non-branching nodes):

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arguments that binding relations cannot be established via feature movement in LF (see Lasnik & Uriagereka 2005: 170-1).



Some remarks are in order here. I assume that this structure is universal, with surface differences derived by language-specific operations.<sup>18</sup> Relevant here, the head noun raises to Num and the determiner raises from art through Agr and Card to D (I only indicate the base position and the final landing site). In chapter 2, I propose that similar to demonstratives (Brugè 1996, 2002), articles may be split up. While one part of the article (*de*) moves to the DP, the “stranded” one in art (*-ne*) undergoes PF Merger with the noun in Num in the Scandinavian languages. Finally, considering that noun phrases can be predicative or argumental, I assume that, with the exception of NP, all other phrases are

<sup>18</sup> For the claim that the DP is parameterized, see Bošković 2005; for a reply, see Pereltsvaig 2006.

“optional” projections. Before surveying the individual chapters, I briefly discuss two other issues.

### 3.2. *Concord and Movement inside the DP*

In chapter 4 part III, I argue that different elements in the noun phrase are specified for different features. In particular, I suggest that the head noun is specified for gender and the determiner for person and definiteness. Number and case are different; for instance, they do not have independent, free-standing morphemes in the Germanic languages (but for other languages, see Carstens 1991: 79 and Bittner & Hale 1996). Furthermore, they are not inherent features with number “originating” inside the DP and case outside the DP. In order to account for number, I assume that Num is specified for the appropriate value. As for morphological case, I argue in chapter 4 that this relation is of a different kind, evidenced by the Principle of Monoinflection in German. Finally, adjectives are typically not specified for any features and may exhibit overt reflexes of only some categories. For instance, while all features (except person) seem to be relevant for adjectives in the Scandinavian languages, definiteness is not shown in German. Consider the specifications of the individual elements in their base order (top down):

- (33)
- |            |   |
|------------|---|
| Adjective  | [ Person/Definiteness; Number; Gender]  |
| Determiner | [ +Person/Definiteness; Number; Gender] |
| Number     | [ Person/Definiteness; +Number; Gender] |
| Noun       | [ Person/Definiteness; Number; +Gender] |

Although lower in the DP structure, we have arrived at the same hierarchical location of features as in Ritter (1991). As discussed in chapter 4 in more detail, concord inside the DP is brought about by valuing all the features on the overt determiner in art. The determiner then raises through the head positions of the AgrPs valuing the features of the adjectives on through Card and finally to D valuing the features of this null head. Finally, we look at the different kinds of movements inside the DP with regard to potential Relativized Minimality violations. I concentrate on possessor movement and head movement.

Cardinaletti (1998: 19) argues that the possessive pronoun in (34a) is in its base-position and, when deficient, it must move to the pre-nominal position in (34b):

- (34) a.    la   bella casa   sua   (Italian)  
               the nice house his/her  
       b.    la sua bella casa

Furthermore, while Cinque (1994) among many others argues that the head noun undergoes (partial) N-raising, I argue that the determiner is base-generated in artP and moves to the DP. The relevant movements for (34a-b) are schematized in (35a-b):

- (35) a.    [DP **la**<sub>i</sub> [XP           [AgrP **bella** [ **casa**<sub>k</sub> [artP **la**<sub>i</sub> [nP **sua** [NP **easa**<sub>k</sub> ]]]]]]]]]  
       b.    [DP **la**<sub>i</sub> [XP **sua**<sub>j</sub> [AgrP **bella** [ **casa**<sub>k</sub> [artP **la**<sub>i</sub> [nP **sua**<sub>j</sub> [NP **easa**<sub>k</sub> ]]]]]]]]]



Assuming that the possessive is in a Specifier position (cf. footnote 9 above), the question arises why the possessive may move across another Specifier, the adjective, and the head noun may raise over the determiner.<sup>19</sup> These are potential Relativized Minimality (RM) violations. We know from discussions of argument structure inside the DP and extraction facts (e.g. Valois 1991, Mallén 1991, Ticio 2003) that there are restrictions on movement. In other words, we cannot simply stipulate that RM does not hold in the noun phrase. In order to allow for these crossing movements, another solution must be found.

Discussing the different blocking effects of quantificational adverbs and modifiers in the A'-system, Rizzi (2001: 104) argues that restrictions on movement cannot be accounted for by a purely geometrical approach, that is, Specifiers blocking the movement of other Specifiers (as is sometimes claimed in the literature dealing with movements inside the DP). Rather, minimality is determined within classes of features, but not across them. For present purposes, I assume then that possessives and adjectives as well as determiners and head nouns do not share the same relevant class(es) of features.<sup>20</sup>

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<sup>19</sup> It is by no means clear that N-raising is actually involved (in all the Romance languages). For instance, Sánchez (1996: 213) concludes that an account other than N-raising must be invoked for examples such as (i):

- (i)            una [ ladrona de joyas finas ]          torpe                                (Spanish)  
                 a thief of jewelry expensive clumsy  
                 'a clumsy thief of expensive jewelry'

See also the discussion in Bouchard (1998, 2002), Lamarche (1991), Svenonius (1993b: 451-2), Ticio (2003), Valois (1991: 163-5), and Kester (1996: 35; but Bernstein 1993: 49); for a similar point for Hebrew and Arabic, see Shlonsky (2004) and, more generally, Cinque (2005). As this is not of central interest here, I will assume traditional N-raising for the rest of this dissertation.

<sup>20</sup> In fact, in minimalism, intervening elements intervene only if they share the relevant features with the lower element being attracted. Note that there are also two technical instantiations that do not involve features and allow heads to move across heads: (i) we could follow Baker & Hale (1990) in that lexical heads can “skip” functional ones (and vice versa) or (ii), we could follow Roberts (1991, 2001) in assuming that excorporation is possible under well-defined conditions.

## 4. Overview of the Chapters

In the last two sections, I provided the main hypothesis of this work and motivated the most relevant background assumptions with regard to the structure of the DP. Assuming that determiners are base-generated in a low artP and move to DP, a number of morpho-syntactic phenomena can be accounted for in a straightforward way. Concentrating on the Germanic languages, especially the Scandinavian languages and German, I now turn to a brief overview of the individual chapters. My goal here is to illustrate the kind of problems this approach is meant to address and to provide some idea as to what theoretical conclusions will be reached.

This dissertation is organized as follows: chapter 2 is concerned with the syntactic distribution of determiners in the Scandinavian languages. In chapter 3, I deal with the semantic distribution of determiners, especially with regard to an explanation of non-/restrictive readings of modifiers in the Scandinavian languages. Chapter 4 discusses some morphological consequences for German; in particular, it provides an account of the weak/strong alternation of adjective endings. In chapter 5, the main results are summarized.

### 4.1. *Chapter 2: Syntactic Distribution of Determiners*

It is well-known that the Scandinavian languages have an interesting morpho-syntactic asymmetry between homogenous simple DPs, here exemplified by Norwegian in (36), and diverse modified DPs, as in (37):

- (36) mann-**en** (Norwegian)  
 man-the
- (37) a. **den** gamle mann-**en** (Swedish)  
 the old man-the
- b. **den** gamle mand (Danish)
- c. gamli maður-**inn** (Icelandic)

Bearing in mind that both simple and modified DPs can basically be used in the same semantic contexts, the variation in (37) and its lack in (36) is surprising. The apparent difference between (36) and (37) is the absence vs. presence of the adjective.

I will assume that the determiner has to value an unspecified [definite] feature of D. In a simple DP, this valuation is assumed to take place long-distance. In other words, the determiner in art does not have to move to D to value this feature. As for a modified DP, I argue that adjectives, or more generally modifiers, are interveners with regard to long-distance agreement but not movement. With an intervening adjective present, the determiner has to move to DP to value the feature of D. I propose that languages differ in the way they circumvent the blocking effect of the modifier: illustrating that both determiners in (37a) have different semantic import, I will suggest that the article is “split up” in these cases; one part moves to DP, the “stranded” part undergoes PF Merger with the partially raised head noun. Unlike Swedish, Danish and Icelandic do not allow splitting of their articles. The difference between the latter languages is that Danish moves its article to DP overtly and Icelandic covertly. Finalizing the derivations for the

simple DP in (36) and Icelandic in (37c), the phrasal node containing the article and the noun (artP) in the former case and the phrase containing the adjective, article and noun (AgrP) in the latter case move to Spec,DP to license the DP with regard to referentiality. Finally, the article in art undergoes PF Merger with the noun.

To sum up: what is new in this discussion of the Scandinavian noun phrase is the interpretation of modifiers as interveners, that articles can be split up, and that the suffixal determiner is brought about by PF Merger. The first two points crucially hinge on the hypothesis that determiners move from artP to DP. Additional support for this claim is provided by the discussion of the rise of the suffixal determiner in Early Scandinavian (where we revisit the Panchronic Paradox) and by cross-linguistic evidence for a lower position of determiners and the possibility of splitting them up.

#### 4.2. *Chapter 3: Semantic Distribution of Determiners*

In contrast to the cross-linguistic variation of DPs modified by adjectives, there is another interesting morpho-syntactic asymmetry. This asymmetry is within one and the same language, that is, between homogenous DPs modified by adjectives (38) and heterogeneous DPs modified by restrictive relative clauses (39). This inner-language “variation” with relative clauses seems to be parallel to the inter-language diversity with adjectives in (37), where (39a) presents the “Swedish” pattern, (39b) the “Danish” one, and (39c) the “Icelandic” form:

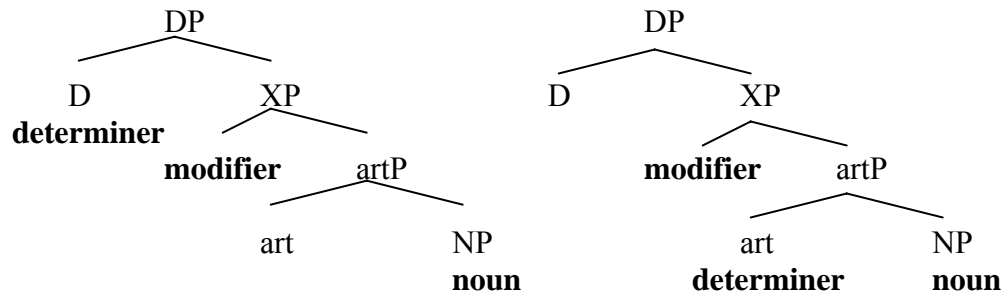
(38) **den gamle mann-en** (Swedish)  
 the old man-the

(39) Har du sett { a. **den pilot-en** } som ska köra vårt plan? (Swedish)  
 have you seen { the pilot-the } who will drive our plane  
 { b. **den pilot** }  
 { the pilot }  
 { c. **pilot-en** }  
 { pilot-the }

Extending the notion of interveners to relative clauses, this morphological asymmetry is proposed to follow from the uniform Specifier position on the left for adjectives and the different adjunction sites on the right for relative clauses. The discussion of the syntactic variation with adjectives in (37) and relative clauses in (39) allows for a derivation of the different interpretations of modifiers with regard to non-/restrictiveness at little extra cost.

Interpreting determiners as scope-bearing elements, the restrictive interpretation is derived by interpreting the determiner in its derived position (40a) and the non-restrictive one by interpreting it in its base-position (40b) (abstracting away from word order):

- (40) a. *restrictive interpretation*      b. *non-restrictive interpretation*



The discussion of (40a) provides a simple solution to the “Partee-Chomsky debate”.<sup>21</sup> As for appositive modifiers, I suggest that they come in two types, a “syntactic” and a “parenthetical” one. Discussing the former in more detail, I propose that semantic atoms (types <e> and <t>) can be sent off individually in a model of multiple semantic spell-out. Arguing that appositive modifiers are propositions, multiple spell-out explains how these modifiers are interpreted as conjunctions to their hosting proposition although, syntactically, they are part of a DP.

To reiterate the main new ideas: rather than moving the modifier to derive the different interpretations, the determiner itself moves and is interpreted in different positions. Non-restrictive modifiers are propositions interpreted as conjunctions to their hosting proposition in a model of multiple semantic spell-out. The discussion is extended to adjective interpretation in the Romance languages.

<sup>21</sup> Briefly, while Partee (1976) claimed that restrictive modifiers combine first with nouns before their intersection combines with determiners, Chomsky (1975) pointed out that this does not always seem to be the case.

### 4.3. Chapter 4: Morphological Reflexes in German

This chapter provides more evidence for the claim that determiners are base-generated in a low position and move to the DP. Although admittedly more indirect, I argue that this evidence comes from the weak/strong alternation of adjective endings in German. To this end, the Principle of Monoinflection in German will be discussed at length and forms a thread throughout the investigation. Chapter 4 is divided into three parts.

Part I is concerned with the nature of the Principle of Monoinflection. My interpretation of this well-known morphological principle is provided here in its simplest form:

#### (41) *Principle of Monoinflection*

The first element within a noun phrase carries the strong and the second one the weak ending.

To illustrate, three syntactic contexts need to be distinguished: while the overall generalization in (41) is true for adjectives with a weak or strong ending following a definite or no (overt) article, as in (42a) and (42b), respectively, it does not seem to hold for the “mixed” declension following an indefinite article, as in (42c):<sup>22</sup>

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<sup>22</sup> The following abbreviations will be used throughout: NOM = nominative case, ACC = accusative, DAT = dative, GEN = genitive; M = masculine, N = neuter, F = feminine, and PL = plural.

- (42) a.    der                   gute           Wein  
           the(NOM.STRONG) good(WEAK) wine(M)  
           'the good wine'
- b.    guter                   Wein  
           good(NOM.STRONG) wine(M)  
           'good wine'
- c.    ein       guter                   Wein  
           a(WEAK) good(NOM.STRONG) wine(M)  
           'a good wine'

What is interesting about (42c) is that not only is the strong ending on the second element but a null weak ending, assumed here and argued for below, is also on the first element. In other words, the endings seem to have been “switched” from (42a).

Reformulating the Principle of Monoinflection as a language-specific rule, I propose that the strong ending is assigned by the clausal predicate to the “closest” overt element at the time the DP phase is merged into the clausal one. The weak ending is licensed by default in PF on the remaining elements. Returning to (42c), rather than treating these cases as exceptions, I propose that the determiner is below the adjective at the point the strong ending is assigned. Consequently, the adjective receives the strong ending. After that, the determiner moves to DP to precede the adjective on the surface.

As a result, I arrive at the following conclusions: (i) singular structurally case-marked elements are special in German, (ii) weak and strong inflections are part of two *abstract* paradigms, (iii) the strong ending is some kind of phrasal suffix licensed under



c-command, and (iv) there are two morpho-syntactic relations with regard to the DP (an external one, that is, agreement between the clausal predicate and the DP (Principle of Monoinflection) and an internal one, that is, concord inside the DP).

Part II discusses different types of *ein* ‘a’. Arguing that *ein* can be a determiner, a numeral, or an adjective, I suggest that the first two cases are collapsed into one. Against this background, split NPs are discussed in detail. With respect to the Principle of Monoinflection, note that, similar to the “mixed” paradigm in (42c), both the unsplit noun phrase in (43a) and the split NP in (43b) also seem to violate it. Crucially, however, without an adjective, the split NP in (43c) does adhere to the generalization ( $e_N$  is a null noun):

- (43) a. Ich habe ein(\*es) Brot.  
           I have a(WEAK/\*STRONG) bread
- b. Brot habe ich ein frisches  $e_N$ .  
       bread have I a(WEAK) fresh(STRONG)
- c. (Frisches) Brot habe ich ein\*(es)  $e_N$ .  
       (fresh) bread have I one(STRONG/\*WEAK).

As part of the more general discussion of split-NPs, I argue that a strong inflection on the determiner or adjective is neither a necessary nor a sufficient condition to license the null element  $e_N$  in (43b-c). Rather, I propose that due to a syntactic condition, the determiner in (43c) moves to D “earlier” to license the split NP. Consequently, *ein* gets a strong

ending. This early movement does not take place in (43a-b) and it is suggested that the determiner is not in an appropriate (L-marked) position to have a strong ending licensed.

To foreshadow the main new ideas, split-NPs are analyzed as involving the base-generation of two independent noun phrases in a complex VP brought about by sideward movement of the verb. One of them undergoes subsequent movement to the left. This hybrid approach derives all the well-known paradoxical data: characteristics indicating base-generation of two separate noun phrases follow from sideward movement of the verb between two noun phrases and those showing movement follow from movement and the semantic calculation of  $e_N$  on the basis of the moved element.

In Part III, I discuss combinations of pronouns and nouns. Arguing in favor of a complementation analysis (rather than apposition), I provide further evidence that pronouns are determiners. Like some determiners discussed in part I, they may move to the DP at different times:

- (44) a.     { kein / ich / du } armer        Idiot  
          { no / I / you } poor(STRONG) idiot(M)  
      b.     { keine / wir / ihr } armen        Idioten  
          { no / we / you } poor(WEAK) idiots

Finally, I discuss concord facts involving phi-features. I argue that concord is brought about by the copies left behind by movement of the determiner.

More generally, if we assume that determiners are base-generated in artP and move to DP, then these syntactic, semantic, and morphological phenomena, although apparently unrelated, find a uniform account.

## Chapter 2: The Syntactic Distribution of Determiners

### 1. Introduction

The distribution of the definite article in the Scandinavian languages has received a lot of attention. To illustrate the basic patterns, consider the well-known fact that, with the exception of Western Jutlandic (Julien 2002) and perhaps the dialect of Eastern Nyland (footnote 45), all Scandinavian languages have a homogeneous pattern with definite unmodified DPs. In these cases, the article is suffixed to the noun:

- |     |    |           |                    |
|-----|----|-----------|--------------------|
| (1) | a. | maðr-inn  | (Old Icelandic)    |
|     |    | man-the   |                    |
|     |    | ‘the man’ |                    |
|     | b. | maður-inn | (Modern Icelandic) |
|     | c. | mand-en   | (Danish)           |
|     | d. | mann-en   | (Norwegian)        |
|     | e. | mann-en   | (Swedish)          |

However, there is considerable syntactic variation with modified DPs. Concentrating on DPs modified by adjectives (for a discussion of relative clauses, see chapter 3), note that, while Old and common Modern Icelandic have a suffixed article, literary Icelandic and

Danish have a free-standing one. Finally, Norwegian and Swedish have both a suffixed and a free-standing determiner, which I will refer to as the “Double Definiteness effect”:<sup>1</sup>

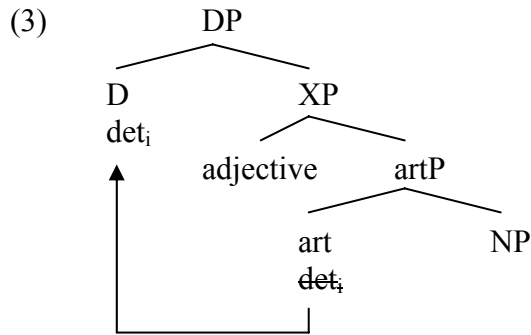
- (2) a. maðr-**inn** gamli (Old Icelandic)  
man-the old  
‘the old man’
- b. gamli maður-**inn** (common Modern Icelandic)
- b’. **hinn** gamli maður (literary Modern Icelandic)
- c. **den** gamle mand (Danish)
- d. **den** gamle mann-**en** (Norwegian)
- e. **den** gamle mann-**en** (Swedish)

Considering that both unmodified and modified DPs can basically occur in the same semantic contexts, this difference is surprising and needs to be accounted for.

Documenting that the two determiners in (2d-e) have different semantic import, I propose that, similar to demonstratives (Brugè 1996, 2002), articles can also be split up in some languages. Part(s) of the determiner can then move to the DP, illustrated here in its simplest form:

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<sup>1</sup> With regard to Double Definiteness, Alexiadou (2003) discusses Greek, Hebrew, and Swedish. She concludes that this phenomenon has different properties in each of these languages. In view of this conclusion, the language-specific details of the following discussion are meant to be applied to the Scandinavian languages only.



Since this determiner split only occurs if an adjective intervenes between art and D, I argue that adjectives are interveners that “block” long-distance agreement between art and D but not movement of the determiner. If this interpretation of the facts is correct, this discussion provides an argument for the main proposal of this work.<sup>2</sup>

The chapter is organized as follows: after motivating the lower position of artP by illustrating different word orders in Early Scandinavian (section 2), I formalize the diachronic reanalysis of the demonstrative as an article in section 3. In order to account for the variation and change, the determiner is proposed to move from artP to DP. Section 4 provides more cross-linguistic evidence for a lower artP and movement of determiners. Before the conclusion, I provide my own account of the Scandinavian DP and compare it to Julien’s (2002) analysis.

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<sup>2</sup> An alternative, pointed out to me by Željko Bošković (p.c.), might be to regard the lower determiner as a resumptive element, repairing some locality violation. Noting that the lower determiner has different semantic import from the upper one (see below), I will not investigate this possibility here.

## 2. Word Order Possibilities of Demonstratives and Articles in Early Scandinavian

Recall from chapter 1 that historically related determiners may have a different syntactic distribution:

### (4) *Panchronic Paradox*

Diachronically related elements may occur in different synchronic positions.

To illustrate this, I briefly discussed the distribution of articles and demonstratives in Swahili. I now turn to a more detailed discussion of a similar phenomenon in the Scandinavian languages.

In this section, I formalize in  $X'$ -theoretic terms the change from the Early Scandinavian demonstrative *hinn* to the article: pre-nominal (*hinn*) in literary and post-nominal (*-inn*) in common Modern Icelandic.<sup>3</sup> Considering that these articles have the same historical source but different contemporary distributions, this presents another case of a Panchronic Paradox. In order to explain this, I propose that, while the pre-nominal, free-standing article moves to D overtly, the post-nominal, suffixal one raises covertly. First, I consider three stages of Early Scandinavian, illustrating different word orders of the demonstratives and articles with regard to the head noun.

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<sup>3</sup> To be clear, the following discussion will concentrate on how this historical change occurred structurally but not on why and how it spread (for discussion, see among many others Abraham 1997, Diessel 1999: chap. 6, Lyons 1999: chap. 9, Oubouza 1997, Philippi 1997, Vincent 1997). Note that the next two sections are a revised version of Roehrs & Sapp (to appear). In that paper, Chris Sapp was responsible for section 2 and I for section 3. For some other issues not discussed here, see their original paper.

### 2.1. Proto-Scandinavian

Proto-Scandinavian is attested in runic inscriptions in the Elder Futhark (2<sup>nd</sup>-8<sup>th</sup> centuries). In these inscriptions, there are two demonstratives: *sá* and *hinn*. The demonstrative may precede the noun, regardless of whether it is *sá* (5a) or *hinn* (5b):<sup>4</sup>

- (5) a. **þat azina** (By, RāF 71)  
this stone-slab
- b. **a hitt lant** (Eggja; RāF 101)  
to this land

However, the demonstrative may also follow the noun, both with *sá* (6a) and *hinn* (6b).

- (6) a. **runaz þaiaz** (Istaby, RāF 98)  
runes these
- b. **hali hino** (Strøm, RāF 50)  
stone this

Neither of these orders is dominant: the entire corpus consists of four examples of the sequence demonstrative-noun (dem-N) and three of noun-demonstrative (N-dem). There are no examples that contain both a demonstrative and an adjective.

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<sup>4</sup> Determiners and head nouns agree with regard to gender, case, and number, which I do not mark here. The examples in sections 2.1 and 2.2 are taken from RāF (Krause and Jankuhn 1966) and *Södermanlands/Upplands Runinskrifter*. I follow the convention of transcribing the runic inscriptions with bold, lower-case letters. For clarity, I also use bold print for indicating the pronounced elements in the derivations.



## 2.2. Common Scandinavian

After the 9<sup>th</sup> century, the North Germanic runic inscriptions are in a different alphabet (the Younger Futhark), and there are many more inscriptions. At this stage, there are three types of demonstratives: the old *sá*, which is now the distal demonstrative ‘that’, *sási/þessi*, a strengthened form of *sá* with the local meaning ‘this’, and *hinn*.

At this period, the order N-dem has reached 98% for *sási/þessi*, whereas *sá* is too scantily attested to draw any conclusions (Perridon 1996: 252). On the other hand, *(h)inn* seems to be well on the way to becoming a determiner. At the beginning of this period, it never occurs in a simple DP, but is found only when an adjective is present. Compare (7a) and (7b), where the determiner in (7b) is suffixed to the head noun:

- (7) a. **kunar ... lit kiara mirki fr sial ...** (Uppland 312)  
Gunnar ... let make monument for soul ...  
‘Gunnar ... had (the) monument made for (the) soul ...’
- b. **tati iok ... mirki-t mikla eftiR faþur sin** (Södermanland 41)  
Tate cut ... monument-the big after father his  
‘Tate carved the big monument in memory of his father’

Many instances of *(h)inn* occur with an inherently uniquely referring element, here a proper name:

- (8) a. **in heilhi kristr** (Södermanland 125)  
the holy Christ
- b. **kristr hin helgi** (Uppland 391)  
Christ the holy

This occurrence of the determiner shows that in some cases, *(h)inn* has lost its deictic force as a demonstrative and may now have properties of an expletive, in that it seems to have a purely syntactic function in (8). Free-standing, postnominal *(h)inn*, as in (8b), presumably formed the basis for the suffixed determiner in (7b).

In the 11<sup>th</sup> century (cf. Noreen 1970:316), we find the first attestation of the article *hinn* with no adjective (the example is taken from Wessén 1970:30):

- (9) **kup hialbi ant-ini** (Uppland 669)  
god help soul-the

Crucially, the article is in its suffixal form, suggesting it originated in phrases like (7b), where adjectives were present.

### 2.3. *Old Icelandic*

Old Icelandic (13<sup>th</sup>-15<sup>th</sup> centuries) is directly descended from Common Scandinavian. It has reversed the relative order of the noun and the demonstrative: *sá* and *þessi* usually appear as dem-N. As for *(h)inn*, it has split into two distinct functions. The first is the

article, no longer having deictic force. When an adjective is present, the article occurs pre-adjectivally (10a-c); when there is no adjective, the article appears post-nominally (10d). The second function of *(h)inn* is as a demonstrative, where it can appear in a position not available to the article, that is, directly before the noun, as in (10e). Furthermore, it can occur before the adjective, as in (10c). In other words, *(h)inn* in (10c) is ambiguous between an article and a demonstrative:

- (10) a. maðr-inn gamli  
           man-the old  
       b. maðr (h)inn gamli  
       c. (h)inn gamli maðr  
       d. maðr-inn  
       e. (h)inn maðr

While the presence of ‘h’ can presumably be taken as an indication that the determiner was a free-standing element, its lack in (10b-c) does not necessarily indicate that it is a clitic or an affix.

#### 2.4. Schematic Summary

The demonstrative *hinn* gradually developed into a definite article, as shown in table 1. Only a demonstrative in Proto-Scandinavian, the first clear instances of *(h)inn* as an

article occur in modified DPs in Common Scandinavian. Besides this use, we also find the article suffixed to unmodified DPs in Old Icelandic.

Table 1: Kinds of Demonstratives and Articles in Early North Germanic

language	demonstrative	article
Proto-Scandinavian	<i>sá, hinn</i>	-
Common Scandinavian	<i>sá, þessi [hinn]</i>	<i>(h)inn</i> (before adjectives only)
Old Icelandic	<i>sá, þessi, (h)inn</i>	<i>(h)inn</i> (before adjectives) and <i>-inn</i> (clitic)

Marked by brackets in table 1, the demonstrative *(h)inn* is not attested in unmodified DPs in Common Scandinavian. However, considering the occurrence of the demonstrative *hinn* in Old Icelandic and the probability that the grammaticalization channel “demonstrative > article” is irreversible (i.e., indexical force is usually lost), I believe that it must have existed in Common Scandinavian as well (see also footnote 11).

Table 2 summarizes the possible positions of the demonstratives and definite article in the various stages for the unmodified DP. After an equal distribution in Proto-Scandinavian, Common Scandinavian shows a clear preference for N-dem. In the latter language, we begin to find the first clear instances of articles. With the completed development of the definite article in Old Icelandic, a division of labor seems to have developed in the simple DP between the pre-nominal position used by the demonstrative (reversing the Common Scandinavian preference) and the post-nominal position used by the article.

Table 2: Positions of Demonstratives and Articles in Early North Germanic

language		dem - N	N - dem
Proto-Scandinavian		+	+
Common Scandinavian		few	+
Old Icelandic	<i>sá, þessi</i>	+	few
	<i>(h)inn</i>	+ (demonstrative)	+ (clitic article)

### 3. Formalizing the Development of the Suffixed Article

In the last section, we saw that the determiner system in Early North Germanic underwent some great changes. I now turn to some of these changes and make them more formal. Again following Roehrs & Sapp (to appear), I first provide some evidence that demonstratives are phrases (see also section 4.2. below) and, as such, they are assumed to be in Specifier positions. Next, considering the order N-dem, I discuss three potential analyses, concluding that the demonstrative is base-generated in a lower Specifier position of an article phrase (artP) and that the head noun moves across that Specifier to the DP. Then, I suggest that this resulting order forms the basis of the reanalysis of the demonstrative in the Specifier position as a suffixed article in a head position. This reanalysis occurs in a local domain, namely in one and the same phrasal projection:



- b. min utbrukte sko  
my worn-out shoe
- c. denne min utbrukte sko  
this my worn-out shoe

In order to account for the contrast in (12a) and (12c), I suggest that the demonstrative in (12c) is not part of the DP proper but adjoined to it. If we follow Emonds' (1976) Structure-preserving Principle in that only phrases can adjoin to other phrases, then we can conclude that this higher position is phrasal adjunction to DP.<sup>5</sup> A parallel argument can be derived from German.

Demonstratives and (certain) possessives differ in that the former “trigger” a weak ending on the adjective whereas the latter co-occur with a strong adjective. Compare (13a) to (13b). When the demonstrative precedes the possessive, the adjective has the inflection, triggered by the possessive. In other words, the higher demonstrative in (13c) does not have a morphological impact on the DP:

- (13) a. dieses große Glück  
this great(WEAK) happiness
- b. mein großes Glück  
my great(STRONG) happiness
- c. dieses mein großes Glück  
this my great(STRONG) happiness

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<sup>5</sup> Originally, Emonds' (1976) Structure-preserving Principle dealt with substitution (with regard to elements of the same lexical category). Later, this was extended by Chomsky (1986) to adjunction (with regard to the same X'-level).

As above, I suggest that this demonstrative is not part of the DP proper. Rather, it is adjoined to DP – a phrasal position.<sup>6</sup> Note here that the distribution in (13c) is a “marked” option as only the demonstrative may precede the possessive and the reverse order is not possible (see chapter 4 part II).

Finally, although the demonstrative is not part of the DP proper, there is evidence that it is part of the noun phrase as a whole. Besides the general fact that this construction can be followed by a finite verb (V2 effect), demonstratives can also be “sandwiched” between quantifiers and the DP proper (cf. also Vater 1991: 28-9, Duden 1995: 286, Bhatt 1990: 217):

- (14) a. alle diese meine Freunde  
           all these my friends  
       b. (?) diese alle meine Freunde

In chapter 4 part I, I propose that *alle* ‘all’ is a head of another DP. If so, then the demonstrative is adjoined to the lower DP in (14a) and to the higher one in (14b).

In this section, I have argued that demonstratives are adjoined to DP when they co-occur with a possessive. Crucially for our purposes, I concluded that demonstratives

---

<sup>6</sup> The question arises whether the demonstrative is adjoined to the DP proper (left-adjunction), as assumed so far, or whether the DP proper is adjoined to the demonstrative (right-adjunction).

Besides the ban against right-adjunction of this sort (see section 3.2 below), there is some empirical evidence that left adjunction of the demonstrative is more plausible. While typical cases of right-adjunction (e.g., appositives) have no requirement on agreement in definiteness (ia), there seems to be such a condition with the constructions involving *diese* outside the DP proper. Compare (ib) to (ic):

- (i) a. Peter, ein Freund von mir  
           Peter, a friend of mine  
       b. diese [ alle \*(meine) Freunde ]  
           these all my friends  
       c. alle (meine) Freunde

This contrast between (ia) and (ib) follows from the assumption that left-adjunction of this sort is subject to agreement in definiteness whereas right-adjunction is not.



are phrasal (see also section 4.2). Before I turn to the details of the change from the demonstrative to the article, let us consider the structure of the assumed source of the reanalysis, the order N-dem.

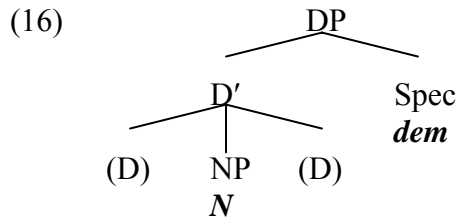
### 3.2. *Three Options to Derive the Order N-Dem*

In the last section, I argued that demonstratives are in phrasal positions. In section 2, I illustrated that demonstratives can appear both before and after the head noun in Proto-Scandinavian. This then raises the question of how the order N-dem is to be analyzed. The relevant data are repeated here for convenience:

- (15) a.     **runaz þaiaz**  
          runes these
- b.     **hali hino**  
          stone this

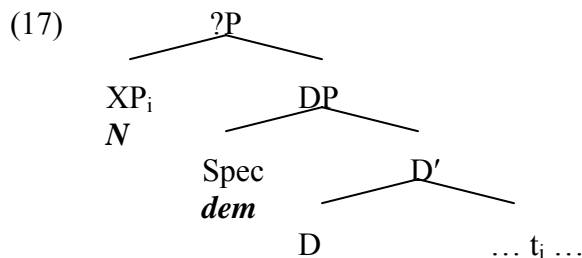
In order to derive the order N-dem, we could assume that either the demonstrative is in a different base-position, the head noun (as part of an XP) moves across the demonstrative, or a combination of these two assumptions. In what follows, I discuss these three options, concluding that the base position of the demonstrative is not in Spec,DP but lower in the structure and that the noun moves across it.

As a first option, one could assume that the demonstrative is in Spec,DP and that this Specifier position is on the right:



However, following Kayne (1994), I assume that Specifiers on the right are universally disallowed, thus concluding that this option is not available. Likewise, I assume that right adjunction of this sort, that is, of the demonstrative to the noun phrase is universally disallowed.

As a second option, one could propose that the demonstrative is in Spec,DP and that this Specifier position is on the left, as in most standard accounts. In order to derive the order N-dem, one could suggest that the head noun, contained in another phrase (XP), moves across Spec,DP to a higher position, illustrated here as Spec of ?P:



This option also presents a number of problems. Consider two scenarios, the first involving movement due to Scrambling, the second movement due to feature checking.

First, if ?P in (17) equals DP, then XP has moved to adjoin to DP, presumably due to Scrambling. In section 3.1, I observed that left adjunction to DP is a very “marked” option and is typically only possible with demonstratives (*denne min utbrukte sko* ‘this

my worn-out shoe'). Furthermore, while the adjunction discussed in 3.1 presented a case of base-generation, the type in question here would involve movement to an adjoined position of an argument, banned by Chomsky (1986).<sup>7</sup> I conclude then that this option is not available.

In the second scenario, ?P in (17) equals YP. I assume that YP stands for some phrase level in the left periphery of a split-DP (see Haegeman 2004: 236-9, extending ideas of Rizzi's 1997 split-CP). In this case, movement to the peripheral Spec,YP is assumed to be driven by feature checking in a Spec-head configuration. Note now that the noun in the N-dem order is neither focused nor topicalized. If so, it is not clear what feature the noun (as part of XP) would check in the peripheral Spec,YP. If movement to this position is only triggered by feature checking, I conclude that the noun cannot have moved to Spec,YP either.<sup>8</sup>

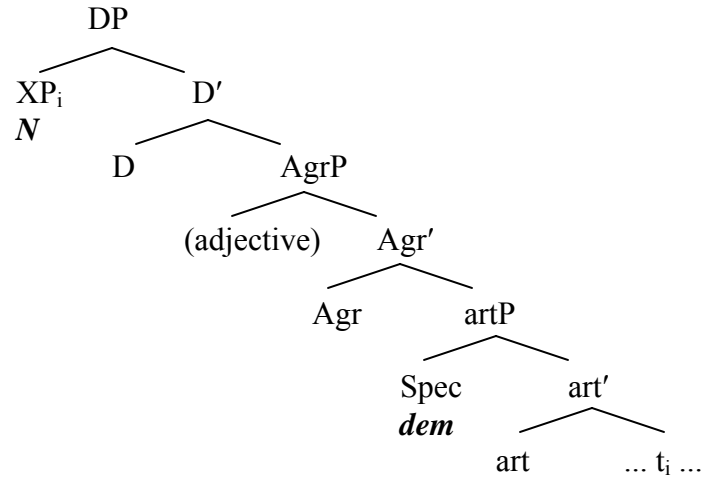
As a final option, I propose that the demonstrative is generated in a lower Specifier position. Following Julien (2002) and Vangsnes (1999, 2004), I assume that determiners are merged in an article phrase (artP). In particular, I suggest that demonstratives are merged in Spec,artP (cf. Brugè 1996, 2002; Campbell 1996; Giusti 1997, 2002; Grohmann & Panagiotidis 2004; Panagiotidis 2000; Vangsnes 1999: 119-20). In order to derive the order N-dem, I propose that the demonstrative remains in situ and that the head noun as part of a larger phrase moves to Spec,DP:

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<sup>7</sup> Chomsky's work has been interpreted in different ways: while Marcel den Dikken (p.c.) observes in a different context that Chomsky's system left room for adjunction to DP if brought about by base-generation, Željko Bošković (p.c.) points out to me that Chomsky's intention was to rule out all adjunction to arguments (for some evidence, see Bošković 2004: 691 fn. 12). If we follow the latter, stronger claim, then, in contrast to the discussion in the text above, we must assume that the demonstrative is only adjoined after the DP has moved out of its theta-position (for discussion of quantifier float in this context, see Bošković 2004).

<sup>8</sup> Furthermore, there is some indication that (some of) the Scandinavian languages do not have split DPs. For instance, as discussed by Grohmann & Haegeman (2003), Norwegian, unlike West Flemish, does not allow noun phrase-internal left dislocation or possessor-related Quantifier Float.

(18)



Following the traditional literature, I suggest that the order N-*dem* forms the basis for the change from the post-nominal demonstrative to the suffixed definite article (cf. especially footnote 11).

### 3.3. *Reanalysis from Demonstrative to Article*

In what follows, I propose in more formal detail that the diachronic reanalysis of the demonstrative to the definite article progressed via several steps. In the course of this discussion, I illustrate the basic derivations for the above data.

The Proto-Scandinavian examples motivate the lower position of the demonstrative. Assuming that referential noun phrases must have overtly licensed DPs (cf. Longobardi 1994), I suggest that Proto-Scandinavian had the option of moving either the demonstrative or the noun (as part of NP) to Spec,DP. The first option is provided in (19b) and the second one in (20b):<sup>9</sup>

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<sup>9</sup> If NP moves to Spec,DP, we might expect that its complements move along. While I have no evidence for or against this in Proto-Scandinavian, common Modern Icelandic allows its (non-pronominal) complements

- (19) a. **a hitt lant**  
to this land
- b. [DP **hitt**<sub>i</sub> D [artP t<sub>i</sub> art [NP **lant** ]]]

- (20) a. **hali hino**  
stone this
- b. [DP [NP **hali** ]<sub>k</sub> D [artP **hino** art t<sub>k</sub> ]]

In Common Scandinavian, the determiner has become obligatory when an adjective occurs. It has a purely syntactic function with an inherently uniquely referring element, here the proper name *kristr*:

- (21) a. **in heilhi kristr**  
the holy Christ
- b. [DP **in**<sub>i</sub> [AgrP **heilhi** [artP t<sub>i</sub> [NP **kristr** ]]]]

Assuming then that the determiner is a semantically vacuous, expletive element (see also section 5.2 below), I propose that it has moved to D (rather than Spec,DP). If so, the phrasal demonstrative has been reanalyzed as a free-standing article.<sup>10</sup>

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to vacate their base-position before AgrP moves to Spec,DP (see Vangsnes 2004). If so, then a low position of complements does not necessarily indicate N-to-D raising but leaves room to analyze a preceding noun as phrasal movement of the NP.

<sup>10</sup> There is independent evidence for the assumption that expletive determiners are in D (and not in Spec,DP). Longobardi (1994: 623) argues that proper names in Italian must undergo N-to-D raising if an expletive determiner as in (ia) is not present. Compare (ib) to (ic):

- (i) a. il mio Gianni (Italian)  
the my Gianni  
b. \* mio Gianni

In the course of the development from Common Scandinavian to Old Icelandic, the free article is suffixed to the head noun. As neither *hinn N* or *N hinn* sequences are attested in Common Scandinavian, suffixation must have resulted from the obligatory use of *hinn* with adjectives (as traditionally assumed).<sup>11</sup> With *inn* a head in D, as suggested for (21), there is room in Spec,DP for the noun (phrase). Therefore, frequent appositives involving proper names, as in (22a) with the structure in (22b), could *potentially* be reanalyzed as part of the matrix DP as in (22c), where the head noun (inside NP) would have moved to Spec,DP ( $e_N$  indicates a null noun):

- (22) a.     **kristr hin helgi**  
           Christ the holy
- b.     [DP     **kristr** ] [DP **hin**<sub>i</sub> [AgrP **helgi** [artP t<sub>i</sub> [NP e<sub>N</sub> ]]]]
- c.     [DP [NP **kristr** ]<sub>k</sub>   **hin**<sub>i</sub> [AgrP **helgi** [artP t<sub>i</sub>     t<sub>k</sub> ]]]

- 
- c.     Gianni mio  
       d.     il Gianni mio

The possessive in (id) can only have contrastive reference. As discussed by Cardinaletti (1998), the possessive in (id) is in situ, that is, in a low position that the proper name has moved across; the possessives in (ia-b) are in a higher position and (ic) is presumably ambiguous. Crucially, if we assume the expletive determiner to be in D, then the complementary distribution between this determiner and the (raised) proper noun in (ia) vs. (ic) follows straightforwardly.

<sup>11</sup> As pointed out above, this state of affairs is surprising in view of the fact that Old Icelandic did have the demonstrative *hinn*. If we assume that the change from a demonstrative to an article (phrase to head) is usually irreversible, then we must conclude that Common Scandinavian also had *hinn* as a demonstrative with unmodified nouns. The reason I believe that it is not attested has to do with its semantics. Taking Old Icelandic as a guide where *hinn* means ‘the other’ or ‘(emphatic) that’ (Zoëga 1910), the use of *hinn* in inscriptions would probably be pragmatically odd. Although unattested and usually not assumed to have formed the basis for this reanalysis, the unmodified sequence N-dem could be a second scenario for this change and subsequent suffixation:

- (i)    a.     [DP [NP **maðr** ]<sub>i</sub>   D   [artP **hinn** [art' art t<sub>i</sub> ]]]  
       b.     [DP [NP **maðr** ]<sub>i</sub>   D   [artP           [art' **inn** t<sub>i</sub> ]]]

To the extent that this possibility is correct, it would allow suffixation of *inn* in the DP-level (after movement of *inn* to D) or in the artP-level (after N(P) raising).

(At this stage, *hinn* is still a free-standing element as it has initial ‘h’.) I suggest that this potential reanalysis paved the way for the *actual* reanalysis of less-frequent appositives involving common nouns. Concretely, with the loss of an intonational break between the head noun and the article, the head noun inside NP can be analyzed to be in Spec,DP and *hinn* in D. The article can then be suffixed to the head noun (“+” indicates suffixation):

- (23) a.     **mirkit**        **mikla**  
               monument-the great
- b.     [<sub>DP</sub> [<sub>NP</sub> **mirki** ]<sub>k</sub> +**t<sub>i</sub>** [<sub>AgrP</sub> **mikla** [<sub>artP</sub> t<sub>i</sub> t<sub>k</sub> ]]]

Finally, although the first suffixed article without an adjective occurs in the 11<sup>th</sup> century (9), Old Icelandic still has free-standing and suffixed forms, here illustrated with the noun phrase *the old man* (10a-c):

- (24) a.     [<sub>DP</sub> [<sub>NP</sub> **maðr** ]<sub>k</sub> +**inn<sub>i</sub>** [<sub>AgrP</sub> **gamli** [<sub>artP</sub> t<sub>i</sub>        t<sub>k</sub> ]]]
- b.     [<sub>DP</sub> [<sub>NP</sub> **maðr** ]<sub>k</sub> **inn<sub>i</sub>** [<sub>AgrP</sub> **gamli** [<sub>artP</sub> t<sub>i</sub>        t<sub>k</sub> ]]]
- c.     [<sub>DP</sub>                    **inn<sub>i</sub>** [<sub>AgrP</sub> **gamli** [<sub>artP</sub> t<sub>i</sub> [<sub>NP</sub> **maðr** ]]]]]

This variation in Old Icelandic can be explained by two assumptions: (i) the article is still ambiguous between a free-standing and suffixal element (presumably due to inter- and/or intra-dialectal variation) and (ii) NP movement to Spec,DP is optional. The first assumption explains the facts in (24a) and (24b) and the second one explains the contrast between (24a-b) and (24c).

### 3.4. *Some Immediate Consequences*

The current proposal allows for a straightforward transition into Modern Icelandic (for a discussion of other Scandinavian languages, see section 5). Discussing some differences between literary and common Modern Icelandic below and in chapter 3, I assume here that these two varieties involve different dialects. In the former case (25), optional NP movement is lost:

- (25) a. hinn gamli maður (literary Modern Icelandic)  
the old man
- b. [DP **hinn**<sub>i</sub>+D [AgrP **gamli** [artP ~~hinn~~<sub>i</sub> [NP **maður** ]]]]

In the latter case (26), I suggest that over time, (overt) determiner movement to D is lost and movement of NP is replaced by movement of AgrP to Spec,DP (cf. Julien 2002, Vangsnes 1999, 2004). Suffixation becomes obligatory due to partial N-raising to art (cf. Taraldsen 1990). Consider these two main steps in the derivation:<sup>12</sup>

- (26) a. gamli maður-inn (common Modern Icelandic)  
old man-the
- b. [DP [AgrP **gamli** [artP **-inn** [NP **maður** ]]]j D ... t<sub>j</sub> ]
- c. [DP [AgrP **gamli** [artP **maður**<sub>k</sub>+**inn** [NP ~~maður~~<sub>k</sub> ]]]j D ... t<sub>j</sub> ]

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<sup>12</sup> In section 5, I argue that the suffixal determiner actually undergoes PF Merger with the noun in PF and, after reconstruction of AgrP, it moves to D in LF.



More generally, considering that the free-standing determiner in literary Modern Icelandic and the suffixal one in common Modern Icelandic derive from the same demonstrative, their different synchronic distribution is accounted for by overt vs. covert movement of the determiner to D (cf. footnote 12). As such, the apparent Panchronic Paradox in literary vs. common Modern Icelandic can be explained by adopting a single tree representation and the assumption of displacement of determiners. There are other consequences of this proposal.

It is well-documented that complementizers often evolved from demonstratives. Van Gelderen (2004: pp. 73) proposes for Germanic that this change consisted of the reanalysis of elements in a Specifier position to elements in a head position of the same phrase, that is, CP. If the analysis above is correct, I can extend van Gelderen's analysis of the complementizer system to the nominal domain (see also Philippi 1997: 90 for German). In fact, I have presented evidence that, like elements in CP, related "transitive" determiners can be of different structural sizes, as already hinted at in Holmberg (1999: 264), Giusti (1997: 120 fn. 12), and Vincent (1997: 165).

Cardinaletti & Starke (1999a) make a tripartite division of "intransitive" pronouns and determiners: strong elements are phrases, weak elements are deficient phrases, and clitics are heads. With regard to the discussion above, Cardinaletti & Starke (1999a) state that "the diachronic process involved with deficient/strong pairs is not an instance of the general [phonological] reduction process, but rather of the working of structural deficiency" (p. 225 fn. 61). If I interpret this statement correctly, then the historical development of the strong > weak > clitic partition is proposed to be the result of a structural change. Importantly, they explicitly deny the tripartite division for "transitive"

determiners (Cardinaletti 1994, Cardinaletti & Starke 1999b: 278). However, besides the discussion above, there is some conceptual and empirical evidence that their position might not be correct.

At the conceptual level, if we follow Postal (1966) and Panagiotidis (2002a,b; 2003a,b) in that (pronominal) determiners without an overt noun have an empty counterpart (*pace* Abney 1987, Chomsky 1995: 337), then there are no “intransitive” determiners to begin with. Under these assumptions, our extension of Cardinaletti & Starke’s (1999a) tripartite system is straightforward, namely from null head nouns to overt ones. On this analysis, determiners, as functional elements, would always take a complement in the sense of Grimshaw (1991). This, in turn, would make the structure of noun phrases uniform. With regard to an empirical argument, consider some non-European demonstrative systems.

As discussed by Cardinaletti & Starke (C&S), “intransitive” demonstratives can be of different sizes (columns two and three in table 3). However, “transitive” demonstratives can, in some languages, also be clitics, where their head status is reflected by incorporation (columns four and five):

Table 3: Different Structural Sizes of Demonstratives

lang. / “size”	French (C&S 1999b)	West Flemish (C&S 1996)	Yagaria (cited in Diessel 1999: 23)	Lango (c. in Rijkoff 2002: 181)
strong	<i>ça</i>	<i>deze</i>	<i>ma’i nina</i> ‘this water’	<i>búk mân</i> ‘book this’
weak	<i>ce</i>			
clitic	-	<i>ze</i>	<i>m-ígopa</i> ‘this.ground’	<i>búk-kí</i> ‘book.this’

I take the data from Yagaria and Lango to be empirical evidence that “transitive” determiners can be of different sizes. In Roehrs (2005a), the same claim is made for pronominal determiners such as *us* in *us linguists*.<sup>13</sup>

I began this section by arguing for the phrasal status of demonstratives. Observing that Proto-Scandinavian exhibits N-dem sequences, I motivated the claim that determiners are in a lower position. Following van Gelderen (2004), I proposed that the grammaticalization of the demonstrative to an article proceeded by reanalysis of a phrase

<sup>13</sup> One immediate extension for English is that the (unstressed) specific indefinite “demonstrative” *this* can be analyzed as a head (cf. Diessel 1999: 109, 138), having derived from the phrasal demonstrative *this* (similarly for certain uses of *that*, see Diessel 1999: 106-7). Another extension is the reanalysis of numerals as indefinite determiners (for some general discussion of German, see work of Oubouzar’s). Without going into detail, I will just point out two languages that are interesting in this respect.

Although the status of the lower indefinite elements in Turkish and Ladin, a Rhaeto-Romance language, is not entirely clear, both the numeral and the lower elements seem to occur in different positions (assuming that two (non-coordinated) adjectives do not form a constituent and thus cannot move into Spec,DP). The Turkish data are due Serkan Sener; Ladin is taken from Plank (2003: 338):

- (i) a. **bir** büyük yeşil araba (Turkish)  
 one big green car  
 ‘one big green car’  
 b. büyük yeşil **bir** araba  
 big green a car  
 ‘a big green car’
- (ii) da øna **na** skwadra (dialectal Ladin)  
 from one a team  
 ‘from one team’

It is interesting to note that the “heavy” numeral is higher than the indefinite element. I will not speculate here on why this is so.

to a head. Subsequent suffixation to the head noun occurred either in the DP level and/or in artP (cf. footnote 11). Relevant for the main point of this dissertation, movement of the article to D accounted for the Old Icelandic pattern and literary Modern Icelandic and loss of this (overt) movement accounted for the change into common Modern Icelandic. This difference in determiner movement provides a straightforward explanation of the Panchronic Paradox with regard to the historically related determiners in literary vs. common Modern Icelandic. Finally, the analysis provides some interesting consequences for Cardinaletti & Starke's (1999a) proposal. I now consider some more general consequences of the analysis.

#### **4. Unifying the Different Determiner Systems**

This section makes the claim of a low artP more generally. Furthermore, it connects the proposal of the rise of the suffixal article offered above to determiners in other languages. As such, this discussion represents a first step toward unifying the apparently different determiner systems of these (and other) languages. It is not my intention here to be exhaustive or to give complete and detailed analyses of all languages or phenomena. For present purposes, it suffices to provide more evidence for a lower position of artP. This discussion will set the stage for a more comprehensive analysis of the Scandinavian DP in section 5.

#### 4.1. *Demonstratives in Different Positions*

The claim that demonstratives can be in different positions is not novel (e.g. Bernstein 1993: 149, Dimitrova-Vulchanova & Giusti 1998: 338, Duffield 1996: 331, Giusti 1997: 109-10, Lyons 1999: 119-121, Plank 2003: 344-345). The most comprehensive discussion of these cases that I am aware of is Brugè (1996, 2002).

Brugè (1996, 2002) sets out three language types: (i) the demonstrative can be both pre- and post-adjectival, (ii) the demonstrative can only be post-adjectival, and (iii) the demonstrative is always pre-adjectival. While the first two language types provide straightforward evidence for a lower position of determiners, there is evidence from “stranded” intensifiers that demonstratives in the last type of language also originate in a lower position. I will call the latter constructions “split” demonstratives. In section 5, I make this discussion more general by developing the notion of a “split” determiner, which includes demonstratives, definite, and indefinite articles. We start by briefly reviewing Brugè’s three types of languages, including some of her examples.

In the first main group of languages, the demonstrative can be on the left as well as in a lower position. Postponing the discussion of the former case (cf. (30) below), the latter is illustrated here with Spanish and Greek ((27b) is taken from Panagiotidis 2000: 721):<sup>14</sup>

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<sup>14</sup> Similar facts hold for Catalan. Furthermore, there are also languages where the demonstrative can be in a lower position but there is no article on the left. For instance, the “marked” option in (ib) in Modern Icelandic seems to be a case in point (Vangnes 1999: 148 fn. 34):

- (i) a. **þessi** maður (Modern Icelandic)  
this man  
b. maður **þessi**

For a list of languages that shows that this is more general, see Rijkhoff (2002: 179-180).

- (27) a. El libro viejo **este** suyo de sintaxis no me convence. (Spanish)  
the book old this his/her on syntax not me convince
- b. i nei **afti** katiki tis polis (Greek)  
the new these inhabitants the-GEN city-GEN

Assuming N-raising in Spanish, the position of the demonstrative is below the adjective and above all the complements of the head noun. This is the phrasal level I have identified as artP. Besides the base-position and Spec,DP, demonstratives can also occur in intermediate positions. For instance, to the more restricted possibilities in Spanish (Brugè 1996: 13 fn. 15) and Serbo-Croatian (Brugè 1996: 44, Progovac 1998: 174 fn. 6, Trenkic 2004: 1312), I add the apparently more permissive (Ki)Swahili (Carstens 1991: 105-116):<sup>15</sup>

- (28) (**hili**) shati (**hili**) langu (**hili**) zuri (**hili**) (Kiswahili)  
this shirt this my this good this  
‘this my good shirt’

In Romanian, the demonstrative can appear in Spec,DP and in an intermediate position, but not in the base-position (for details, see Brugè 1996: 46, Giusti 1997, and footnote 18 below).

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<sup>15</sup> Carstens argues for N-to-D raising (for another language with a varying lower position of the demonstrative, see Rijkhoff 2002: 326 on West Greenlandic).

In the second principal type set out by Brugè, the demonstrative can only appear in its low base-position. Consider examples from Irish and Welsh ((29b) is taken from Roberts 2005: 92):

- (29) a. an leabhar nua **seo** faoi teangedaiocht (Irish)  
the book new this on linguistics
- b. y pum llyfr newydd **hyn** gan John (Welsh)  
the five book new this by John

As above, I assume that the lower demonstrative is in artP.

In the third main type of language, the demonstrative always appears on the left. However, assuming that demonstratives and their intensifiers are generated together (Brugè 1996, 2002; cf. Bernstein 1997, 2001), evidence for a low artP in these languages comes from the “stranded” intensifier. In other words, demonstratives originate low in the structure and then move to Spec,DP.

#### 4.2. “Split” Demonstratives

It is well-known that demonstratives can be complex elements. For instance, German *die+se* ‘(the+SE =) this’ (Haspelmath 1993), Karleby *he+di* ‘(the+DI =) that’ (Vangsnes 1996: 9), and Hebrew *ha+hu* ‘(the+he =) that’ (Ritter 1995: 420) consist of two identifiable parts. With this in mind, let us consider cases that are more complex.

Brugè (1996: 23-5) points out that Spanish, a language of the first type, has the option of leaving the demonstrative adjacent to the local intensifier or moving it away:<sup>16</sup>

- (30) a. El libro **este de aquí** está mal hecho. (Spanish)  
the book this of here is badly made
- b. **Este** libro **de aquí** está mal hecho.

As nothing can intervene between the relevant elements in (30a), she concludes that both parts are generated together in a complex Specifier (p. 27).<sup>17</sup> Considering a more complex noun phrase, we observe that, as expected, this Specifier position is below the adjective and above all the complements of the head noun. (31a) is derived as in (31b):<sup>18</sup>

<sup>16</sup> Bernstein (2001) argues that the lower demonstrative has a focus interpretation whereas the higher one does not. In order to explain the movement of the demonstrative in (b) and its lack in (a), we can follow Cardinaletti's (1998) proposal for possessives (chapter 1), according to which deficient (i.e. unfocused) elements have to move. For a similar proposal involving pronominal determiners, see Roehrs (2005a: 279-80 fn. 15).

<sup>17</sup> Spanish provides evidence that the demonstrative may stay in situ or move alone to Spec,DP. If the demonstrative and the intensifier are in a Specifier position, we might also expect the demonstrative and its intensifier to move together to Spec,DP. As pointed out by Brugè (2002: 26), Swedish seems to be a case in point (ia) (cf. Börjars 1998: 20-22). As far as I know, the intensifier cannot move by itself, stranding the demonstrative, as in (ib):

- (i) a. [ det här ] stora hus-et (Swedish)  
the here big house-the  
'this big house'
- b. \* [DP intensifier<sub>i</sub> [ ... [ demonstrative t<sub>i</sub> [NP noun ]]]]

To the extent that this is correct, one could assume that the intensifier cannot value the relevant feature on D (see below).

<sup>18</sup> If demonstratives can move across adjectives, as in (i), then the ungrammaticality in (ic) is presumably not due to a minimality effect brought about by moving the adjective over the demonstrative (Giusti 1995: 84):

- (i) a. acest frumos băiat (Romanian)  
this nice boy
- b. băiat-ul (acesta) frumos  
boy-the (this-A) nice
- c. frumos-ul (\*acesta) băiat  
nice-the (this-A) boy

Ruling out adjective movement in (ic), one could suggest that demonstratives in Romanian can only occur in the Specifier position immediately below the DP (ib), in the DP itself (ia), but not lower (ic). Other questions arise that I will not pursue here.



- (31) a. **Este** libro viejo **de aquí** de sintaxis está mal hecho.  
 this book old of here of syntax is badly made
- b. [DP **este<sub>i</sub>** libro<sub>k</sub> [<sub>AgRP</sub> **viejo** [<sub>artP</sub> t<sub>i</sub> **de aquí** [<sub>NP</sub> t<sub>k</sub> **de sintaxis** ]]]]

Assuming with Brugè and Bernstein that the demonstrative and the intensifier originate together and may be split up, the “stranded” intensifier indicates the base position of the demonstrative. If the notion of a “split” demonstrative is on the right track, then we have a means to probe into languages that apparently do not have direct evidence for determiners in lower positions. I turn to Brugè’s third type in more detail.

Taking German for illustration, the non-proximal demonstrative *das* can be intensified by *da* ‘there’. Recall from chapter 1 that head nouns in Germanic move out of the theta domain. Importantly, the intensifier appears to the right of the raised head noun. If *das* and *da* originate together and the demonstrative has moved from artP, then its intensifier *da* overtly shows its originating position (for a more detailed discussion, see section 5.3 below). I provide my own example for German and an example for Italian from Cardinaletti (1998: 18), where the representations in (b) give the simplified derivations for the examples in (a):

- (32) a. das schöne Bild **da** von Maria (German)  
 that nice picture there of Mary
- b. [DP **das<sub>i</sub>** schöne [<sub>artP</sub> t<sub>i</sub> **Bild<sub>k</sub>** **da** [<sub>NP</sub> t<sub>k</sub> **von Maria** ]]]]

- (33) a. Questo libro **qui** suo di sintassi non mi convince. (Italian)  
           this book here his/her of syntax not me convinces
- b. [DP **questo**<sub>i</sub> [ **libro**<sub>k</sub> [artP t<sub>i</sub> **qui** [NP **suo** t<sub>k</sub> **di sintassi** ]]]]

Besides these two languages, Brugè (1996, 2002) also discusses French and Albanian (in chapter 4, I provide more indirect evidence for a low artP in German).<sup>19</sup>

To sum up this section, I provided evidence from other languages that demonstratives originate in a low artP. Most of the evidence came from the overt distribution of the demonstratives themselves or from their “stranded” intensifiers. Proposing that demonstratives can be split up and bearing in mind that they are determiners more generally, one might expect this also to be true for articles.

## 5. “Split” Articles in the Scandinavian Languages

The Scandinavian noun phrase has received a lot of attention (among many others, Delsing 1988, 1993b; Hankamer & Mikkelsen 2002, 2005; Holmberg 1993; Julien 2002; Kester 1993; Santelmann 1993; Sigurðsson 1993; Vangsnes 1996, 1999, 2004).

Concentrating on definite noun phrases, I proceed as follows: first, I repeat the basic, well-known data to lay the foundation for the discussion. Then, I discuss languages with

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<sup>19</sup> Even English provides some overt evidence for artP. Taking strong pronouns to be similar to demonstratives (cf. Postal 1966, also chapter 4 part III), Schütze (2001: 215 fn. 14) observes that a lower pronoun is sometimes possible when the noun phrase functions as an argument:

(i) Lucky {us / \*we} linguists have to explain our profession to everyone.  
 Relevant here, if we follow Longobardi (1994: 620) in that arguments always project a DP, then we conclude that the DP-level in (i) is present. We can assume then that the pronoun moves to license the DP in LF, which, under Longobardi’s assumptions, is generally allowed for the Germanic languages. (Note that vocatives have a different syntax and allow pronouns in a lower position more freely, see, e.g., Roehrs 2005a: 279 fn. 15.)

the Double Definiteness effect, illustrating the different semantic contributions of free-standing and suffixal determiners. Maintaining that a syntactic account should take these different semantic contributions into consideration, I propose that, similar to demonstratives, certain languages can split up their articles and move part(s) of them to the DP while leaving the other part(s) in situ. Finally, I briefly compare my analysis with Julien (2002), which, to my knowledge, presents the most comprehensive and worked-out proposal for the Scandinavian DPs.<sup>20</sup>

### 5.1. *The Basic Data*

Recall the basic data from the beginning of this chapter. The examples in (34) illustrate the homogeneous pattern of unmodified DPs and the ones in (35) the diverse patterns of modified noun phrases:<sup>21</sup>

- |      |    |                                  |                    |
|------|----|----------------------------------|--------------------|
| (34) | a. | maðr-inn<br>man-the<br>'the man' | (Old Icelandic)    |
|      | b. | maður-inn                        | (Modern Icelandic) |
|      | c. | mann-en                          | (Norwegian)        |
|      | d. | mann-en                          | (Swedish)          |
|      | e. | mand-en                          | (Danish)           |

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<sup>20</sup> This work has recently been extended in Julien (2005). While I cannot integrate this discussion here, a quick reading has revealed that both works share many features. Thus, I believe that many of the points raised here will carry over to Julien (2005).

<sup>21</sup> For some discussion of singular countable noun phrases without a determiner, see Julien (2002: 272 fn. 5).



distance agreement but not movement (section 5.3). As these assumptions are new (e.g. vis-à-vis Julien 2002), I will devote some space to motivating them in detail.

## 5.2. *The Semantic and Syntactic Relations of the Two Determiners*

In what follows I work towards the notion of “split” articles. I argue that in the languages with the Double Definiteness effect (especially clearly instantiated in certain varieties of Norwegian), the two overt determiners have different semantic functions. For instance, while the suffixal article seems to bring about specificity interpretations (i.e., it “picks” out a particular item), the pre-nominal determiner is responsible for uniqueness and a deictic reading. As these different functions can also be fulfilled by unmodified DPs (which only have a homophonous suffixed determiner), I suggest that determiners are underlyingly more complex. This inner build-up only becomes evident in modified DPs, where a part of them has split off and moved to D. These different parts are then spelled out individually. On a par with “split” demonstratives, I refer to these patterns as “split” articles.

### 5.2.1. Semantic Differences Overtly Reflected

In this subsection, I provide more data for the languages with the Double Definiteness effect, most of which are taken from discussions by Delsing (1993) and Julien (2002). I will illustrate that Swedish, Faroese, and Nynorsk pattern differently from Bokmål (presumably due to an earlier influence from Danish).<sup>22</sup> First, I present the data which

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<sup>22</sup> There is a caveat: there is some speaker variation, perhaps a reflex of a change in progress, which makes the empirical picture not always entirely clear.

these two language groups have in common. Then, I proceed to the differences. Finally, I summarize the data and draw some conclusions relevant to the main proposal of this dissertation.

Starting with the common features, Svenonius (1993a: 208 fn. 12) observes that vocatives do not have a pre-nominal determiner but only a suffixal one (cf. Kester 1996b: 146; Delsing 1993b: 39; also Kari Gade, p.c.):

(36) dumme idiot-**en** (Bokmål)  
stupid idiot-the

Second, Delsing (1993b) discusses “definite deictic noun phrases” (p. 123) whose referents are “well-known in the speech situation, by [their] uniqueness in the world or in a smaller speech community” (p. 118):

(37) Ta (**den**) nya bil-**en** (Swedish)  
take the new car-the

He observes that the pre-nominal article is normally used when the noun phrase emphasizes contrast. Furthermore, going back to his earlier work (Delsing 1988), he notes that there are a number of adjectives (call them “adjectival determiners”, Börjars 1998: pp. 206) that allow an optional determiner if the noun phrase has deictic reference (p. 119):<sup>23</sup>

---

<sup>23</sup> Some adjectives cannot co-occur with a suffixal determiner (Börjars 1998: 208):  
(i) ovannämnda institution(-\*en)

- (38) **(det)** sista par-**et** (Swedish)  
 the last pair-the

As a fourth similarity, noun phrases with an individual, specific reading obligatorily take both determiners (Kari Gade, p.c.):

- (39) **Den** gamle mammut-\*(**en**) er syk. (Bokmål)  
 the old mammoth-the is sick

So far, I have shown that vocatives, “definite deictic noun phrases”, noun phrases with “adjectival determiners” and the ones with an individual, specific reading take a suffixal determiner. The presence of the pre-nominal determiner varies from type to type.

As pointed out by Delsing (1993b: 119), absolute superlatives and generic noun phrases with a relative clause only take the pre-nominal determiner (for (40b), see also Holmberg 1993: 133 fn. 7):

- (40) a. I tornet sitter **den** vackraste princessa. (Swedish)  
 in tower-the sits the prettiest princess  
 b. **Den** bok som säljer flest exemplar belönas.  
 the book that sells most copies is-rewarded

---

above-mentioned department(-the)  
 With some adjectives, German also allows the determiner to be missing with singular countable nouns:

- (ii) a. \*(Obengenanntes) Buch ist teuer.  
 Above-mentioned book is expensive.  
 b. \*(Folgendes) Beispiel wird das illustrieren.  
 following example will that illustrate

Leaving out these adjectives makes the examples ungrammatical. I will not investigate this kind of construction here.

To the extent that I am aware, these are the basic patterns that all languages with Double Definiteness have in common. Let us consider some differences between Swedish, Faroese, and Nynorsk, on the one hand, and Bokmål, on the other.

Julien (2002: 284) observes that in generic noun phrases with an adjective, the suffixal article is optional in “Norwegian” (cf. Svenonius 1993a: 204 fn. 9).<sup>24</sup> Apparently, the same holds for kind-referring expressions (data due to Kari Gade, p.c.). Compare (41a) to (41b):

- (41) a. **Den** kvite mann-(**en**) har alltid undertrykt andre kulturar. (“Norwegian”)  
the white man-the has always oppressed other cultures.
- b. **Den** forhistoriske mammut-(**en**) er utdødd (Bokmål)  
the prehistoric mammoth-the is extinct

As far as I know, this optionality is not possible in the other languages under consideration.

Finally, Delsing (1993b: 118) points out that nationality adjectives may license the absence of the pre-nominal determiner in Swedish, Faroese, and Nynorsk, unless the noun phrase is used to emphasize contrast. Bokmål, on the other hand, prefers the pre-nominal determiner by itself:

- (42) b. (**den**) franska revolution-**en** (Swedish)  
the French revolution-the

---

<sup>24</sup> I put Norwegian in quotation marks as Julien does not specify the actual dialect, which is relevant for the current discussion. Kari Gade (p.c.) informs me, however, that this datum is probably Nynorsk. If true, then Swedish and Faroese would be different from Nynorsk in this respect.





Table 4: Summary of the Different Pattern in Languages with the Double Definiteness Effect

semantics		Swedish, Faroese, Nynorsk	Bokmål
vocative		dumme idiot- <b>en</b>	
deictic	familiar & unique	(DEN) nya bil- <b>en</b>	
	“adj. determiner”	(det) sista par- <b>et</b>	
individual reading		<b>den</b> gamle mammut- <b>en</b>	
absolute superlatives		<b>den</b> vackraste princessa	
generic	relative clause	<b>den</b> bok som säljer flest exemplar belönas	
	adj. (cf. fn. 24)	<b>den</b> förhistoriske mammut- <b>en</b>	<b>den</b> forhistoriske mammut- <b>(en)</b>
“proper names”	nationality adj.	(DEN) franska revolution- <b>en</b>	<b>den</b> franske revolusjon
	proper names	Vita hus- <b>et</b>	<b>Det</b> hvite hus

Although the data are subject to some speaker variation (cf. footnotes 22, 24), I will nonetheless proceed on this basis to identify the semantic contributions of the pre- and post-nominal determiners. Besides making the traditional referential distinction between deictic and anaphoric use of determiners, I also discuss specificity, genericity, and vacuity. To be precise, I show that there is a division of labor such that, whereas the pre-nominal determiner brings about deictic, uniqueness, or generic reference, the post-nominal one seems to be specific or expletive in interpretation (below, I will arrange these semantic components in a tree-like fashion). I start at the top of the table, making the reviewed data relevant for the proposal below.

Assuming that vocatives do not project a DP (cf. Longobardi 1994), we easily account for the absence of the pre-nominal determiner here. If so, we also conclude that the suffixal determiner above is not sufficient to make a noun phrase argumental. As a consequence, the suffixal determiner of unmodified DPs cannot necessarily be taken to be in D. I propose below that the suffixal article is always in art.

Recall that, under certain conditions, the determiner can be left out if the noun phrase is used deictically. With contrastive emphasis, the determiner reappears. Furthermore, Delsing (1993b: 120) notes that the determiner cannot be left out when its function is anaphoric (in the traditional sense). Defining deictic in a broad sense, I will treat both uses (situational, linguistic) basically the same unless indicated otherwise. Considering that all these DPs can be arguments, I propose below that, due to feature valuation of D, the pre-nominal determiner is present in all cases but can be elided in situational deixis under Recoverability of Deletion.

DPs with an individual reading have a free-standing and a suffixal article. I suggest that the free-standing article denotes uniqueness and the suffixal article has a specificity interpretation (for an empirical argument, see below). This is consistent with the fact that noun phrases used as vocatives and deictically have a suffixal determiner (i.e., they are specific) and noun phrases with absolute superlatives do not (i.e., they are only unique in reference).

In contrast, generic noun phrases with relative clauses do not have a suffixal article but only a free-standing one. Interpreting generics as denoting kinds (cf. Longobardi 2001a), generics denote something similar, but not identical, to uniqueness (intuitively, less semantics is involved here in that the determiner does not “pick” out a

unique subset but the entire relevant set). The distribution is somewhat different for generic DPs with adjectives. Although Bokmål basically shows the same property in that the suffixal article is optional, the other languages have an obligatory suffixal determiner. In order to account for this variability, I suggest that this suffixal determiner is semantically vacuous, that is, it is an expletive.<sup>25</sup>

Finally, consider DPs with nationality adjectives and those that are proper names. It is interesting to note that Swedish, Faroese, and Nynorsk prefer the suffixal article and Bokmål the pre-nominal one. While I have nothing to say about this difference except that the pattern of Bokmål is presumably due to a lingering influence from Danish, I assume that these DPs have a different analysis and I will not discuss them here further.<sup>26</sup>

To sum up the discussion so far, I suggested that there is a division of labor between the pre-nominal determiner, which is deictic in a general sense or generic, and the suffixal determiner, which is specific or expletive.<sup>27</sup> There is more evidence that these determiners differ in their semantic contribution. This difference can most clearly be observed in the Norwegian variety of Bokmål.

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<sup>25</sup> Besides the speaker variation mentioned in footnote 24, there are some cases where, unlike (), noun phrases involving adjectives such as *jevne* do not allow a suffixal determiner in their generic interpretation (Kari Gade, p.c.):

- (i) Den jevne mann(\*-en) mener at krig mot Irak er vanvidd. (Bokmål)  
 The common man thinks that war against Iraq is madness

(Note that *den jevne mann-en* means ‘the even man’.)

Returning to the morpho-syntactic difference between generic noun phrases modified by adjectives vs. relative clauses, it is not clear to me from what the presence vs. absence of the expletive suffixal determiner follows. Speculating somewhat, there might be some language change involved, facilitated by the different structural representations of the modifiers (Specifier on the left vs. adjunction on the right; see also chapter 3).

<sup>26</sup> This different status seems to be independently evidenced in Romanian, where the element *cel* can occur with “regular”, but not a referential, adjectives (Cornilescu 1992: 222-4):

- (i) a. noaptea (cea) neagră (Romanian)  
 night-the cel black  
 ‘the black night’  
 b. colonizarea (\*cea) romană a Daciei  
 colonization-the cel Roman of Dacia

<sup>27</sup> If this discussion is on the right track, then, as already noted by many others (e.g. Alexiadou 2003), the Double Definiteness effect is not a reflex of agreement in definiteness.

Following Enç (1991), I assume that definiteness is comprised of two parts: uniqueness and specificity. As already discussed by Julien (2002: 283-5), this distinction can be seen in Norwegian such that D provides uniqueness and art specificity. Evidence for this claim comes from different morpho-syntactic realizations of the noun phrase in certain co-ordinations and when embedded under different types of predicates.

Starting with co-ordination, Julien notes that, despite the presence of the suffixal determiner, there is a difference in interpretation in (44): if a pre-nominal determiner is present in both conjuncts (44a), the professor and the father cannot be the same person. In other words, the conjoined noun phrases refer to two different people. In contrast, if there is only one pre-nominal determiner (44b), both persons are one and the same ((44a-b) are adapted from Swedish provided by Julien 2002: 283):

- (44) a.     **den** unge professor-**en** og **den** kjærlige far-**en**                     (Bokmål)  
           the young professor-the and the loving father-the
- b.     **den** unge professor-**en** og kjærlige far-**en**  
           the young professor-the and loving father-the

Following Julien, I interpret these data such that the pre-nominal determiner brings about uniqueness (cf. also Longobardi 1994: 620-1).

Different predicates help license different readings. While (45a) has a generic interpretation, (45b) shows individual reference. Importantly, with the pre-nominal determiner present in all cases, the suffixal determiner is given as optional in (45a) in Julien (2002: 284) but is dispreferred by my consultant Kari Gade. Crucially, both

speakers agree that the suffixal determiner in (45b) must be present (cf. Braunmüller 1999: 178):

- (45) a. **Den** hvite mann-(<sup>l/??</sup>**en**) har alltid undertrykt andre kulturer. (Bokmål)  
the white man-the has always oppressed other cultures
- b. **Den** hvite mann-\*(**en**) spiste en is.  
the white man ate an ice-cream

In keeping with the discussion above, the suffixal determiner seems to have semantic import with regard to specificity (cf. Kester 1996b: 146-8). To conclude, noun phrases in varying co-ordinations and under different predicates provide strong evidence that the two determiners have differing semantic import. Below I suggest that the cross-linguistic morpho-syntactic differences between the DPs with identical interpretation follows from a different syntactic split of the determiner. Before we proceed, there is an important alternative interpretation of these data that needs to be discussed and shown not to be correct.

Rather than the lexical items, one could propose that the *abstract* positions art and D are responsible for the semantic contribution. Recall from chapter 1 that the adjective is parasitic on artP. Now, if we were to associate the different semantic contributions with the different syntactic positions (D and art), then we would expect all languages to have the same interpretations, such that all modified DPs were always unique and specific in reference, which is not correct. I conclude that the different semantic contributions are a matter of the actual overt lexical items.

In more detail, starting with the co-ordination data in (44), it is not immediately clear what parts of the noun phrase are conjoined. In other words, it is not clear if there is an empty D in the second conjunct in (44b) or if conjunction is at a lower level. However, we saw above that argumental DPs can occur without a determiner only under certain conditions but not under others. I take this restrictiveness on licensing null D as an indication that (44b) is conjoined at a lower level. Assuming across-the-board movement of the determiner from art to D, we account for the fact that both noun phrases must refer to the same person. In other words, it is the lexical item of the determiner itself that makes the relevant contribution. A similar point can be made for the suffixal determiner.

With an adjective present in the DP in (45), art must be present in both noun phrases. The difference between them is that the art position in (45a) is (preferably) not filled and the one in (45b) must be. Since the presence of lexical material appears to cause the different grammaticality judgments, I conclude that it is the lexical item itself (rather than the abstract position art) along with the different predicates that brings about the different readings.

In this subsection, we have seen that in Scandinavian, unmodified DPs have a homogenous pattern and modified ones are very diverse. Furthermore, I have illustrated that the pre- and post-nominal articles have different semantic contributions, a fact not observable in unmodified DPs. In addition, the languages with the Double Definiteness effect may have slightly different morpho-syntactic realizations depending on the semantic interpretation of the noun phrase. In contrast, many languages have only one determiner in all contexts which fulfills all relevant semantic functions. In other words, the determiner, apparently a single element, may have uniqueness, deictic, generic,

specificity, and expletive functions. The question arises, then, in what syntactic relation the semantically different parts of the determiner discussed above stand to one another. In what follows, I will develop the notion of “split” articles in more detail.

### 5.2.2. The Syntactic Relation

To derive the correlation between the syntactic distribution of the determiners and its corresponding interpretation(s), I propose that determiners are semantically complex elements that consist of “optional” semantic components. Depending on the case at hand, I assume that different semantic components of the determiner can be merged as part of this complex. Each individual component has its own features. Depending on the language, these bundles of features can be spelled out in different ways.

With this in mind, I propose that the Double Definiteness effect consists of one complex determiner which has at least two individual components (to be modified below).<sup>28</sup> Due to the presence of pre-nominal modifiers, the determiner has to move to D (see section 5.3). However, rather than moving all the components, Norwegian, Swedish and Faroese move only part of it, “stranding” the rest in situ. In other words, on a par with split demonstratives, I suggest that the Double Definiteness effect involves split articles. We arrive then at the following picture: while the split differs slightly for Swedish, Faroese, and Nynorsk vs. Bokmål, languages such as Danish and Icelandic cannot split their determiners at all. I propose that Danish moves all parts of its complex determiner overtly while Icelandic leaves all parts in situ.

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<sup>28</sup> Note that Szabolcsi (1994: 218) already argues for two different functions of determiners (subordinator and quantifier/demonstrative). The current proposal adds a different dimension to this discussion in that different parts of the determiner may have an influence on the interpretation of the noun phrase.



Besides split determiners, there is other evidence that determiners may have different semantic components. For instance, some languages have different overt determiners depending on the semantics (e.g. for Northern Frisian, see Ebert 1971: 71-113; for Rhineland dialects, see Hartmann 1982 [Mönchengladbach], Himmelmann 1997: 54-6 [Cologne], and Heinrichs 1954: 85-103 [Amern]; for Western Jutlandic, see Delsing 1993: 121; for Northern Scandinavian dialects and Icelandic, see Delsing 1993: 54-5, 1996: pp. 33; for Northern Greek, see section 5.2.3). I interpret these different overt manifestations of the determiner such that different semantic components are present.<sup>29</sup> More generally then, different semantic components become apparent when determiners are split, when they are differently spelled out, or a combination of the two, as in Faroese (e.g. *tann lítla bók-in* ‘the small book’). I assume that these differences are due to different lexical specifications across the languages. Let me try to make this part of the proposal more formal.

It is not entirely clear how many or what kind of semantic components are relevant for determiners. Besides uniqueness, deixis, genericity, specificity, and vacuity discussed above, there are presumably other semantic components. If so, it is difficult to be precise about the inner structure of the complex article (for discussion of the structure of intensified demonstratives, see Brugè 1996: 27). While this poses a potential problem, there seems to be evidence, however, that these semantic components cannot be freely put together but rather have “internal structure.”

Longobardi (1994: esp. 655-9) makes the distinction between substantive and expletive determiners. The latter divides into articles that are generic or “preproprial”

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<sup>29</sup> If the article were just the phonological realization of morpho-syntactic features, then different realizations would be unexpected (see also the discussion of the semantically different articles in Icelandic in chapter 3, section 5.3).

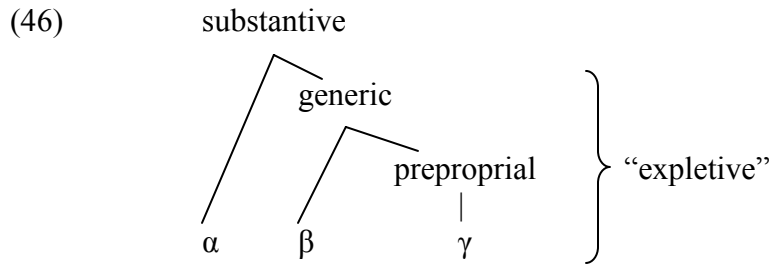
(i.e., used with proper names). Unsurprisingly under current assumptions, these three types of determiners can be differently realized cross-linguistically. Abstracting away from gender, Catalan uses *en* with proper names but *el* in generic and definite specific contexts. In contrast, Northern Frisian employs the so-called A-article with proper names and in generic contexts but the D-article in other contexts. In other words, while in Catalan the generic and substantive uses are phonologically neutralized, in Northern Frisian the two expletive uses are phonologically the same. What is interesting to note is that the third type of combination, that is, the phonological neutralization of the substantive and the preproprial article vs. the generic one, does not seem to exist. To the extent that I am aware, this is a more general gap and should be explained. This explanation will provide the basis for the (tentative) discussion of the inner structure of the definite article.

Longobardi (1994: 656) states that the generic article is an intermediate one situated between the two extreme forms. With regard to the semantics, let me interpret this such that the generic article has more semantic components than the preproprial one but fewer than the substantive determiner.<sup>30</sup> Remaining vague about the actual semantic components indicated here by Greek letters, assume now that complex determiners are semantically composed in the following way:<sup>31</sup>

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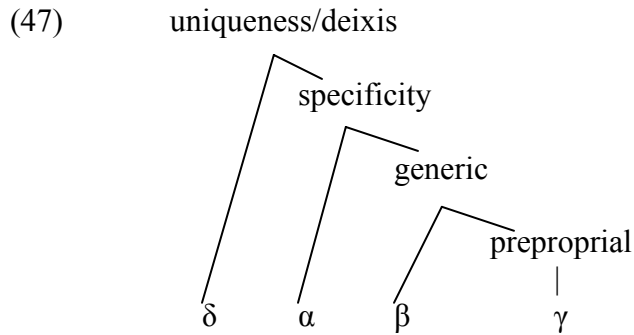
<sup>30</sup> Citing work in progress by Dayal, Longobardi (2005: 32 fn. 31) seems to suggest that definite articles in generic contexts may have some semantics after all. This is consistent with my interpretation in the text.

<sup>31</sup> The proposal of a complex element with compositional semantics is reminiscent of Grewendorf's (2001: 94) treatment of *wh*-phrases. He suggests that they do not have any inherent quantificational force and are similar to indefinite NPs (where quantificational force can be added by a null determiner that bears a *wh*-feature).



Under these assumptions, the preproprial determiner is semantically vacuous ( $\gamma = \emptyset$ ), the generic one is the sum of the semantics of  $\beta$  and  $\gamma$ , and the substantive article is the sum of all three ( $\alpha + \beta + \gamma$ ). If this is correct, then Catalan phonologically neutralizes the semantic components  $\beta$  and higher but Northern Frisian  $\beta$  and lower. The absence of the phonological contrast between substantive and preproprial vs. generic is explained as the semantic components of  $\alpha$  and  $\gamma$  do not form a semantic continuous unit to the exclusion of  $\beta$ . (This discussion makes the prediction of the existence of an overtly tripartite system, something I have not come across so far). With this in mind, we return to the definite article in Scandinavian and speculate about its internal structure.

We saw above that, if split up, the determiner part for uniqueness, deixis, or genericity is in D and the one for specificity or vacuity is in art. Uniqueness, deixis, and specificity are substantive semantic components. Fleshing out (46), assume that the substantive part of the determiner divides into a uniqueness/deixis component and a specificity one. The structure might look as follows, where I leave  $\alpha$  in place and simply add  $\delta$ :



Under these assumptions, we might hypothesize that the Double Definiteness effect is brought about by moving either  $\delta$  to D in noun phrases with uniqueness/deictic interpretations or  $\beta$  in noun phrases with generic readings. The remaining semantic components, if present, are “stranded” in art.<sup>32</sup> This is illustrated in table 5, where the semantic components of the determiner have been identified by the relevant subscript.

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<sup>32</sup> A similar derivation has been proposed for *for-to* constructions in English, where the *for-to* complex is base-generated under I, with *for* undergoing movement to C (for concise discussion of this, see Bošković 1997: 19). Alternatively, and on an even more tentative note, if determiners are nominal auxiliaries and if clausal auxiliaries are represented in recurring verb phrases, then the structure in () might be reinterpreted as recurring artPs. This would further extend the parallelisms between the nominal and the clausal domain.

Table 5: Main Semantic Components in the Double Definiteness Effect

semantics		Swedish, Faroese, Nynorsk	Bokmål
vocative		dumme idiot- <b>en</b> <sub>α</sub>	
deictic	fam. & unique	(DEN <sub>δ</sub> ) nya bil- <b>en</b> <sub>α</sub>	
	“adj. determ.”	(det <sub>δ</sub> ) sista par- <b>et</b> <sub>α</sub>	
individual reading		<b>den</b> <sub>δ</sub> gamle mammut- <b>en</b> <sub>α</sub>	
absolute superlatives		<b>den</b> <sub>δ</sub> vackraste prinsessa	
gener.	relative clause	<b>den</b> <sub>β</sub> bok som säljer flest exemplar belönas	
	adjective	<b>den</b> <sub>β</sub> förhistoriske mammut- <b>en</b> <sub>γ</sub>	<b>den</b> <sub>β</sub> forhistoriske mammut-( <b>en</b> <sub>γ</sub> )

If this discussion is on the right track, then it is less surprising that the suffixal determiner in generic noun phrases modified by adjectives (the last row in table 5) may have a varying distribution as it is completely semantically vacuous.<sup>33</sup>

Needless to say, this analysis raises some interesting issues. For instance, although the Double Definiteness effect was originally due to two different historical sources of the pre- and post-nominal determiner (see Roehrs & Sapp to appear), the synchronic assumption of movement has some desirable consequences.

As already pointed out above, the homogenous unmodified DP can basically be used in all the semantic contexts in which the different modified DP patterns occur (e.g. anaphoric use, specificity). In contrast to modified DPs, the unmodified DP has only a (suffixal) determiner. Its obligatoriness follows from the fact that the determiner is not

<sup>33</sup> Compare in this respect German *der Peter* ‘(the) Peter’, where the expletive article is obligatory in southern dialects but optional in northern dialects.

split and the relevant semantic components that are present are made visible. As for determiners in modified DPs, they are split by movement due to the presence of the adjectives. As a consequence, the semantic components are separated. As the free-standing and the suffixal determiner are morphologically independent of one another, either semantic component and its overt realization can be absent under certain conditions. Hence, the assumption that determiners are complex and that individual parts can move on their own explains the same interpretations of the homogenous unmodified DPs and the heterogeneous modified noun phrases, on the one hand, and the obligatoriness vs. “optionality” of the relevant overt determiner (parts), on the other.

Furthermore, if it is correct that the suffixal part indicates (at least) specificity, then we would expect it to occur in all such contexts. However, the suffixal article only occurs with certain pre-nominal determiners. To be precise, it is not possible in pronominal DPs (48a), with demonstratives in certain dialects (48b), in specific indefinite contexts (48c), or with possessives (48d) ((48a-b) are taken from Börjars 1998:15, 3):

- (48) a. vi hungriga studenter(\*-na)<sup>34</sup> (Swedish)  
we hungry(WEAK) students(-SPEC)
- b. denna mus(\*-en) (standard Swedish)  
this mouse(-SPEC)
- c. en mus(\*-en)  
a mouse(-SPEC)

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<sup>34</sup> As pointed out by Josefsson (1999: 755 fn. 21), *vi studenterna* is grammatical when both components receive stress. I interpret this to mean that the elements are combined by adjunction (rather than complementation).

- d.     min sko(\*-en)  
       my shoe(-SPEC)

Assuming a movement relation between the two parts, we can suppose that the absence of these patterns is a lexical property of the relevant pre-nominal determiners. In other words, we can simply state that they cannot be split at all.

Finally, in chapter 3, I turn to a semantic argument that the positions art and D are related by movement of the determiner. Discussing the “Partee-Chomsky debate” (cf. Heim & Kratzer 1998: 83), I suggest that the different adjective interpretations with regard to non-/restrictiveness are derived by different scopes of the determiner with regard to the adjective. This discussion is especially interesting from the Scandinavian point of view, since adjectives can basically have both interpretations, independent of the syntactic distribution of the determiners in the modified DP.

Before we turn to the second component of the proposal (adjectives as interveners), I show that the claim that determiners may have different functions in different positions is more general.

### 5.2.3. “Split” Determiners

There are other languages where determiner-like elements have different semantic functions in different syntactic positions. Citing earlier work of his and Manolessou’s, Panagiotidis’ (2000: 723) states that demonstratives on the left periphery have a deictic function with regard to the situation described in (49a) and demonstratives in a lower

position are anaphoric with regard to the linguistic discourse in (49b-c).<sup>35</sup> Consequently, the latter are infelicitous with situational deixis:

(49) (at the butcher's, pointing to a pork joint)

- a. Thelo **afto** to (apaho) butaki. (Greek)  
 I-want this the lean joint
- b. #Thelo to apaho **afto** butaki  
 I-want the lean this joint
- c. #Thelo to butaki<sub>k</sub> **afto** t<sub>k</sub>.  
 I-want the joint this  
 'I want this (lean) joint'

Note that he argues that the post-determiner demonstratives in (49b-c) are in the same position (pp. 728-9): when an adjective in Spec,NumP is not present (49c), the noun moves to Num.

So far, we have established that the demonstratives may have different semantic contributions in different positions. Panagiotidis also provides morpho-syntactic evidence from Northern Greek (and South and West Catalan) that the upper determiner *u* in D is not an expletive element as, for instance, with proper names where *i* is (p. 731):

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<sup>35</sup> This is different for Icelandic (Delsing 1993b: 121): unlike the lower suffixal determiner in common Icelandic, the higher free-standing determiner in literary Icelandic cannot be used deictically (for some comments on the Romanian demonstrative, see Giusti 2002: 72). If so, we arrive, as in the discussion of uniqueness and specificity above, at the conclusion that the same abstract positions do not bring about certain interpretations, but rather the lexical elements themselves do.



- (50) a. u skilus aftos (cf. u skilus) (Northern Greek)  
the dog this 'the dog'
- b. \* i skilus aftos (cf. i Yans)  
the dog this 'Yans'

To be clear, (50a) shows two determiners that both have a semantic contribution. Under current assumptions, I claim that this is another type of “split” demonstrative (see Grohmann & Panagiotidis 2004 for a different perspective). A similar point can be made for indefinite noun phrases.

With the exception of Icelandic, all Scandinavian languages have an indefinite article. Importantly, they may have some intriguing distributions. Consider some Scandinavian dialects that allow an apparent indefinite determiner to follow every adjective ((51a) is from Delsing 1993b: 143, (51b) is from Julien 2002: 269):

- (51) a. en stor **en** ful **en** kar (Northern Swedish)  
a big an ugly a man
- b. ? eit stort **eit** stygt **eit** hus (Norwegian)  
a big an ugly a house

Delsing (1993b: 143) notes that the post-adjectival article has some special properties. It can co-occur with a non-countable noun (52a) and has a plural form (52b):

- (52) a. Vi ha fått fint e ver.  
           We have got fine a weather
- b. Därna var he stor a husa.  
           Over-there were there big a-PL houses

He observes that the lower determiners have the same properties as non-argumental indefinite determiners in Colloquial Swedish and Norwegian in general (see his section 2.1). Assuming an analysis of split determiners also for the indefinite article, I tentatively suggest that these determiners are split into an argumental and several non-argumental parts. It is presumably these different semantic contributions that explain the possibility that there are several “copies” of the determiner. Finally, these data also illustrate that, due to movement, (part of) the determiner can be “stranded” in intermediate positions.

In the last two subsections, I proposed that articles are semantically complex elements with inner structure. Certain parts can be split off and moved to D. Generalizing this claim to determiners, different components can be spelled out in different ways in different languages. We now turn to the second main component of the proposal.

### 5.3. *Defective Intervention of Adjectives*

What is interesting about the Scandinavian DPs is that, on the one hand, the condition allowing the split is a purely syntactic one (the presence of a modifier) and, on the other hand, this split may have varying morpho-syntactic reflexes corresponding to different interpretations. In order to capture both types of effects, I propose that the separation of

determiners is due to the intervention by modifiers combined with the assumption, developed above, that articles are complex elements that can be split up in different ways. First, I illustrate and motivate my assumptions. After providing the relevant derivations, I summarize the discussion.

### 5.3.1. Assumptions

With two overt realizations of the determiner, I discuss their nature separately.

5.3.1.1. The suffixal determiner. We notice that the noun in the Modern Scandinavian languages always follows the adjective (53a). Although it is tempting to conclude that the adjective prevents the noun from raising, Old Icelandic (and Common Scandinavian) provides evidence that this is not the case (53b). Recall that we proposed above that the NP moves across the adjective to Spec,DP, as in (53c):

- (53) a. \* mannen gamle (Modern Scandinavian)  
man-the old
- b. maðrinn gamli (Old Icelandic)
- c. [DP [NP **maðr** ]<sub>k</sub>+**inn**<sub>i</sub> [AgrP **gamli** [artP **inn**<sub>i</sub> **maðr**<sub>k</sub> ]

If the present analysis of Old Icelandic is correct, then adjectives in Specifier positions do not unselectively block the movement of other phrases. This is not unexpected as Relativized Minimality is not purely geometrical, that is, movement of a phrase is not blocked by the simple intervention of any old phrase (cf. chapter 1). In fact, assuming

that numerals are also in Specifier positions, there is evidence from Modern Icelandic that these modifiers do not block such a movement either. Compare literary Icelandic in (54a) with the common form in (54b). The latter is derived by movement of AgrP to Spec,DP as in (54c) (Vangsnes 1999: 145-6):<sup>36</sup>

- (54) a. hinar þrjár frægu bækur mínar (literary Icelandic)  
the three famous books my
- b. frægu bækurnar mínar þrjár (common Icelandic)  
famous books-the my three
- c. [DP [AgrP frægu bækurnar mínar ]<sub>i</sub> D [CardP þrjár t<sub>i</sub> ]]

I assume that literary and common Modern Icelandic are two different dialects (see also chapter 3). Rather than proposing that adjectives block movement in the Modern Scandinavian languages but not in Old Icelandic, I will argue for derivations involving different kinds of movements. Before I turn to this discussion, there is an important alternative derivation that needs to be ruled out for the ungrammatical Modern Scandinavian pattern in (53a): one might expect the head noun to undergo N-to-D raising under traditional assumptions (55a) or to move along with the suffixal article to D under my assumptions (55b):

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<sup>36</sup> This movement is not possible in indefinite noun phrases:

- (i) a. þrjár frægar bækur  
three famous books  
b. \* frægar bækur þrjár  
famous books three

- (55) a. (\*) [DP **mann<sub>k</sub>+en** [NumP **gamle** [NP **mann<sub>k</sub>** ]]]
- b. (\*) [DP {**mann<sub>k</sub>+en**}<sub>i</sub>+D [AgrP **gamle** [artP { **mann<sub>k</sub>+en**}<sub>i</sub> [NP **mann<sub>k</sub>** ]]]]]

What both these derivations have in common is long movement of the head, simple in (55a) and complex in (55b). In order to rule out this type of movement, some scholars have argued that, following Abney (1987), adjectives are in head positions (e.g. Santelmann 1993, Delsing 1993b: 81, Kester 1993, Vangsnes 1999) and movement of the (complex) head noun is ruled out by the Head Movement Constraint (Travis 1984). However, besides ruling out the Old Icelandic pattern under these assumptions, this contradicts what I argued for in chapter 1, where I concluded that adjectives are in Specifier positions (and not in adjoined or head positions). If so, then the HMC cannot be invoked to rule out this kind of derivation (for a more general critique of N-to-D raising, see Giusti 2002: 58-9; Hankamer & Mikkelsen 2002, 2005).<sup>37</sup>

Keeping NP movement for Old Icelandic, I propose that head movement to D is not categorically ruled out. However, rather than the noun, only the determiner itself may undergo movement in these cases (note also that it is “closer” to D than the head noun). The reason why the head noun does not move along is that it “fuses” with the determiner after syntax. In other words, in contrast to traditional assumptions, I propose that the head noun does not raise all the way to art but to a lower position (Num) and that the determiner in art undergoes PF Merger with the noun in Num. I flesh this intuition out below.

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<sup>37</sup> In minimalism, the blocking effect of an adjective could only be instantiated by the assumption that both the lower element and the adjective share the relevant feature to be checked.

Recall from chapter 1 that word order facts and Binding relations between the possessor and the complement indicate that the head noun moves out of the theta domain (cf. Haider 1993: 30; Taraldsen 1990, 1991):

- (56) a. podróż Janka<sub>i</sub> do swoich<sub>i</sub> rodziców (Polish)  
 trip John's to his parents  
 'John's trip to his parents'
- b. l'aggressività di Gianni<sub>i</sub> contro se stesso<sub>i</sub> (Italian)  
 the aggressiveness of Gianni against himself
- c. die Wut des Mannes<sub>i</sub> auf sich<sub>i</sub> (German)  
 the rage of-the man against himself

Furthermore, following Brugè (1996, 2002) I argued above that intensifiers are base-generated along with their demonstratives in artP. However, while we find the intensifier on the right of the head noun in German, the determiner can never occur there, neither in the DP nor the artP-level:

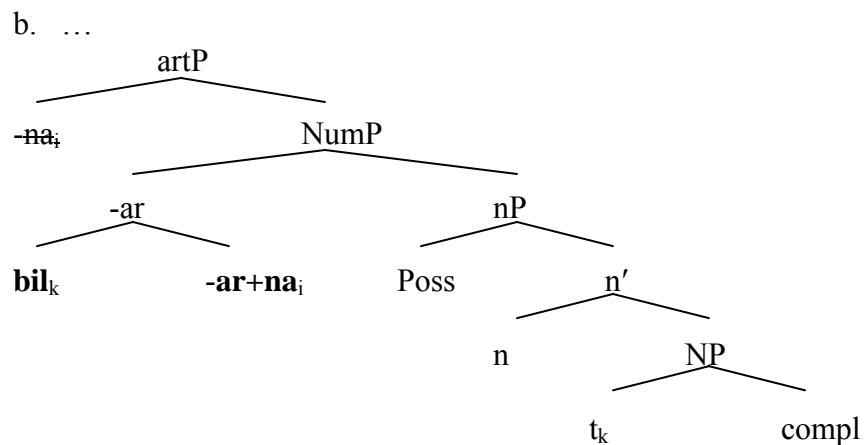
- (57) a. das schöne Bild **da** von Maria (German)  
 that nice picture there of Mary
- b. (\*Bild-)das schöne Bild(\*-das) von Maria  
 picture-the nice picture-the of Mary

In other words, we have evidence from Binding and the position of intensifiers that the head noun partially moves and yet the determiner in German (and other languages) is not suffixal. In order to explain this, we can make use of an intermediate phrase between the theta-domain of the noun phrase and artP. In chapter 1, I identified this projection as NumP:

(58) ... [<sub>artP</sub> art [<sub>NumP</sub> Num [<sub>nP</sub> Poss [<sub>NP</sub> noun complement ]]]]

I propose that the head noun in Germanic moves to Num due to partial N-raising in syntax, illustrated in (59b) by a trace. Furthermore, (part of) the determiner or the intensifier in artP undergoes PF Merger with the head noun after syntax (for recent discussion of PF merger, see Bošković & Lasnik 2003). PF Merger is indicated here by strike-through (the intermediate landing site of the noun in n is not shown):

- (59) a. bil-ar-na (Swedish)  
 car-PL-the  
 ‘the cars’



There are a number of advantages of this analysis: first, PF Merger may apply to affixes.<sup>38</sup> Second, PF Merger of the determiner applies after syntax. As such, it allows the determiner to value features on D in the syntax (see below) before it becomes part of another word. Furthermore, if the determiner independently moves from art to D in these cases, then a head noun in Germanic may co-occur with a determiner in the DP-level not

<sup>38</sup> The status of the “suffixal” determiner (cf. Hankamer & Mikkelsen 2002: 153 fn. 19) is not straightforwardly that of a suffix. As discussed by Spencer (1992: 324), Icelandic exhibits case markings on both the determiner and the head noun:

- (i) a. hest-i-n-um (Icelandic)  
 horse-DAT-the-DAT  
 b. hest-s-in-s  
 horse-GEN-the-GEN

While the inflection on the periphery is straightforward, the inner inflection is more interesting. If we assume that the Icelandic examples are taken out of the lexicon, then the inflection “buried” inside these words must be interpreted as a “marked” phenomenon (at best). However, if the two elements are put together after the lexicon, then two inflections are expected, a phenomenon widely attested by concord phenomena in the DP.



due to N-raising but only due to phrasal movement, as suggested for Old Icelandic above. Having discussed the suffixal determiner, we turn to the free-standing one.

5.3.1.2. The free-standing determiner. In this part of the proposal, I employ the notion “defective intervention” developed by Chomsky (2000: 123-31) but modify it for present purposes. I assume with him that long-distance agreement is possible without movement. I diverge from his discussion in suggesting that, if a relevant element intervenes, it blocks long-distance agreement but allows movement.<sup>39</sup> To foreshadow this part of the proposal, assuming that a feature in D has to be valued, I will argue that the overt determiner in art can fulfill that function from its base position as an instance of long-distance agreement. However, if a modifier is present, then the determiner has to move to D due to intervention by the modifier. First, I discuss my background assumptions, then I provide the derivations, and after a short summary, I briefly compare this analysis to Julien (2002).

As a point of departure, we consider a case of long-distance agreement, where a lower noun phrase agrees with a verb (sometimes assumed to be mediated by the expletive, which itself does not have a full set of inherent phi-features):

(60) a. There is a man in the room.

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<sup>39</sup> It is interesting to note that in a different context, Chomsky (2001: 28-9) contemplates (but leaves without conclusion) the possibility of allowing Move but not Agree alone. If the interpretation of the facts here is on the right track, then my analysis presents just this case. This raises many interesting issues, which I will not pursue here (e.g. the question of whether or not (or, alternatively, in what way) long-distance Agree is part of Move).

In a very recent paper, Bobaljik & Wurmbrand (2005) also make the proposal that Move is independent of Agree. Developing the notion of “domain of agreement”, they suggest that a relevant (additional) lexical head defines a new agreement domain, preventing Agree and triggering Move. In future work, I intend to explore this idea for the cases under discussion.

- b. There are men in the room.

With respect to these structures, Boeckx (2000) discusses blocking effects of experiencers. Most relevant for my purposes (but see his paper for a more general discussion), consider the following paradigm (p. 371):

- (61) a. John seems to Mary to be the best.
- b. The men seem to Mary to be the best.
- c. There seems to Mary to be a man in the room.
- d. \*? There seem to Mary to be men in the room.
- e. There seems to Mary to be men in the room.

In (61a) and (61b), the embedded subject has moved over the experiencer. Agreement between the subject and the matrix verb is brought about by a Spec-head configuration. In contrast, the subject stays in situ in (61c-e). While agreement in the singular is possible (61c), plural is not (61d-e). In fact, the reverse holds in that plural agreement on the verb is ungrammatical (61d) and singular is fine (61e). Considering this surprising contrast, the obvious difference between (60) and (61c-e) is the presence of the experiencer in the latter. Apparently, the experiencer blocks long-distance agreement between the associative and the verb.

In order to account for this contrast, I assume with Boeckx that the third person singular agreement in (61c) and (61e) is a default ending. The ungrammaticality in (61d) then follows from the experiencer blocking long-distance agreement between the

associate and the verb and the fact that the verb has an unlicensed plural ending (which is not the default inflection).

This interpretation of the facts in (61) is interesting in two ways: (i) an intervening element blocks long-distance agreement (61d) but not movement (61a-b), and (ii) when movement does not take place, it is not the base-generated expletive that determines the features of the verb but the verb gets a default ending (61c-e). In what follows, I partly extend this discussion to the (Scandinavian) DP.<sup>40</sup>

Similarly to (i), I propose that modifiers block long-distance agreement between art and D (to be specified below) but not movement from art to D. However, (ii) is not parallel. The discussion of Northern Greek (cf. (50)) showed that, when the demonstrative is in a lower position, the upper determiner is not an expletive element. This means that the relation between the two determiners is different than the one between the expletive and the associative in (61). I proposed for Greek that this is also an instance of a “split” demonstrative.

Recall that the presence of a modifier brings about the Double Definiteness effect. Furthermore, certain adjectives can license the deletion of the pre-nominal determiner. Combining these two observations, I propose that the adjective itself has a feature node that is responsible for these effects. Depending on the type of adjective, this node can have further specifications. As a technical execution, I propose that all modifiers have a feature node for [definite] (perhaps in the sense of feature geometry), which, however, is unspecified for a particular value. In addition, “adjective determiners” have a

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<sup>40</sup> There are some issues here: While the experiencer behaves as if it c-commands outside of its PP for some phenomena (Agree, binding, NPI-licensing), it does not for others (movement).

specification “(+)”, which stands for “deictic” and licenses the deletion of the pre-nominal determiner under certain conditions:

- (62) a. *gamla* [definite]  
old  
b. *sista* [(+)definite]  
last

Furthermore, assume that null D has an unvalued non-interpretative [definite] feature, illustrated here by “ $\emptyset$ ” in (63a) and that this feature has to be valued for the derivation to converge (if fact, D has other unvalued features, see Julien 2002: 272; chapter 4 part III). As for the determiner in art, the [+interpretable] feature [definite] is assumed to vary in its value: it is positive for the definite determiner in (63b) and negative for the indefinite determiner in (63c):

- (63) a. D [ $\emptyset$ definite, -interpretable]  
b. *den* [+definite, +interpretable]  
c. *en* [-definite, +interpretable]

With art and D separated by a modifier, the adjective is “closer” to D than the determiner is.<sup>41</sup> The adjective has a feature node for [definite] and the long-distance agreement relation between D and art is blocked. However, as the modifier has no actual value

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<sup>41</sup> The notion of “closeness” is defined such that Y is closer to X than Z if X asymmetrically c-commands Y and Y asymmetrically c-commands Z.

under [definite], the adjective itself cannot value the feature in D. In that sense, the intervener is “defective”.<sup>42</sup> Consequently, the determiner has to move to D, overtly or covertly. Thus, there are then two ways for the determiner to value the [ $\emptyset$ definite,-interpretable] feature on D: either from in situ under long-distance agreement or by movement if there is an adjective.<sup>43</sup>

I assume that there is a difference between valuing the [definite] feature on D and licensing the DP with regard to referentiality (cf. Longobardi 1994). While, both the definite and indefinite determiner can value D from in situ or by movement, referentiality is brought about by movement of the definite determiner to D or by a lower phrase to Spec,DP. Finally, I noted above (cf. (37), (38)) that, besides “adjectival determiners”, “definite deictic noun phrases” also license the deletion of the pre-nominal determiner. What both cases have in common is that, under certain conditions – that is, when the noun phrase is definite either through deixis (due to the situation) or inherently (due to certain adjectives) – the upper determiner can be left out. Following Delsing (1993b: 119), I take these two sets of data as related to one another, proposing that the pre-nominal determiner can only be deleted under Recoverability of Deletion. I turn to the individual derivations.

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<sup>42</sup> In Chomsky’s original system, defective intervention is due to the presence of an inactive feature.

<sup>43</sup> Note in this respect that Carstens (2003: 398-9) reinterprets complementizer agreement in West Germanic as a relation between C and the subject (rather than between C and T). Interestingly, she shows that adjuncts (e.g. adverbials or moved objects) can form defective interveners between C and the subject such that the complementizer will show no agreement. Movement of T to C is possible. This analysis, then, is partially similar to the discussion in the text.

### 5.3.2. Modified DP

The main proposal of this dissertation is that there is a position (artP) below adjectives where the overt determiner merges. Extending ideas of Brugè (1996, 2002) and others, I proposed that all determiners (demonstratives, (in-)definite articles) are merged there.

Adjectives and a null determiner head are merged on top:

(64) [DP D [<sub>AgRP</sub> **adjective** [<sub>artP</sub> **det** [<sub>NP</sub> **noun** ]]]]

The uninterpretable, unspecified [definite] feature on D has to be valued for the derivation to converge. In modified DPs, a modifier is present and is “closer” to D than the determiner. As the adjective has a node for the feature [definite], it presents an intervener for the valuation relation between D and the determiner in art. However, since the adjective has no specification of that feature, it cannot value the feature [definite] on D itself. Consequently, the determiner moves to the DP under Last Resort. This part of the derivation is shared by all languages under consideration. The languages differ with regard to which part(s) of the determiner is moved to D and when.

As discussed above, the languages with the Double Definiteness effect can split up their determiners, in general, and in slightly different ways, in particular. To value the feature in D, the relevant part of the determiner moves to D, leaving the other parts in situ. The determiner part in art undergoes PF Merger with the head noun and the part in D is licensed by *d*-support (cf. Santelmann 1993). This is illustrated here for Swedish (abstracting away from partial N-raising).<sup>44</sup>

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<sup>44</sup> PF Merger and *d*-support are used for illustrative purposes. In fact, as there is evidence that the two determiners can be overtly different (e.g. Faroese) and that the head noun may undergo considerable

- (65) a. den gamle mann-en (Swedish)  
           the old man-the  
       b. [DP **den**<sub>i</sub>+D [AgrP **gamle** [artP ~~-en~~<sub>i</sub> [NP **mann+en**<sub>i</sub> ]]]]

To derive the different interpretations, I assume that different semantic components of the determiner are merged and split off in language-specific ways (section 5.2, table 5).

In contrast to Swedish, Norwegian, and Faroese, Danish, literary Icelandic and common Icelandic cannot split up the determiner. Starting with Danish and literary Icelandic, as all the parts of the determiner have moved to D, there are no “stranded” lower parts to undergo PF Merger. Consider this for Danish (for literary Icelandic, see section 3.4 above):

- (66) a. den gamle mand  
       b. [DP **den**<sub>i</sub>+D [AgrP **gamle** [artP ~~-en~~<sub>i</sub> [NP **mand** ]]]] (Danish)

As for common Icelandic, AgrP moves to Spec,DP to bring about referentiality (cf. Julien 2002; Vangsnes 1999, 2004) and the determiner in art undergoes PF Merger with the partially raised noun (not shown here). Consider (67b) and (67c), respectively.

Finally, the feature in D is valued by covert movement of the determiner after reconstructing AgrP to its base-position, as in (67d) (for more details, see chapter 3).

Consider the derivation now updated from section 3.4:

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allomorphy with a suffixed determiner (Icelandic, cf. Spencer 1992: 324), I assume that Distributed Morphology (Halle & Marantz 1993) is the right technical execution. Now, since the present proposal argues for the splitting of determiners, it is not unexpected that the separated syntactic and semantic features receive independent phonetic realizations. This is in keeping with the discussion above.

- (67) a. gamli maðurinn (common Icelandic)
- b. [DP [AgrP gamli [artP -inn [NP maður ]]]j D ... t<sub>j</sub> ]
- c. [DP [AgrP **gamli** [artP ~~-inn~~<sub>i</sub> [NP **maður+inn**<sub>i</sub> ]]]j D ... t<sub>j</sub> ]
- d. [DP inn<sub>k</sub>-D ... [AgrP gamli [artP t<sub>k</sub> [NP maður ]]]]

Under the assumptions above, we rule out Doubly-filled DPs in Modern Scandinavian: on the one hand, if the determiner moves to D, not only does the [definite] feature on D get valued but the DP as a whole is also licensed with regard to referentiality; on the other hand, if a phrase such as artP or AgrP moves to Spec,DP, the determiner in art cannot move to D overtly (being itself in Spec,DP).

### 5.3.3. Unmodified DP

In unmodified DPs, there is no adjective and, consequently, no intervener. In all these cases, the determiner in art can value the features in D without movement. With the feature [definite] in D specified from the determiner in situ, artP moves to Spec,DP to bring about referentiality (68b). Finally, the determiner in art undergoes PF Merger (68c). We derive the same, homogenous pattern in all Scandinavian languages, illustrated here with Norwegian:<sup>45</sup>

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<sup>45</sup> Wide (2004) reports that the Swedish dialects of Eastern Nyland have a Double Definiteness effect:

(i)	te velå-n	(Eastern Nyland)
	the bike-the	
	‘the bike’	

Apparently, these are not cases interpreted as demonstratives. To the extent that this is correct, I propose that rather than moving artP to Spec,DP for referentiality, here part of the determiner splits up and moves to D to license the DP. The part stranded in art undergoes PF Merger.



- (68) a. mannen (Norwegian)
- b. [DP [artP -en [NP mann ]]j D ... t<sub>j</sub> ]
- c. [DP [artP ~~en~~<sub>i</sub> [NP mann+en<sub>i</sub> ]]j D ... t<sub>j</sub> ]

Finally, I consider the exceptional cases in Swedish, Norwegian, and Faroese where the pre-nominal article is not present.

#### 5.3.4. “Violations” of the Double Definiteness Effect

It is a well-known fact that deletion of material is only possible up to recoverability (otherwise there would be loss of information and potential disruption of communication). As discussed above, the free-standing determiner of Swedish, Norwegian, and Faroese can be left out under certain conditions. Recall that there are two conditions that license the deletion of the determiner: one condition is of a linguistic nature (the presence of “adjectival determiners”) and the other is situation-related (deixis of the noun phrase).

As discussed above, one part of the determiner in Swedish, Norwegian, and Faroese moves to D to value the uninterpretable, unspecified [definite] feature on D. Due to the presence of the “adjectival determiner” with the deictic specification “(+)”, the upper part of the determiner can then be deleted under Recoverability of Deletion:

- (69) a. (det) sista par-et (Swedish)
- the last pair-the
- b. [DP ~~det~~<sub>i</sub>+D [AgrP **sista** [artP **par**<sub>k</sub>+et<sub>i</sub> [NP **par**<sub>k</sub> ]]]]

I propose something similar for (70). Here the “deictic” situation licenses the deletion of the free-standing determiner, which itself is deictic in function:

- (70) a. Ta (den) nya bil-en  
           take the new car-the
- b. [DP (**den**)<sub>i</sub>+D [AgrP **nya** [artP **bil**<sub>k</sub>+**en**<sub>i</sub> [NP **bil**<sub>k</sub> ]]]]

This deletion cannot take place when the noun phrase is used in contrastive reference. This follows from our approach of Recoverability of Deletion and is expected under deletion, where elements can “optionally” appear. (For the deletion of the suffixal determiner under Recoverability of Deletion, see chapter 3.)

Finally, recall that Danish and Icelandic (as well as German and English) do not have split determiners. As discussed above, they move all parts to D or leave them all in situ. This (complex) determiner cannot be deleted under the above-mentioned conditions because the entire complex, moved or left in situ, contains the semantic component that is overtly realized as the lower part of the determiner in Swedish, Norwegian, and Faroese. In other words, the deletion of the determiner in these languages would include the semantic contribution of the lower part of the determiner, the deletion of which is not licensed and could thus not be recovered. This explains why these languages do not allow this kind of deletion of the determiner. Before turning to a comparison between the current analysis and that of Julien (2002), I briefly summarize the derivations above.

#### 5.4. Summary

I proposed that determiners are complex and are merged in art. Furthermore, (part of) the determiner moves to D, covertly or overtly. If the determiner remains (overtly) in situ and is not split, we derive all unmodified DPs in a uniform way: artP moves to Spec,DP for referentiality. Furthermore, we account for modified noun phrases in common Icelandic, where AgrP moves to Spec,DP. Finally, the determiner in art undergoes PF Merger with the noun.

Turning to the other modified DPs, I interpreted the blocking effect of modifiers as an instance of defective intervention. To value the [definite] feature on D, determiners must move: either they move to D unsplit (Danish and literary Icelandic), part of the determiner moves to D and the “stranded” part undergoes PF Merger (Norwegian, Swedish, and Faroese), or the determiner moves covertly, after reconstruction of AgrP (common Icelandic). This is schematically summarized in table 6.

Table 6: Assumptions in the Derivation of Modified and Unmodified DPs

	“split” article	license DP
all unmodified DPs	-	artP
Norwegian, Swedish, Faroese	+	determiner (split)
Danish, literary Icelandic	-	determiner (unsplit)
Icelandic	-	AgrP

## 6. An Alternative Proposal: Julien (2002)

Julien (2002) offers an alternative account with wide empirical coverage and represents the most comprehensive and detailed analysis that I am aware of (I limit myself to some general points; for the motivation of her proposal, see the original paper). She proposes the following structure (p. 267), where CardP and  $\alpha$ P are only projected if lexically filled by a numeral and adjective(s), respectively:<sup>46</sup>

(71) DP CardP  $\alpha$ P\* ArtP NumP NP (where \* is recursive)

This is basically the same structure that I have been using throughout (see chapter 1 for arguments). In order to account for the different patterns, she makes the following assumptions (I leave out her discussion of Western Jutlandic and Northern Swedish).<sup>47</sup>

Simplifying somewhat, Julien assumes for unmodified DPs that it is a lexical feature whether Art is overtly realized (Norwegian, Swedish, Faroese, and Icelandic) or D (Danish and literary Icelandic). In all cases, ArtP moves to Spec,DP to license the DP.

The determiner in Art is supported by N-raising and the one in D by ArtP, containing the head noun:

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<sup>46</sup> There are other proposals that argue for a lower position of the suffixal determiner. Both Delsing (1988: 60) and Santelmann (1993: 161) assume that ArtP is located above adjectives but below D. Delsing argues for raising of both the noun and the adjective and Santelmann for lowering of the definite suffix to N. Furthermore, Delsing (1993b: 144) and Kester (1993: 148; cf. also Alexiadou 2003:15) argue for two DPs in one and the same noun phrase, the former accounts for “double indefiniteness” and the latter for “double definiteness”.

<sup>47</sup> The discussion in the text extends to these cases straightforwardly: Western Jutlandic does not have PF Merger (i.e. the definite determiner is not an affix) and Northern Swedish is similar to Icelandic in that the determiner moves to D in LF but different from it in that adjectives and the head noun form a prosodic unit, “fusing” them into one single element (Julien 2002: 291-3).

Table 7: Julien’s Assumptions for the Unmodified DP

	realize	license D(P)		comments
	Art	D	Spec,DP	
Nw/Sw/Faroese	+	-	ArtP	Move (of ArtP) over Realize (of article)
Da/literary Icel	-	+	ArtP	Doubly filled DP
Icelandic	+	-	ArtP	(adjective is not present and thus no $\alpha$ P)

As for modified DPs, the presence of modifiers in Specifier positions is assumed to block movement of ArtP to Spec,DP. With Art realized in the same way as in unmodified DPs, Norwegian, Swedish, Faroese, Danish and literary Icelandic license the DP by overtly realizing D. In contrast, Icelandic moves the phrase containing the adjective ( $\alpha$ P) to Spec,DP (here, unlike in the other languages, the numeral does not block this movement in Icelandic):

Table 8: Julien’s Assumptions for the Modified DP

	realize	license D(P)		comments
	Art	D	Spec,DP	
Nw/Sw/Faroese	+	+	-	adj./numerals block move of ArtP to DP
Da/literary Icel	-	+	-	adj./numerals block move of ArtP to DP
Icelandic	+	-	$\alpha$ P	adjectives (but not numerals) block movement of a phrase to Spec,DP

Although many ideas in my analysis were inspired by Julien (2002), there are also some differences worth taking note of. I focus on two aspects.

One of the major differences lies in the treatment of Icelandic. Like Julien, I argued that modifiers have a blocking effect. However, rather than ruling out phrasal movement due to the presence of an adjective, I suggested that the long-distance agreement relation between art and D is “blocked” by it and the determiner cannot stay in situ (this blocking effect will be extended to relative clauses in the next chapter). Furthermore, allowing phrasal movement across the adjective gives a straightforward account of the Old Icelandic pattern (*maðrinn gamli*) and allows movement of a phrase across a numeral in common Modern Icelandic without further assumptions. The main differences between Old and (common) Modern Icelandic are that (i) movement of NP was replaced by that of AgrP over time, such that the adjective now moves along to Spec,DP and (ii) the determiner does not move to D overtly anymore.

Both analyses stipulate language-specific operations. While Julien (2002) states which determiner position is overtly realized in which language (art or D), I claim that determiners can be split up in only some languages (if an adjective is present). Besides achieving a homogenous account of the unmodified DP, the current analysis also connects the property of splitting up determiners to the corresponding different semantic interpretations of the DPs, overtly manifested in some languages but not in others.<sup>48</sup>

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<sup>48</sup> I believe that the connection between the syntax and the semantics is less straightforward in Julien (2002). Concentrating on DPs in Norwegian, Swedish, and Faroese, both D and art are present. Consider two scenarios: If we assume that the abstract positions themselves bring about the semantics, then all these DPs should be unique and specific in interpretation; if we assume that the overt realization of D and/or art is responsible, then all unmodified DPs should be specific only and modified ones should be both unique and specific. Furthermore, with different derivations for unmodified DPs across the Scandinavian languages, we might expect differences in interpretation, depending on whether art or D is realized. As far as I am aware, neither scenario captures the facts correctly.

## 7. Conclusion

This chapter started out by providing a formal account of the rise of the suffixal article in the Early Scandinavian DP. This discussion was based on the assumption that determiners are base-generated in a lower phrase (artP) and then move to DP, either overtly or covertly. This provided a straightforward account for the Panchronic Paradox involving the historically related free-standing and suffixal determiners in literary and common Modern Icelandic. More evidence for artP and determiner movement was provided by highlighting some of Brugè's (1996, 2002) analysis involving demonstratives and "stranded" intensifiers. Finally, we turned to the discussion of the Scandinavian DP.

Documenting that the different determiner parts in languages with a Double Definiteness effect have different semantic import, I proposed that these are cases of "split" articles, where one part is moved to DP and the "stranded" part undergoes PF Merger. The difference between the individual languages was proposed to follow from a lexical property that determines which determiner can be split up. The differences between the homogenous, unmodified DP and the heterogeneous, modified DP were accounted for by interpreting the adjective as a defective intervener that "blocks" long-distance agreement from artP to DP but not comparable movement. Finally, the current proposal was compared to that of Julien (2002).

## Chapter 3: The Syntax and Semantics of Non-/ Restrictive

### Modifiers

#### 1. Introduction

In chapter 2, I discussed the morpho-syntactic distribution of determiners. Interpreting adjectives as interveners for long-distance agreement but not for movement, I illustrated that languages may differ in the way they circumvent this blocking effect. As a consequence, there is morpho-syntactic variation across languages. Furthermore, depending on the way the determiners split and which semantic components are present, the distribution of the determiner may also correlate with different interpretations of the DP as a whole.

In this chapter, I discuss interpretative facts inside the DP. In particular, I consider modifiers and their interpretation with regard to (non-)restrictiveness. This discussion is especially interesting from the Scandinavian point of view: to illustrate briefly with restrictive modifiers, the distribution of the determiner in a noun phrase with an adjective is (basically) homogenous within a particular language but diverse across the different languages. Recall the basic pattern from chapter 2:

- (1) a. **den** gamle mann-**en** (Norwegian)  
the old man-the
- b. **den** gamle mand (Danish)



- c.     gamli maður-**inn** (Icelandic)
- d. \*   gamle mann

In contrast, the distribution of the determiner in a noun phrase with a relative clause is heterogeneous within a particular language but basically the same across the different languages. Consider an example from Swedish, where (2a) presents the “Double Definiteness” pattern, (2b) is the “Danish” one, and (2c) shows the “Icelandic” distribution. Note that with both types of modifiers, a determiner has to be present.

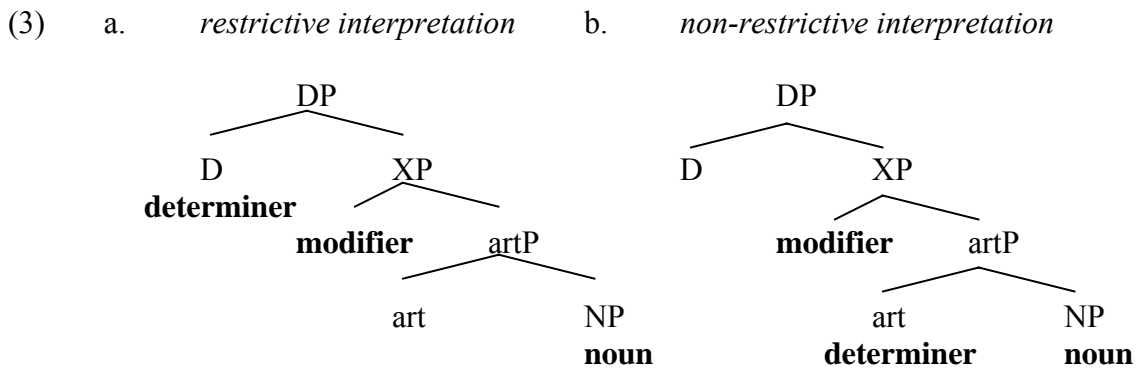
Compare (1d) and (2d):

(2) Har du sett have you seen	{	<ul style="list-style-type: none"> <li>a.     <b>den pilot-en</b> the pilot-the</li> <li>b.     <b>den pilot</b> the pilot</li> <li>c.     pilot-<b>en</b> pilot-the</li> <li>d. *   pilot pilot</li> </ul>	}	som ska köra vårt plan?     (Sw) who will drive our plane
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To reiterate, it is important to point out that, despite the morpho-syntactic variation, all modifiers in (1) and (2) can have a restrictive reading. The goal of this chapter is to account for the restrictive and non-restrictive readings of the modifiers and the

distributional asymmetry of the determiners in noun phrases with adjectival vs. clausal modifiers.

To foreshadow the analysis, I follow Heim & Kratzer (1998) in taking the view that the semantics can be “read off” the syntactic structure. As such, I make the strongest and most straightforward claim that there is a 1:1 mapping between syntax and semantics. As a consequence, semantic interpretation rules will constrain the syntactic analysis and certain syntactic representations will allow only certain interpretations. Concretely, I will be concerned with capturing in more formal terms (type-driven semantics) the intuition that determiners are scope-bearing elements with regard to the interpretation of modifiers. In particular, I will propose that, abstracting away from word order, restrictive modifiers are in the scope of determiners (3a) but non-restrictive ones are not (3b):



In particular, arguing against movement of modifiers, I propose that different copies of the moved determiner are interpreted: the restrictive reading is derived by interpreting the determiner in its derived position, the non-restrictive one by interpreting the determiner in its base-position. To the extent that this is correct, this discussion provides a semantic argument for the main proposal of this dissertation.

The chapter is organized as follows: section 2 discusses restrictive and section 3 non-restrictive modifiers. Although I concentrate on the interpretation of adjectives in Icelandic, the discussion is to be taken more generally. To this end, each section extends the analysis of adjectives, both in the syntactic terms of chapter 2 and in the semantic framework of this chapter, to the syntactic and semantic account of relative clauses in Scandinavian. In section 4, I extend the approach to adjectives in Romance. Some further issues are discussed in section 5 and the main results are summarized in section 6. First, we turn to the discussion of restrictive modifiers.

## 2. The Syntax and Semantics of Restrictive Modifiers

Heim & Kratzer (1998: 83) discuss a historic debate between Barbara Partee and Noam Chomsky. Put simply, Partee (1976) argues that a restrictive relative clause combines with a noun before their intersection combines with a determiner (4a). However, Chomsky (1975: 96-101) points out that there is evidence against this view such that the determiner apparently forms a unit with the noun, excluding the restrictive modifier (4b).<sup>1</sup> In order to maintain Partee's view, Heim & Kratzer suggest that (4a) must hold at some other level of representation (4c):

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<sup>1</sup> Actually, Chomsky (1975: 96-101) raises questions about plural DPs with a restrictive relative clause. He argues for the following structure, where the noun and the plural morpheme form a constituent to the exclusion of the restrictive modifier. These elements are dominated by the determiner (p.100):

(i) [NP determiner [N' [N noun + plural ] modifier ]]

Without going into any details, the problem is not supposed to arise from the scope of the determiner but the relation between number and the relative clause.

Under today's assumptions, it is not clear, however, if this still presents a problem. Chomsky's discussion is based on the (then) assumption that number is interpreted at the location where the morpheme appears (i.e., below the relative clause). However, if we assume that number is interpreted otherwise, then the problem does not arise. Avoiding the issue of number, I discuss Icelandic noun phrases with adjectives, essentially following Heim & Kratzer's discussion of restrictive prepositional phrase in the Scandinavian languages, which present an apparently clear problem with regard to the scope of the determiner, as in (4b).

- (4) a. Partee: [ determiner [ noun modifier ] ]  
 b. Chomsky's problem: [[ determiner noun ] modifier ]  
 c. Heim & Kratzer: (4a) holds at some other level of representation

As implied by Heim & Kratzer, I will suggest below that this level is LF. To make the discussion concrete, consider adjectival modifiers in Icelandic, which, on the surface, appear to have the problematic structure in (4b) (abstracting away from the order of the elements).

Recall from chapter 2 section 5.3.2 that literary Icelandic and common Icelandic have different derivations. Concentrating on the latter (5b), AgrP moves to Spec,DP, as in (5c). This is followed by the determiner in art undergoing PF Merger with the (partially raised) noun:

- (5) a. hinar þrjár frægu bækur mínar (literary Icelandic)  
 the three famous books my  
 b. frægu bækurnar mínar þrjár (common Icelandic)  
 famous books-the my three  
 c. [DP [AgrP frægu bækurnar mínar ]<sub>i</sub> D [CardP þrjár t<sub>i</sub> ]]

Since the possessive pronoun (in Spec,nP) moves along, the overt determiner must be in art (rather than D). Taking a less complicated example from common Icelandic (6a), consider the main steps in the derivation in more detail: after base-generating all the

elements (6b), AgrP moves to Spec,DP (6c) and the determiner in art undergoes PF Merger (6d) with the partially raised noun (which is not shown here):

- (6) a.      gamli maðurinn  
           old    man-the
- b.      [<sub>DP</sub> D ... [<sub>AgrP</sub> gamli [<sub>artP</sub> -inn [<sub>NP</sub> maður ]]]]
- c.      [<sub>DP</sub> [<sub>AgrP</sub> gamli [<sub>artP</sub> -inn [<sub>NP</sub> maður        ]]]j D ... t<sub>j</sub> ]
- d.      [<sub>DP</sub> [<sub>AgrP</sub> **gamli** [<sub>artP</sub> ~~-inn<sub>i</sub>~~ [<sub>NP</sub> **maður+inn<sub>i</sub>** ]]]j D ... t<sub>j</sub> ]

None of the stages in (6b-d) provides the correct syntactic input for the semantic interpretation: unlike in (4a), the adjective and the noun do not form a unit to the exclusion of the determiner.

### 2.1. *Derivation of the Restrictive Reading*

The main proposal of this dissertation is that determiners move from art to D. I propose then that in order to bring about the constellation in (4a), AgrP “reconstructs”<sup>2</sup> to its base-position in LF, essentially reversing (6c) to the base-generated (6b) = (7a), and the determiner moves to D to value the [definite] feature on D (7b):<sup>3</sup>

<sup>2</sup> Although I will be using the term “reconstruction” throughout, this simply means that, in a copy-and-delete approach, the lower copy becomes relevant.

<sup>3</sup> Independently of how LF movement is instantiated, there is another reason that the suffixal determiner in Icelandic has to move, namely in order to avoid type mismatch (see section 5.3).

- (7) a. [DP D ... [AgrP gamli [artP -inn [NP maður ]]]]  
 b. [DP -inn<sub>i</sub>+D ... [AgrP gamli [artP -inn<sub>i</sub> [NP maður ]]]]

Assuming that the determiner undergoes PF Merger after Spell-out, it is free to move to D in LF on its own (i.e., without the noun). More generally then, I assume that after movement of the determiner from art to D, all languages under discussion have a copy of the determiner in art and D in LF. Consider the syntactic structure in schematic terms (to keep the discussion simple, I will mostly concentrate on cases involving one modifier):

- (8) [ determiner [ adjective [ determiner [ noun ]]]]

The basic proposal of this chapter is that, when the lower determiner is deleted, the upper determiner is interpreted deriving the restrictive reading; in contrast, when the upper determiner is deleted, the lower one is interpreted bringing about the non-restrictive one:

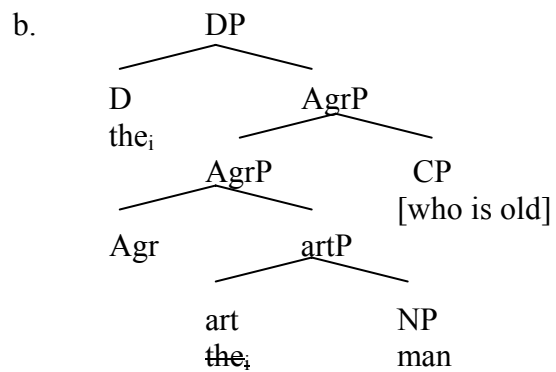
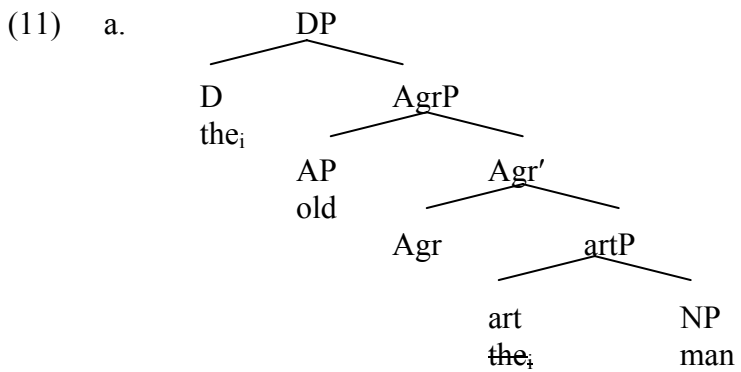
- (9) a. *restrictive interpretation*  
 [ determiner [ adjective [ ~~determiner~~ [ noun ]]]]  
 b. *non-restrictive interpretation*  
 [ ~~determiner~~ [ adjective [ determiner [ noun ]]]]

In what follows, I make this suggestion more formal, using English examples.

Consider the following question-answer pair (disregarding pronominalization of *John* in the answer):

- (10) Which man did John see?  
 a. John saw the old man.  
 b. John saw the man who is old.

The simplified LF representations of the DPs in (10) are given in (11):



Note that the answer involving the adjective and the one with the relative clause have basically the same meaning. For ease of exposition, I will concentrate on the adjectival modifier.

In the framework of Heim & Kratzer (1998), I define the lexical entries of the relevant elements as follows (the entry for *the* is taken from Heim & Kratzer 1998: 81):

(12)  $[[\textit{the}]] = \lambda f: f \in D_{\langle e,t \rangle}$  and there is exactly one  $x \in C$  such that  $f(x) = 1$ .

the unique  $y \in C$  such that  $f(y) = 1$ ,

where  $C$  is a contextually salient subset of  $D$ .

$[[\textit{John}]] = J$  (John the individual)

$[[\textit{saw}]] = \lambda u: u \in D_{\langle e \rangle} . \lambda x: x \in D_{\langle e \rangle} . x \textit{ saw } u$ .

$[[\textit{old}]] = \lambda z: z \in D_{\langle e \rangle} . z \textit{ is old}$ .

$[[\textit{man}]] = \lambda w: w \in D_{\langle e \rangle} . w \textit{ is a man}$ .

The following calculation illustrates the account of the restrictive modifiers: first, the adjectival predicate *old* ( $\langle e,t \rangle$ ) is combined with the head noun *man* ( $\langle e,t \rangle$ ) by Predicate Modification (13c-d); then, the resulting intersection ( $\langle e,t \rangle$ ) combines with the determiner *the* ( $\langle \langle e,t \rangle, e \rangle$ ) by Functional Application (13f-g):

(13)  $[[\textit{John saw the old man}]] = 1$  iff

a.  $[[\textit{saw the old man}]] ([[ \textit{John} ]]) = 1$  iff



- b.  $[[\text{saw}]] ([[ \text{the old man} ]]) (J) = 1$  iff
- c.  $[[\text{saw}]] ([[ \text{the} ]]) ([[ \text{old man} ]]) (J) = 1$  iff
- d.  $[[\text{saw}]] ([[ \text{the} ]]) (\lambda v: v \in D_{\langle e \rangle} . [[ \text{old} ]] (v) \text{ and } [[ \text{man} ]] (v) = 1)) (J) = 1$  iff
- e.  $[\lambda u: u \in D_{\langle e \rangle} . \lambda x: x \in D_{\langle e \rangle} . x \text{ saw } u]$   
 $([\lambda f: f \in D_{\langle e, t \rangle} . \text{the unique } y \in C \text{ such that } f(y) = 1]$   
 $(\lambda v: v \in D_{\langle e \rangle} . [\lambda z: z \in D_{\langle e \rangle} . z \text{ is old}] (v)$   
 $\text{and } [\lambda w: w \in D_{\langle e \rangle} . w \text{ is a man}] (v) = 1)) (J) = 1$  iff
- f.  $[\lambda u: u \in D_{\langle e \rangle} . \lambda x: x \in D_{\langle e \rangle} . x \text{ saw } u]$   
 $([\lambda f: f \in D_{\langle e, t \rangle} . \text{the unique } y \in C \text{ such that } f(y) = 1]$   
 $(\lambda v: v \in D_{\langle e \rangle} . [v \text{ is old and } v \text{ is a man}])) (J) = 1$  iff
- g.  $[\lambda u: u \in D_{\langle e \rangle} . \lambda x: x \in D_{\langle e \rangle} . x \text{ saw } u]$   
 $([\text{the unique } y \in C \text{ such that}$   
 $[\lambda v: v \in D_{\langle e \rangle} . [v \text{ is old and } v \text{ is a man}]] (y) = 1]) (J) = 1$  iff
- h.  $[\lambda u: u \in D_{\langle e \rangle} . \lambda x: x \in D_{\langle e \rangle} . x \text{ saw } u]$   
 $([\text{the unique } y \in C \text{ such that } y \text{ is old and } y \text{ is a man}]) (J) = 1$  iff

J(ohn) saw the unique  $y \in C$  such that  $y$  is old and  $y$  is a man

To conclude, interpreting the upper determiner derives the restrictive interpretation of the adjective. If the upper determiner were to be deleted and the lower determiner interpreted, a problem would arise: proceeding bottom-up, the nominal predicate *man* and the determiner would combine, giving a referential expression (<e>). The adjectival predicate *old* could then take this element as an argument and return an expression of type <t>. However, the verbal predicate *saw* cannot combine with this outcome and the sentence would be uninterpretable. I consider some syntactic implications.

## 2.2. *Syntactic Consequences: Scandinavian Relative Clauses*

In chapter 2, I showed that pre-nominal modifiers have a blocking effect, which leads to different syntactic distributions of the determiner. Interpreted as interveners, I proposed to derive the intervention effect of the adjective from a feature node (and crucially not from its Specifier status). Assuming that all modifiers are the same in the relevant sense, we expect that other modifiers will also show syntactic effects of this blocking. This prediction is borne out for restrictive relative clauses in Scandinavian. Recall from the introduction that, in contrast to adjectives, relative clauses allow for more syntactic patterns within a particular language, at the same time making them more homogenous across the languages under discussion. I now turn to an explanation of this asymmetry.

Consider first an example from Swedish, where the determiner of the head noun has the “Double Definiteness” distribution in (14a), the “Danish” one in (14b), and the “Icelandic” pattern in (14c). Crucially, a determiner cannot be missing (14d) (examples from Kester 1996b: 117; for similar data, see Börjars 1998: 142):

- (14) Har du sett  
have you seen
- |   |      |               |   |                          |      |  |
|---|------|---------------|---|--------------------------|------|--|
| { | a.   | den pilot-en  | } | som ska köra vårt plan?  | (Sw) |  |
|   |      | the pilot-the |   | who will drive our plane |      |  |
|   | b.   | den pilot     |   |                          |      |  |
|   |      | the pilot     |   |                          |      |  |
|   | c.   | pilot-en      |   |                          |      |  |
|   |      | pilot-the     |   |                          |      |  |
|   | d. * | pilot         |   |                          |      |  |
|   |      | pilot         |   |                          |      |  |

With the exception of the Double Definiteness pattern, Danish also has two forms:

Hankamer & Mikkelsen (2002: 166) point out that (15a) is only restrictive in interpretation. In contrast, (15b) is non-restrictive and can also be restrictive for younger speakers:

- (15) a. den hest der vandt løbet (Danish)  
the horse that won race-the
- b. hest-en der vandt løbet  
horse-the that won race-the

Under the assumptions of chapter 2, the absence of the Double Definiteness pattern is expected as Danish independently does not allow determiner splitting. Hence, once the dis-ability to split determiners is factored in, the distribution of the determiner with restrictive relative clauses within a language is parallel to the distribution of the

determiner with adjectives across the different languages. I propose that this asymmetry follows from the different possible adjunction sites of the relative clauses in these languages. First, I consider the syntactic structures of restrictive relative clauses in the languages with the Double Definiteness effect.

Assuming that Specifier positions on the right are universally not available (Kayne 1994), I analyze relative clauses to be adjoined on the right. In other words, *pace* Kayne, I will follow Takano (2003) in assuming “weak antisymmetry”, that is, that all Specifiers are on the left but that adjunction to the right is allowed. In order to determine the adjunction site, note that Delsing (1993b: 32) observes that the article in front of a predicative noun becomes obligatory when the noun appears with a descriptive modifier:

- (16) Han är \*(en) karl som man kan lita på. (Swedish)  
He is a man that one can trust.

As discussed in chapter 1, there is a special relationship between adjectives and determiners: the former make the latter obligatory. To capture this, I proposed that Agr selects for artP. This discussion can now be extended. Similar to the cases in chapter 1, the indefinite article in (16b) is semantically vacuous and its obligatory presence must be syntactically motivated.<sup>4</sup> If we assume that the relative clause can only adjoin to AgrP or artP, then a determiner must be present as well. I conclude that the restrictive relative clause cannot be adjoined lower than artP (e.g., to NP) or higher than AgrP (e.g., to DP).<sup>5</sup>

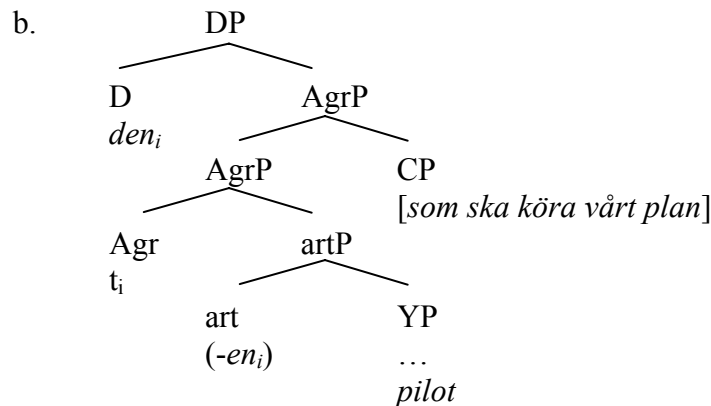
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<sup>4</sup> This is different for non-restrictive modifiers. Here the article is obligatory for a semantic reason, since only specific noun phrases can form the antecedent of appositive relatives (see below).

<sup>5</sup> For two other arguments that restrictive relative clauses cannot adjoin to DP but only lower, see Stroik (1994: 46-8).

If this is true, then the relative clause has a “choice” between adjoining to AgrP or artP. In keeping with the discussion of adjectives in chapter 2, if a relative is adjoined to AgrP, it will present an intervener. As a consequence, the determiner has to move to D to value the [definite] feature. As in the case with adjectives, the determiner will be split up and the lower part undergoes PF Merger. In the case of generic relatives, there is no specificity component in the determiner and no part is stranded.<sup>6</sup> These derivations bring about the Double Definiteness and the “Danish” patterns:

- (17) a. Har du sett den pilot(-en) som ska köra vårt plan? (Swedish)  
 have you seen the pilot-the who will drive our plane



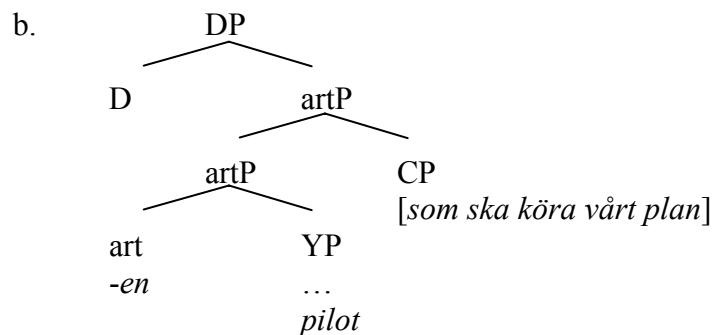
<sup>6</sup> Recall from chapter 2, that the expletive part, possible with adjectives, does not occur with relative clauses. Interestingly, the suffixal determiner can also be left out if both an adjective and a relative clause are present, which can be non-generic in interpretation (Platzack 1997: 71 fn. 11):

- (i) Det röda hus vi just körde förbi ägs av min syster. (Swedish)  
 The red house we just drove by is-owned by my sister

If only the adjective is present, the determiner must be present. Furthermore, as just mentioned, if only a relative clause is present with no suffixal determiner, then the interpretation is generic. Combining these two observations, (i) is exceptional. I suggest that, if both types of modifier are present, then the predicative part of the noun phrase (i.e., the adjective, the relative clause, and the noun itself) is semantically “overdetermined” with regard to specificity. This presumably licenses the deletion of the suffixal determiner under Recoverability of Deletion.

As for the “Icelandic” distribution, I propose that the relative clause is adjoined to artP. Following a suggestion by Željko Bošković (p.c.), I employ the notion of equidistance. In the terms of Chomsky (1993: pp. 178), the relative, being adjoined to artP, and art are in the same minimal domain and, hence, equidistant from D. As the relative clause is not closer to D, it does not intervene and the determiner can value the feature in D without movement:

- (18) a. Har du sett pilot\*(-en) som ska köra vårt plan? (Swedish)  
 have you seen pilot-the who will drive our plane



To finalize the derivation, artP moves to Spec,DP to license the DP with regard to referentiality and the determiner in art undergoes PF Merger (not shown in (18b)).

The Danish facts follow immediately. Disallowing split determiners, the derivation in (17) accounts for the judgments of all speakers and the one in (18) for the judgments of younger speakers. In contrast to older generations, younger speakers apparently also allow adjunction to artP.<sup>7</sup> I turn to the account of the restrictive readings.

<sup>7</sup> Noun phrases modified by a prepositional phrase only allow a suffixal determiner (ia). I assume that the PP is adjoined to artP. Interestingly, if a restrictive relative clause is added, the free-standing determiner is

In the “Double Definiteness” and “Danish” patterns, the modifier is in the scope of the determiner and nothing else needs to be said.<sup>8</sup> As for the “Icelandic” pattern, the derivation is parallel to that of the restrictive adjectives in Icelandic discussed above: after reconstruction of artP and movement of the determiner to D in LF, the determiner takes scope over the relative clause and, consequently, the head noun and the relative can combine by Predicate Modification. Finally, let us consider again the paradoxical distribution of the determiner in a noun phrase with an adjective vis-à-vis one with a relative clause (cf. (1), (2)).

Being in a Specifier position, adjectives always intervene between art and D. Consequently, there is only one basic pattern per language, though languages vary in the way they resolve the blocking effect. This results in a diverse picture across the Scandinavian languages. However, with different adjunction sites available on the right, more variety is possible with relative clauses within a particular language, basically exhausting all the possibilities with regard to the distribution of the determiner. As a result, relative clauses are similar across the different Scandinavian languages.

In this section, I started with the observation that, on the surface, restrictive adjectives in common Icelandic are not in the scope of the determiner. Proposing that the determiner moves to D (to value the [definite] feature on D), the relevant semantic

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possible (ib). With the discussion from above in mind, I suggest that the relative clause is adjoined to AgrP presenting a case of intervention (data from Hankamer & Mikkelsen 2005: 111-2):

- (i) a. gris-en med blå pletter (Danish)  
       pig-the with blue spots  
       b. den gris med blå pletter som vi fik af nabo-en  
           the pig with blue spots that we got from neighbor-the

As pointed out by Hankamer & Mikkelsen (2005: 118), the same facts hold for argument PPs and the analysis is similar to that of (i).

<sup>8</sup> The possibility of splitting the determiner raises the question of which part is responsible for bringing about the interpretation with regard to (non-)restrictiveness. As I have no clear evidence bearing on this question, I leave this question for further research.

constellation holds in LF. Employing independently motivated semantic rules, this derivation presents a semantic argument for the hypothesis that determiners move to the DP, the main proposal of this dissertation. The discussion was extended to relative clauses, where the asymmetry in the distribution of the determiner followed from the homogeneous Specifier positions for the adjectives and the different adjunction sites for relative clauses. In the next section, I turn to non-restrictive modifiers.

### **3. The Syntax and Semantics of Non-restrictive Modifiers**

In the last section, I provided an account for restrictive modifiers that involved the interpretation of the determiner after both the predicate head noun and adjective were combined. In other words, the determiner “closes off” the DP with regard to referentiality and if predicates are in its scope, then they will be part of the extension of the DP. In this sense, the determiner is a scope-bearing element. If this is so, we can also imagine “inverse” scope to hold, that is, that the determiner copy below the modifier is interpreted. In fact, assuming base-generation of the determiner in art and movement, we can derive the non-restrictive reading of modifiers at little extra cost by interpreting the low copy.

It is well-known that certain relative clauses have a non-restrictive reading (see among many others Thompson 1971, Thorne 1972, Bach & Cooper 1978, Emonds 1979, Cinque 1981, Kaisse 1981, Sells 1985, Safir 1986, Fabb 1990, Borsley 1992, Sag 1997). Adjectives have received less attention in this respect (but see section 4 on Romance). Recall now that noun phrases with adjectives in Modern Icelandic have two patterns:



while the common form involves a weak adjective and a suffixal article (19a), literary Icelandic also exhibits a weak adjective but has a free-standing article (19b). Besides these two patterns, there is a third, rarely discussed form that involves a strong adjective and a suffixal article (19c):

- (19) a.      guli              billinn                                      (common Icelandic)  
                  yellow(WEAK) car-the
- b.      hinn guli              bíll    (literary Icelandic)  
                  the yellow(WEAK) car
- c.      gulur              billinn  
                  yellow(STRONG) car-the

The example in (19c) is not an indefinite DP, which involves strong adjectives, but a definite one. In contrast to the other Scandinavian languages, these morpho-syntactically different forms seem to correlate with differences in interpretation. Citing work by Rögnvaldsson, Delsing (1993b: 132 fn. 25) points out that, while the adjective in (19a) is restrictive in interpretation, (19c) is non-restrictive. Furthermore, based on observations by Indriðason, Vangnes (1999: 131 fn. 24; p.c.) states that the adjective in literary Icelandic in (19b) can only have a non-restrictive reading. So, while the adjective in the common pattern is restrictive, the other two forms are non-restrictive in interpretation (see section 5.3 for a lexical account for this asymmetry).

In the last section, I derived the restrictive interpretation in (19a) by reconstruction of AgrP and subsequent movement of the article to D in LF. I now turn to

the account of the non-restrictive readings of (19b-c). In general terms, I propose that Icelandic has two different analyses for non-restrictive adjectives, such that the weak adjective in (19b) is syntactically part of the noun phrase but the strong one in (19c) is not. Arguing against an approach involving movement of the adjective, I propose that the determiner in (19b) is interpreted in its base position *art*, resulting in the non-restrictive reading of the now “higher” adjective. This provides an argument for the claim that the article in (19b) must have moved from *art* to *D*, the main proposal of this dissertation. Since it is not relevant for present purposes, the account for (19c) will not be discussed in detail here.

More generally, the overt syntactic distribution of the determiners vs. adjectives in (19a-b) is the reverse of what one would expect from the semantic point of view. “Mismatches” of this kind are well-documented in the literature and are usually accounted for by movement or reconstruction of the relevant (quantificational) element (cf. Bobaljik & Wurmbrand 2005). Having interpreted the determiner as a scope-bearing element, we in fact expect the determiner itself to move or reconstruct (rather than a different element).

Consider more complex data, where a second adjective has been added to common Icelandic in (20a) and literary Icelandic in (20b) (the data are provided by Þóra Ásgeirsdóttir):

- (20) a.   ljóti       guli       bíllinn  
           ugly(WEAK) yellow(WEAK) car-the

- b. hinn ljóti guli bíll  
 the ugly yellow car

As is often stated, the free-standing article in literary Icelandic is only possible if an adjective occurs. As argued in chapter 2, this follows from the assumption that the adjective intervenes between art and D, bringing about movement of the determiner to D. As in Danish, this movement is overt in literary Icelandic. If adjectives have a blocking effect, the non-restrictive adjectives in (20b) must be a syntactic phenomenon as they interact with the determiner. Furthermore, being syntactic, the weak ending of the adjectives is expected in (20b) just as it is in (20a). This is in contrast to the third pattern, which involves a strong adjective and does not allow a preceding determiner (21b-c):

- (21) a. ? ljótur gulur bíllinn  
 ugly(STRONG) yellow(STRONG) car-the
- b. \* hinn ljótur gulur bíll  
 the ugly yellow car
- c. \* þessi ljótur gulur bíll  
 this ugly yellow car

The ungrammaticality in (21b-c) is surprising in view of the fact that Icelandic does allow a free-standing determiner with non-restrictive adjectives (20b). I suggest that the obligatory absence of the free-standing determiner with the strong adjective is the result

of a different analysis from the one in literary Icelandic. Importantly, the claim about two analyses has already been made for non-restrictive relative clauses.

Accounting for some differences between non-restrictive relative clauses in Italian introduced by *cui* vs. *quale*,<sup>9</sup> Cinque (1981) proposes that there are two analyses of non-restrictive relative clauses: in (22a), the relative clause is part of NP; in (22b), it is not. I will call the former case the “syntactic” and the latter the “parenthetical” type. His structures are slightly updated (CP = Cinque’s S’):

- (22) a. [NP NP CP ]  
b. NP., CP, ..

With regard to the syntactic representation of parenthetical relative clauses, Cinque (1981: 286 fn. 26) states that they may “in fact [be] outside of the theory of phrase structure proper” (for related ideas, see Emonds 1979, Safir 1986, Fabb 1990, Giorgi & Longobardi 1991: 252 fn. 42). Finally, assuming parametric variation, English differs from Italian in that it only has parenthetical appositives. As we will see in section 3.2, Swedish provides evidence for syntactic non-restrictive relative clauses.

In the absence of evidence to the contrary, I assume that the two analyses in (22) lead to a similar interpretation. If this is so, syntactic and parenthetical non-restrictive modifiers must be, at least, similar at some level of semantic representation. As the parenthetical type is not part of the syntactic tree representation, it presumably does not enter into any relation with the determiner, which is my main focus here. For present

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<sup>9</sup> For instance, both types of relative clauses differ in the way they require the relative pronoun to be present and in the way relative pronouns can pied-pipe certain other material.

purposes then, I will concentrate on the syntactic type and the third pattern in Icelandic is not further discussed here.

Following Partee (1976: 54), the interpretation of modifiers is often taken to be a matter of scope between the determiner and the modifier (cf. also Delorme & Dougherty 1972: 9 fn. 4, Sproat & Shih 1991: 574, Kayne 1994: 112, Crisma 1996: 70, Platzack 1997: 77-8, Kim 1997, Hankamer & Mikkelsen 2002: 167, Mallen 2002: 178, Ticio 2003: 131).<sup>10</sup> Abstracting away from linear order, this can be schematized as follows:<sup>11</sup>

- (23) a. *restrictive modifier*: [ determiner [ modifier noun ] ]  
b. *non-restrictive modifier*: [ modifier [ determiner noun ] ]

The individual proposals differ in how they bring about the constellation in (23b). Before I turn to my own analysis, I will point out some problems for the most frequent alternative, which involves movement of the adjective across the determiner. To this end, consider noun phrases containing possessives and demonstratives:

- (24) a. our excellent students  
b. these excellent students

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<sup>10</sup> For alternative proposals, see Bach & Cooper (1978), Longobardi & Giorgi (1991: 246 fn. 21), Zamparelli (1993), Radford (1993), and Anderson (2002: 120-4).

<sup>11</sup> In fact, the true statement is probably more general than (b). Rather than being outside the scope of a determiner, non-restrictive adjectives must be outside referential expressions. This can be seen with proper names, modified by *poor* under the “non-restrictive” reading ‘pitiable’ (cf. Jackendoff 1977: 181):

(i) poor John

As determiners take predicates as their arguments and return referential expressions, the discussion in the text presents a subcase of the more general phenomenon. For present purposes, this is the case I will concentrate on.



It is clear from the discussion in chapter 1 that these modifiers do not form a constituent to the exclusion of the lower part of the noun phrase, since they are in different Specifier positions. Consequently, they cannot move to Spec,DP as a unit ((26a) is from Giorgi & Longobardi 1991: 242 fn. 14; (26b) is provided by Elisa Di Domenico, p.c.):

- (26) a. l' ottima nuova segretaria di Maria (Italian)  
the excellent new secretary of Mary
- b. una simpatica piccola ragazza  
a nice small girl

Based on these two arguments, I conclude that adjectives do not move to Spec,DP (for a more detailed discussion of Romance, see section 4).<sup>13</sup> Fortunately, my proposal does not involve any movement of the adjective. In fact, it involves base-generation of the determiner in art and movement of it to D for independent purposes (valuing a feature in D). Continuing in the framework of Heim & Kratzer (1998), I propose in what follows

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<sup>13</sup> It is sometimes claimed that non-restrictive adjectives block extraction from the antecedent DP. As the adjectives themselves cannot occupy Spec,DP in LF, as discussed in the text, there must be a different reason for this restriction. Considering the semantics of the antecedents, I assume that this is a semantic issue, since these DPs are specific in interpretation (e.g. Fodor & Sag 1982: 361, Vangsnes 1999: pp. 72, Zhang to appear; but cf. Sells 1985). This becomes clear if we make use of Ritter's (1995: 437 fn. 21) observation that an indefinite specific DP can be co-referential with a personal pronoun but indefinite nonspecific ones can only be co-referential with an impersonal pronoun. As the noun phrase in (ia) is ambiguous, it can be pronominalized by both types of pronouns. However, if *übrigens* 'by the way' is added, the reading is disambiguated as specific only. In this case, only the personal pronoun may be used:

- (i) a. Ich suche [ein rotes Haus]<sub>i</sub>. Kennst du {es;/eins<sub>i</sub>}? (German)  
I am looking for a red house. Do you know it/one?
- b. Ich suche [ein übrigens rotes Haus]<sub>i</sub>. Kennst du {es;/#eins<sub>i</sub>}?  
I am looking for an incidentally ready house. Do you know it/one?

If non-restrictive modifiers, introduced by *übrigens*, only take specific antecedents, the contrast in (ib) follows. Returning to extraction, although non-restrictive modifiers have a disambiguating function, they themselves are not responsible for the ban on extraction. In other words, specific DPs do not allow extraction for semantic reasons, independently of the presence of the non-restrictive adjective.

that non-restrictive modifiers are propositions (type  $\langle t \rangle$ ) and that the lower determiner copy is interpreted.

### 3.1. *Derivation of the Non-restrictive Reading*

Thompson (1971) characterizes the semantics of non-restrictive relative clauses as “an assertion..., a comment injected into the sentence whose truth is being vouched for...independently of the content of the rest of the sentence” (p. 86). I follow this basic semantic intuition, adding that the “presuppositional” assertion of the non-restrictive modifier is associated with its “hosting” proposition at some level of representation. I suggest that this association takes the form of some type of conjunction.

As already seen above, restrictive modifiers combine by Predicate Modification, a form of conjoining the relevant properties (27a). Turning to non-restrictive modifiers, I follow Sproat & Shih (1991: 574), who propose that conjunction holds at a different level, namely between propositions (27b):

- (27) a. This man who is walking is speaking.  
[this x | (man'(x) & walking'(x))] is speaking
- b. This man, who is walking, is speaking.  
[this x | man'(x)]<sub>i</sub> is speaking & he<sub>i</sub> is walking



The pronoun in the second conjunct is co-indexed with its antecedent in the first conjunct.<sup>14</sup> To reiterate, the difference between restrictive and non-restrictive modifiers is taken to be a matter of the scope of the conjunction (property vs. proposition). Besides this semantic intuition, there is also some syntactic evidence that non-restrictive modifiers are similar to conjunctions.

The first argument derives from the behavior of quantifiers. Going back to work of Ross, Jackendoff (1977: 175-6) points out that *every* and *any* can only be part of the “antecedent” of a restrictive relative clause but are not possible with non-restrictive or conjoined clauses:

- (28) a. Any / Every man who drives a Cadillac is insane.  
b. \* Any / Every man, who drives a Cadillac, is insane  
c. \* Any / Every man is insane, and he drives a Cadillac.

Similar facts hold for Negative Polarity Items such as *any* ((29a-b) is taken from Fabb 1990: 70):

- (29) a. Only the tourists who have any imagination go to visit Sicily.  
b. \* Only the tourists, who have any imagination, go to visit Sicily.  
c. \* Only the tourists go to visit Sicily, and they have any imagination.

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<sup>14</sup> Co-indexation is probably a simplification: Cinque (1981: 255) characterizes relative pronouns as inherently bound anaphors (cf. also Emonds 1979: 220) and Sells (1985) characterizes them as “discourse anaphors”. For present purposes, the assumption of indexation is enough.

Hence, non-restrictives are semantically and syntactically similar to conjunctions (for more arguments, see among others Emonds 1979: section 2; see also the references in Thompson 1971: 84).<sup>15</sup> We are now ready to execute these ideas in more detail.

Considering the assumption that non-restrictive modifiers are associated with their hosting proposition by conjunction and the fact that conjunction is only allowed with elements of the same semantic type, the non-restrictive modifier must in fact be a proposition. I propose then that non-restrictive adjectives are more complex in that they have a co-occurring null pronoun (cf. Sells 1985: 30). As a consequence, the adjective ( $\langle e, t \rangle$ ) and the pronoun ( $\langle e \rangle$ ) can combine by Functional Application to give a proposition. I will assume here that this element is *pro*.<sup>16</sup> As already seen above, *pro* has to be co-indexed with the “hosting” DP:

(30) [die [*pro*<sub>i</sub> exzellenten ] Studenten]<sub>i</sub>  
the excellent students

We now turn to the question of how the syntactic type of non-restrictive modifiers gets from its position inside the DP in the syntax to be coordinated with the “hosting” proposition in the semantics. As far as I am aware, there is little discussion on this in the

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<sup>15</sup> There are some complicating issues here. Ross (1967) points out that appositive relative clauses cannot be conjunctions in all cases but should be considered sequences of main clauses. Discussing the cases in Jackendoff (1977: 197), Emonds (1979: 218) proposes a null connective CONJ (cf. also Thompson 1971: 85). (For similarities between non-restrictive relative clauses and left dislocations, see Platzack 1997: 81, pp. 88). For present purposes, I will not discuss these further issues but assume that conjunction (of some sort) is the correct analysis.

<sup>16</sup> Null pronouns as part of the adjective phrase have been proposed before. Valois (1991a: 376, 1991b: 171-3) proposes PRO in Spec,AP to account for agreement of post-nominal adjectives in French (for a critique, see Barbiers 1992). Mallén (1996: 176) assumes *pro* in predicative adjective phrases.

literature and not much relevant evidence. Consequently, the next few paragraphs will be tentative.

Consider the following question-answer pair:

(31) A: Who did John see, the man or the woman?

B: Believe it or not,

- a. John saw the (incidentally) old man.
- b. John saw the man, who is old.

As proposed above, I assume that, with non-restrictive modifiers, the upper determiner is deleted and the lower one is interpreted (cf. (11)):

(32) a. John saw [ ~~the~~<sub>i</sub> [ old [ the<sub>i</sub> man ] ] ]

b. John saw [ ~~the~~<sub>i</sub> [ [ the<sub>i</sub> man ] who is old ] ]

The syntactic representations in (32a) and (32b) are essentially the same. In other words, I will treat all non-restrictive modifiers in the same way, that is, independent of their categorial type (cf. Ticio 2003: 123 fn. 7). Note that the non-restrictive modifier containing *old* intervenes between the verbal predicate *saw* and the nominal argument *the man* in (32). In other words, the verbal functor and its nominal argument cannot combine directly. There are two ways to proceed.

Assuming that DP is a phase, we could say that elements of type <e> and <t>, being semantically complete and atomic, can be sent off individually and are “associated”

with the rest of the clause later. Alternatively, we could postulate a rule that “removes” the non-restrictive modifier so that the semantic calculation can proceed as usual such that the verb can combine with the nominal argument by Functional Application. As specific rule statements are very powerful and as there is some advantage in the postulation of a phase to account for agreement (chapter 4), I will flesh out the approach involving separate spell-outs here.<sup>17</sup>

The transition of non-restrictive adjectives from the syntactic representation, where they are constructed in, to semantic coordination with the “hosting” proposition minimally involves two different levels of representation (syntax and a “late” level of semantics, perhaps discourse). I propose that this transition occurs “on-line”, that is, there is multiple semantic spell-out. More concretely, assuming that atomic semantic elements can be “sent off” separately, I propose that expressions of type  $\langle e \rangle$  are “associated” with predicates and those of type  $\langle t \rangle$  with the “hosting” proposition at some level of representation:

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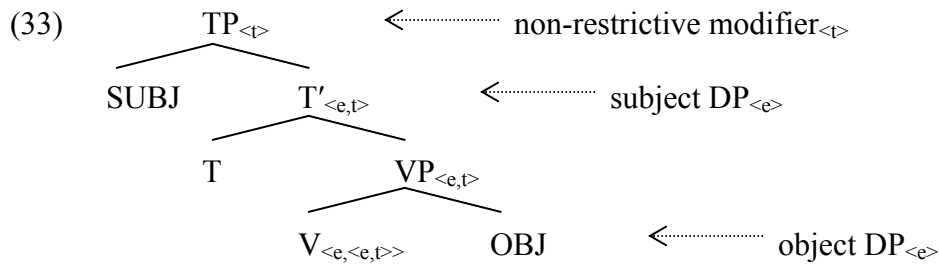
<sup>17</sup> A “removal” rule could take the following form, where an element  $f$  is removed from the DP and added at another level of representation:

- (i) If  $f, h \in D_{\langle e, t \rangle}$ , then  $[[IP \dots [DP [ f ] [ \underline{the} h ] ] \dots]]^{\mathcal{E}}$  is interpreted as  $[[IP \dots [DP \underline{the} h ] \dots]]^{\mathcal{E}}$  and  $[[f]]^{\mathcal{E}}$  ( $[[ \underline{the} h ] ]^{\mathcal{E}}$ ).

Note, however, that rules are very powerful and ad hoc. They are very powerful in that they can easily be stated in other ways. For instance, the element  $f$  could be removed from the discontinuous referential expression in (ii) (the relevant change in the rule is marked by underlining):

- (ii) If  $f, h \in D_{\langle e, t \rangle}$ , then  $[[IP \dots [DP \underline{the} [ f ] h ] \dots]]^{\mathcal{E}}$  is interpreted as  $[[IP \dots [DP \underline{the} h ] \dots]]^{\mathcal{E}}$  and  $[[f]]^{\mathcal{E}}$  ( $[[ \underline{the} h ] ]^{\mathcal{E}}$ ).

Besides the freedom in formulation of the rule, the question also arises what kind of element  $f$  can be to begin with. Although conditions on its properties can be easily stated (e.g.  $[[\alpha f]]$  where  $\alpha \in D_{\langle \alpha \rangle}$ ; this, in turn, would entail some changes for the “removal” rules above), this illustrates again the arbitrariness of rules. Finally, if this rule cannot be made to apply more generally, it would serve just this one purpose.



Starting with the most deeply embedded element at the bottom of the syntactic tree (i.e., the object in (32a)), its semantic value is calculated by applying Functional Application to the determiner ( $\langle\langle e,t\rangle, e\rangle$ ) and the nominal predicate ( $\langle e,t\rangle$ ). This results in a referential expression ( $\langle e\rangle$ ), which can be sent off to the semantics. Higher in the object DP, there is the non-restrictive adjective, which consists of a regular adjective ( $\langle e,t\rangle$ ) and the pronoun *pro* ( $\langle e\rangle$ ). These elements combine by Functional Application to give a proposition ( $\langle t\rangle$ ), which can be sent off as well. Continuing the calculation, the verbal predicate “associates” with its arguments, the subject and object, bringing about an expression of type  $\langle t\rangle$ . Finally, the non-restrictive modifier is “associated” with the main proposition (both are of type  $\langle t\rangle$ ) in some kind of conjoined expression.

To conclude, interpreting the lower determiner allows for the derivation of the non-restrictive reading. If the lower determiner copy were deleted and the upper one interpreted (as with restrictive modifiers), the semantic calculation would face a problem. Assuming as above that the derivation proceeds bottom-up, the non-restrictive modifier ( $\langle t\rangle$ ) intervenes between the nominal predicate ( $\langle e,t\rangle$ ) and the determiner. As this nominal predicate cannot combine with the non-restrictive modifier, the calculation cannot proceed and the expression is not interpretable. Crucially, in order to guarantee the co-indexation between *pro* inside the non-restrictive modifier and the antecedent DP

(cf. (27b) and (30a)), I assume that the antecedent of the non-restrictive modifier must be calculated before the modifier is sent off.

### 3.2. *Syntactic Consequences: More on Scandinavian Relative Clauses*

Above I proposed that non-restrictive adjectives in Icelandic have two analyses, a syntactic one and a parenthetical one. I pointed out that this claim was not novel and has already been made for certain kinds of appositive relative clauses in Italian (Cinque 1981). Interestingly, Swedish has two different surface patterns for non-restrictive relative clauses. To the best of my knowledge, all speakers accept the “Icelandic” pattern in (34a) (data from Kester 1996b: 118; cf. also Börjars 1998: 53). Platzack (1997: 76) discusses structures of the “Double Definiteness” type (34b) (cf. also Santelmann 1993: 158):

- (34) a. Jag såg lampan, som Anders förresten köpte i Umeå. (Swedish)  
I saw lamp-the that Anders, by the way, bought in Umeå
- b. Det hus-et, som han för övrigt ville riva, är nu till salu.  
The house-the, that he by the way wanted to demolish, is now for sale.

In contrast to restrictive relative clauses, the “Danish” pattern of the antecedent (*\*den lampa* ‘the lamp’) is not possible. This follows from the observation that non-restrictive relative clauses have specific antecedents (cf. footnote 13 above) and suffixal determiners in the languages with the Double Definiteness effect can bring about specific

interpretations (chapter 2). In other words, a non-restrictive relative clause has to co-occur with a suffixal determiner on the head noun in Swedish. With the presence of the suffixal determiner due to the semantics, (34a) could be taken to be ambiguous between a parenthetical and a syntactic relative (where the latter is adjoined to artP or DP). However, with the determiner split up in (34b), this example, under my assumptions, must be a syntactic non-restrictive relative clause, adjoined to AgrP.

To sum up, besides the common pattern, Icelandic has a literary pattern and a third one. The latter two have adjectives that are non-restrictive in interpretation. Making a distinction between syntactic and parenthetical appositives, I suggested that the lower copy of the determiner is interpreted in the syntactic type (leaving the analysis of the parenthetical one open). Assuming multiple semantic spell-out, this derived the non-restrictive reading. If the surface position of the free-standing determiner in Icelandic and the position where this determiner is interpreted are related by movement, then this derivation presents another argument for the hypothesis that determiners move to the DP. Finally, the discussion was extended to relative clauses, showing that Swedish has syntactic appositives.

#### **4. Extension to Romance Adjectives**

As is well-known, the Romance languages allow pre-nominal adjectives under certain conditions (for different types of adjectives, see Bernstein 1993: chap. 2; Bouchard 1998, 2002; Ticio 1993: 113-128). Simplifying somewhat, while French has some obligatorily pre-nominal adjectives (e.g., *joli* 'beautiful'), which are lexically specified, French,

Italian, and Spanish generally allow pre-nominal adjectives if they are non-restrictive in interpretation. Giorgi & Longobardi (1991: 123) point out that, while the post-nominal adjective is ambiguous in its interpretation, the pre-nominal is only appositive (also Ticio 2003: 122-4):<sup>18</sup>

- (35) a. una ragazza simpatica (Italian)  
           a girl nice  
       b. una simpatica ragazza  
           a nice girl

Above, I argued against an analysis that involves movement of the adjective to Spec,DP or out of the DP altogether. In fact, in my proposal, adjectives are interpreted in situ. The question then arises how to capture the ambiguity in (35a) and the lack of it in (35b).

Kester (1996b: 60) points out that, independently of the position, all adjectives exhibit the same agreement. In fact, in the few cases where adjectives do not agree, they can only appear *post-nominally* (Zamparelli 1993: 156-7, 2000: 262). Thus, I assume that non-restrictive adjectives in the Romance languages are part of syntax (unlike the third construction in Icelandic). Assuming partial N-raising (Cinque 1994) followed by reconstruction of the noun to its theta-domain in LF (Anderson 2002: 122), the ambiguity in (35a) follows straightforwardly from my proposal: if the interpreted copy of the determiner is higher than the modifier, the interpretation is restrictive; if it is lower, the reading is non-restrictive. Compare the different LF representations in (36b) and (36c):

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<sup>18</sup> Similar observations have been made for Chinese (Zhang to appear), Japanese (Whitman 1981, Noguchi 1997: 789; Yoshihisa Kitagawa, p.c.), and basically Korean (Kim 1997). It is not clear to me, however, if these non-restrictive modifiers are syntactic or parenthetical in nature.



- (36) a. una ragazza simpatica  
           a girl nice
- b. [DP una [AgrP simpatica [artP ~~una~~ [NP ragazza ]]]]
- c. [DP ~~una~~ [AgrP simpatica [artP una [NP ragazza ]]]]

Turning to (35b), I propose that the appositive-only reading follows from a different structural account. Although part of syntax (defective intervention, same agreement), I suggest that non-restrictive adjectives are actually adjoined, rather than in Specifier positions of AgrP. In particular, I propose that adjective phrases of type <e,t> are merged in Spec,AgrP and those of type <t> are adjoined to some AgrP. While the former type of adjective phrase is restrictive and the latter non-restrictive in interpretation, as discussed above, this positional difference will account for the lower occurrence of the restrictive and the freer distribution of the non-restrictive adjective.

Both lexically specified adjectives (e.g., *joli* ‘beautiful’) and (pre-nominal) non-restrictive adjectives (e.g., *lourd* ‘heavy’) precede the (partially raised) head noun in French. Importantly, there is an ordering restriction between both types of adjectives (cf. Zamparelli 1993: 142-3):

- (37) a. ?? la jolie lourde valise (French)  
           the beautiful heavy suitcase
- b. la lourde jolie valise  
           the heavy beautiful suitcase

Furthermore, if a numeral is added, the non-restrictive *lourdes* and the restrictive *jolies* have to follow it (38a). For convenience, I call the AgrP that contains the pre-nominal adjective of the *joli*-type in its Specifier and the noun in its head position “AgrP<sub>2</sub>”. With the discussion above in mind, I suggest that the pre-nominal non-restrictive adjective is adjoined to this AgrP<sub>2</sub>. The simplified representation is given in (38b):

- (38) a.      les trois lourdes (\*trois) jolies (\*trois) valises  
                  the three heavy                      beautiful                      suitcases
- b.      [DP les<sub>S<sub>i</sub></sub> [CardP trois [AgrP<sub>2</sub> lourdes [AgrP<sub>2</sub> jolies [Agr<sub>2</sub> valises<sub>k</sub>+Agr<sub>2</sub> [artP t<sub>i</sub> [NP t<sub>k</sub> ]]]]]]]]

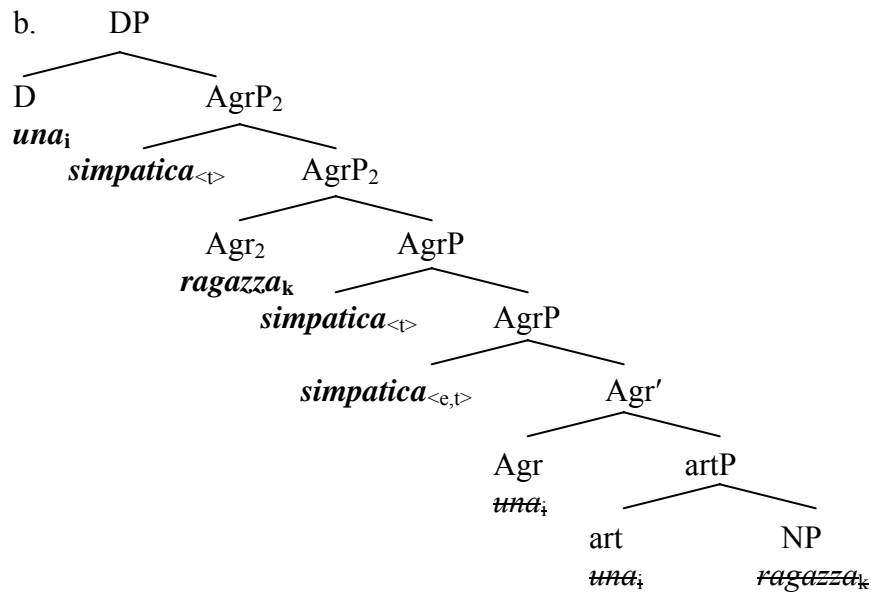
Returning to the original paradigm, repeating (35a-b) as (39a), the determiner moves to D and the noun moves to Agr<sub>2</sub>, the position, whose Specifier hosts lexically specified adjectives such as French *joli* ‘beautiful’ (not present here). Crucially, while non-restrictive adjective phrases may adjoin to any AgrP, “regular”, that is, lexically unspecified and restrictive, adjective phrases may only merge in (lower) Spec,AgrP.<sup>19</sup>

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<sup>19</sup> There are three issues here: first, in order to derive the non-restrictive reading of *lourd* and the restrictive one of *joli* in (b), there must be an intervening head position for the determiner to be interpreted in. As mentioned before, the structure of the DP is presumably more complex. Second, Bernstein (1993), Crisma (1996), and Anderson (2002) report that the post-nominal adjective is only restrictive. To the extent that this is true, there seem to be two dialects, the one discussed in the text and the one mentioned in this footnote. In order to derive the lack of ambiguity in the latter, I propose that in this dialect, non-restrictive adjectives can be adjoined to the highest AgrP only.

Third, in the text, I discuss adjective readings in noun phrases with non-theta nouns (e.g., *girl*). Crisma (1996) points out that with theta-nouns (e.g., *reaction*), the interpretation of adjectives is similar to that of adverbs in the clause (speaker-, subject-, manner-oriented). Importantly, as Crisma (1996: 66) notes, the pre-nominal adjective is ambiguous but the post-nominal one is not. We arrive then at opposite judgments vis-à-vis non-theta nouns, discussed in the text. Consequently, these two cases should not be collapsed and should receive a different account (note in passing that this is reminiscent of differences in interpretation of possessives with theta vs. non-theta nouns, see Roehrs 2005b).

- (39) a. una (simpatica) ragazza (simpatica) (Italian)  
 a nice girl nice



Under these assumptions, the post-nominal adjective is ambiguous but the pre-nominal one is not. Lacking N-raising of the Romance type, this structural difference between the adjectives is not visible in the Germanic languages.

## 5. Some Further Issues

### 5.1. Summary of the Syntax of Modifiers

In the preceding sections, I proposed that restrictive adjectives are in Spec,AgrP and non-restrictive adjectives are adjoined to AgrP. Furthermore, I suggested that restrictive relative clauses are right-adjoined to AgrP and artP and “syntactic” appositive relative

clauses are adjoined to AgrP (Platzack and Santelmann’s examples) and, perhaps, also to DP and artP.

Table 1: Structural Status of the Different Modifiers

	adjective	relative clause
restrictive	Specifier	adjunct
non-restrictive	adjunct	adjunct

It is not clear to me how to derive this distribution from more general principles. Note, however, that the restrictive adjective is the least complex element of them all (it does not co-occur with a pronoun of any type). This observation invites the speculation that non-restrictive adjectives might in fact be a reduced version of non-restrictive relative clauses.<sup>20</sup> As a consequence, all relative clauses would be adjuncts, resulting in a more homogenous account. Furthermore, I have suggested for the cases above that non-restrictive adjectives and restrictive relative clauses are part of syntax. Having proposed that they can adjoin to different phrases, we can relate the different positions of these adjectives in Romance to the diverse syntactic distribution of the determiner with these relative clauses in the Scandinavian languages. Finally, if it is correct that these non-restrictive adjectives and restrictive relative clauses are part of syntax, then due to our type semantics, the former cannot be dominated by restrictive adjectives and the latter cannot dominate syntactic non-restrictive relative clauses. Hence, non-restrictive

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<sup>20</sup> Fanselow (1986) argues that all pre-nominal adjectives in German are reduced relative clauses.

modifiers are “higher” than restrictive ones.<sup>21</sup> Below, I summarize the different relative clause pattern and their corresponding interpretations.

### 5.2. *Overgeneration of Interpretations?*

Recall that, besides the “Icelandic” and the “Danish” pattern, Swedish also exhibits the “Double Definiteness” form. Furthermore, all non-restrictive clauses lack the “Danish” pattern:

Table 2: Schematic Summary of the Different Relative Clauses

	restrictive	non-restrictive
Swedish	<p>N-en som...</p> <p>den N som...</p> <p>den N-en som...</p>	<p>N-en, som...</p> <p>den N-en, som... (Platzack, Santelmann)</p>
Danish	<p>N-en der... (younger speakers)</p> <p>den N der...</p>	<p>N-en, der...</p>

As mentioned above, the lack of the “Double Definiteness” pattern in Danish follows from the assumption that, for independent reasons, this language does not allow

<sup>21</sup> If this is correct, then “violations” of this state-of-affairs can only involve the combination of syntactic and parenthetical types of modifiers. A case in point might be the example in (ia), where the typical adjective ordering can be violated by a non-restrictive, parenthetical adjective. Compare (ia) to (ib):

- (i) a. das grüne, übrigens kleine, Auto (German)  
the green, incidentally small, car  
b. ?? das grüne kleine Auto  
the green small car

As this is not the focus of this chapter, I will not investigate these cases further here.

determiner splitting. Furthermore, I assume that the lack of the “Danish” pattern with non-restrictive relative clauses (column 3) is due to different reasons: as discussed in chapter 2, the suffixal ending in Swedish brings about a specific reading. Since the antecedent of a non-restrictive modifier must be specific, the lack of the “Danish” form follows from the general correlation between the distribution of the determiner and its corresponding semantics. As for this lack in Danish, one could assume that its non-restrictive relative clauses are either parenthetical or, if syntactic, they can only adjoin to DP or artP (consequently, they will not intervene and the determiner will not move to D). I turn to some other issues.

In the last three sections, I argued for the “free” interpretation of the determiner in its base and its derived position, where the former results in the non-restrictive reading and the latter in the restrictive one. While this seems to be fairly elegant, there is an issue with the restrictive “Icelandic” pattern in Danish in that it is only possible for younger speakers. Another issue involves the non-restrictive “Double Definiteness” form in Swedish, which has only been reported by Platzack and Santelmann (as far as I know). While these judgments show that the determiner can, in principle, be interpreted in both positions, there seem to be some idiosyncracies related to the syntactic adjunction sites of the relative clauses.

Finally, a more serious problem arises with the restrictive “Danish” pattern in Danish: it is not clear how to rule out interpreting the determiner in the base position, which would result in the non-available non-restrictive reading. In other words, it is not clear why the adjective can have both readings but the relative clauses only the “surface”,

restrictive one. While I have no interesting solution to offer for the lack of this reading, there is evidence that the interpretation of the determiner cannot be entirely “free”.

### 5.3. *Some Restrictions on the “Free” Interpretation of the Determiner*

In contrast to “Danish” restrictive relative clauses in Danish, adjectival modifiers in common and literary Icelandic, as reported, only allow “inverse” scope. Repeating (19) here for convenience, the suffixal determiner takes wide scope and the free-standing one narrow scope:<sup>22</sup>

- (40) a.      guli              billinn                                      (common Icelandic)  
                  yellow(WEAK) car-the
- b.      hinn guli              bíll    (literary Icelandic)  
                  the yellow(WEAK) car

I believe that there is an interesting lexical account for this restriction.

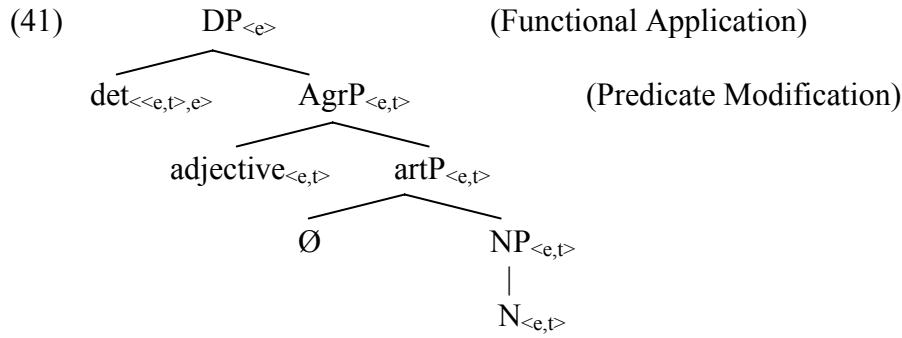
In the discussion of restrictive modifiers, I proposed to interpret the upper determiner. However, I did not comment on the nature of the copy in the base position. I basically treated it as if nothing were left behind, here illustrated by “Ø”:

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<sup>22</sup> Matushanksy (2006: 104) discusses a similar phenomenon in the clause, where certain modals behave differently. To capture the scopal relations, it is suggested that, after movement of the modal from below negation, *can* must reconstruct in (ia) but *should* cannot in (ib):

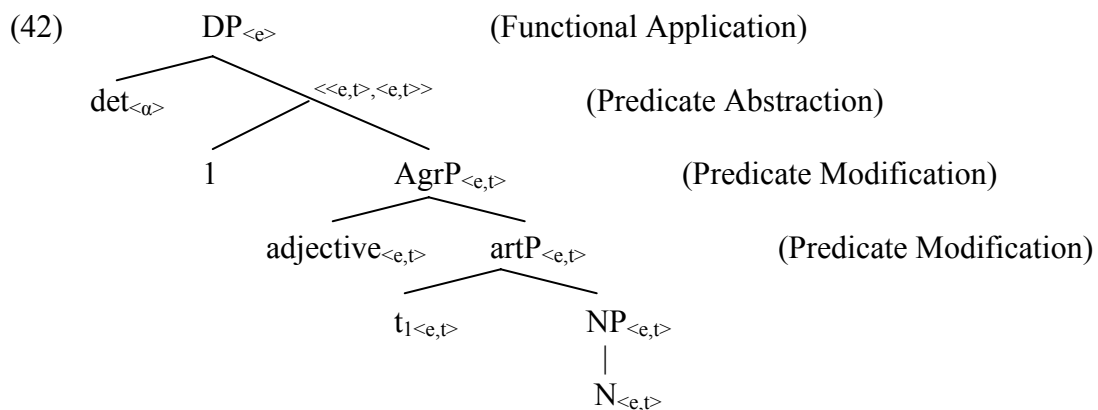
- (i)      a.      Yolanda can’t leave.                      Neg > Mod  
                  b.      Yolanda shouldn’t leave.                      Mod > Neg

(For other verbal movement with semantic import, see Schönenberger & Penner 1995 on Doubling Verbs.)



However, if we assume that something other than  $\emptyset$  is left behind, we can get a handle on the restriction noted above.

Assume that a trace/copy is left behind, which can combine with the head noun by Predicate Modification (see bottom of (42)). This is followed by combining the adjective with the artP node in the usual way. Predicate Abstraction (for details, see Heim & Kratzer 1998) gives an expression of type  $\langle\langle e,t\rangle, \langle e,t\rangle\rangle$ . In order to apply Functional Application in the usual way, the determiner must be of a different type than the traditional  $\langle\langle e,t\rangle, e\rangle$ . In fact,  $\alpha$  in (42) must be of type  $\langle\langle\langle e,t\rangle, \langle e,t\rangle\rangle, e\rangle$ .<sup>23</sup>



<sup>23</sup> In the framework of Heim & Kratzer (1998: 184-8), (42) is the semantic representation of the more familiar (but abbreviated) syntactic one [ det<sub>1</sub> [ adjective [ t<sub>1</sub> [ noun ] ] ] ], where the index, the binder of the variable (i.e., the trace), is directly on the moved element.



Let me repeat the traditional definition of the determiner, call it *the*<sub>1</sub> (taken from Heim & Kratzer 1998: 81), and define a new lexical entry for *the*<sub>2</sub> (thanks to Sigrid Beck for help with this definition). Compare (43) to (44) (the relevant differences are underlined):

(43)  $[[the_1]] = \lambda f: f \in D_{\langle e,t \rangle}$  and there is exactly one  $x \in C$  such that  $f(x) = 1$ .

the unique  $y \in C$  such that  $f(y) = 1$ ,

where  $C$  is a contextually salient subset of  $D$ .

(44)  $[[the_2]] = \lambda f: f \in D_{\langle \langle e,t \rangle, \langle e,t \rangle \rangle}$  and there is exactly one  $x \in C$

such that  $f(\lambda y. y=y)(x) = 1$ . the unique  $y \in C$  such that  $f(y) = 1$ ,

where  $C$  is a contextually salient subset of  $D$ .

The functions  $f$  in both (43) and (44) are the arguments of *the*<sub>1</sub> and *the*<sub>2</sub>, respectively. The difference between them is that in the former case  $f$  is a property ( $\langle e,t \rangle$ ) and in the latter it is a function of a higher order ( $\langle \langle e,t \rangle, \langle e,t \rangle \rangle$ ). As underlined in (44), part of that new function is an added property ( $\langle e,t \rangle$ ) that maps an individual to an identity statement. As such, this function does not add any semantics to the derivation. With this in mind, assume that something other than  $\emptyset$  is left behind when the determiner moves from its base-position up.

I propose that when *the*<sub>1</sub> moves, it “strands” the semantics relevant for closing off the DP. In that sense, this is another instance of a “split” determiner. Under this assumption, the lower part of the determiner directly combines with the head noun by Functional Application. In other words, the determiner is interpreted in its base position

and cannot take scope over an adjective. This is different for *the*<sub>2</sub>: as neither the determiner ( $\langle\langle\langle e,t\rangle, \langle e,t\rangle\rangle, e\rangle$ ) nor the head noun ( $\langle e,t\rangle$ ) can directly combine with the corresponding expression by Predicate Modification or Functional Application, the determiner has to move to resolve this type mismatch. It leaves behind a copy of type  $\langle e,t\rangle$ , which combines with the head noun by Predicate Modification. The adjective, if present, combines with the latter expression by Predicate Modification. This is followed by Predicate Abstraction and Functional Application, as indicated in (42). Under these assumptions, *the*<sub>2</sub> can but does not have to have an adjective in its scope.

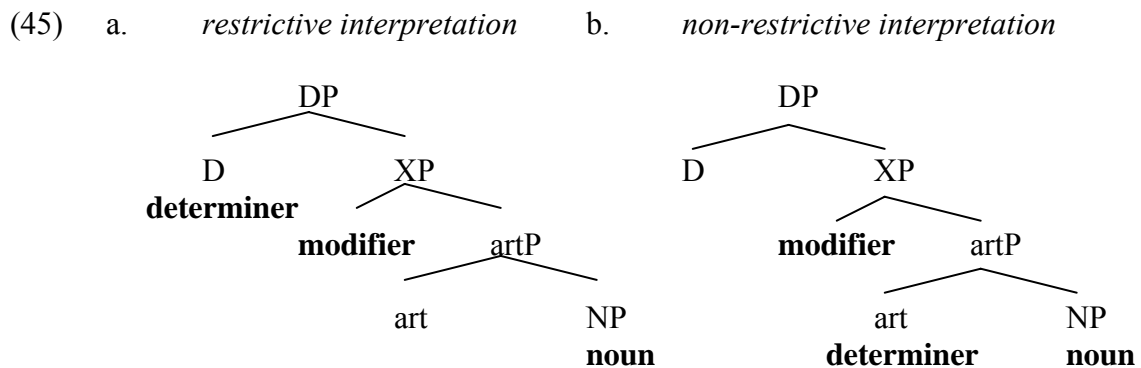
Returning to the account of the “inverse” scope in Modern Icelandic, I propose that free-standing *hinn* is of the traditional type *the*<sub>1</sub> and suffixal *-inn* is of type *the*<sub>2</sub>. Although *hinn* has to move to D overtly to value the [definite] feature on D, it must be interpreted in its base position. This derives the non-restrictive reading of the adjective. Conversely, *-inn* moves to D covertly and must be interpreted in D (recall that PF Merger occurs after Spell-out). This derives the restrictive reading (if an adjective is present).

If this lexical account is correct, then we expect that there are some languages where the “restrictive” determiner differs morphologically from the “non-restrictive” one. Interestingly, Spencer (1992: 324) points out that, in addition to the word-initial difference, *-inn* and *hinn* are not inflectionally identical in the feminine plural nominative: *-nir* vs. *hinar*. Furthermore, Delsing (1993b: 132 fn. 25) states that West Jutlandic uses a different determiner in these two cases, *de* for restrictive and *æ* for non-restrictive adjectives. Finally, under these assumptions, literary Icelandic has (invisible) split determiners; however, not, for instance, with regard to uniqueness or specificity, but with regard to the semantics that closes the DP off. In that sense, Danish, Swedish, and

Norwegian have “optional” pied-piping, common Icelandic has obligatory pied-piping, and literary Icelandic has no pied-piping of the relevant semantic component.

## 6. Conclusion

The basic proposal of this chapter is that determiners are scope-bearing elements. If modifiers are in their scope, they are restrictive in interpretation (45a); if not, then they are non-restrictive in reading (45b):



With regard to the main proposal of this dissertation, assuming movement of the determiner from artP to DP, the restrictive interpretation is accounted for by interpreting the determiner in its derived position and the non-restrictive interpretation is accounted for by interpreting the determiner in its base-position. As both the derived as well as the base-positions are independently motivated (chapter 2), this semantic account comes at a very little cost and provides a straightforward solution to Chomsky’s objection to Partee’s proposal.

To highlight some of the results, I made a distinction between syntactic and parenthetical appositives. Arguing that non-restrictive modifiers are propositions that are associated with their hosting proposition by conjunction, I suggested that the analysis of the syntactic type involves multiple semantic spell-out. The discussion was extended in an interesting way to different kinds of relative clauses in the Scandinavian languages and to adjective interpretations in Romance. Finally, I provided some evidence from Danish and Icelandic that the interpretation of the determiner may not be entirely “free”. If this analysis is accepted, then we have an argument that not all cases of head movement take place in PF, as suggested in Chomsky (2001: 37-8).<sup>24</sup>

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<sup>24</sup> For the same conclusion, see Longobardi (1994), Zwart (2001), and most recently Matushanksy (2006).

## Chapter 4: Agreement and Concord in the German Noun Phrase

### I. Strong and Weak Inflection\*

#### 1. Introduction

Chapters 2 and 3 dealt with the syntactic and semantic distribution of determiners in the Scandinavian languages. I now turn to some language-specific consequences. In particular, I raise the question of how much light the main proposal of this dissertation can shed on phenomena related to the German noun phrase. I argue that the proposal that determiners move into the DP also explains the distribution of the strong and weak adjectival inflection in German. Discussing a number of different constructions, this morphological alternation will form a guide through the investigations. To the extent that this analysis is successful, this agreement phenomenon will provide an overt morphological reflex of the main proposal.

Noun phrases mark grammatical categories such as case, gender, and number (I discuss person below). According to Wurzel's (1984, 1989) discussion of German, case and gender are distinguished by inflections on determiners or adjectives, while number is typically marked on head nouns (I disregard head nouns for the most part of the discussion but see section 6.2. below). Determiners and adjectives may display morphological inflections that belong to two sets of endings, traditionally called "strong"

and “weak”.<sup>1</sup> Going back to Jacob Grimm (1870: 637-76), these terms respectively denote two paradigms, a diverse one and a fairly simple one. Intuitively, the strong, more diverse inflections are better able to distinguish the categories of case and gender than the weak, simple ones. Depending on the structure of the noun phrase, the strong ending may attach either to the determiner or to the adjective but not both. In other words, there is only one strong inflection in a noun phrase. This has come to be known as the Principle of Monoinflection and has been widely discussed (e.g. Helbig & Buscha 2001: 274; Eisenberg 1998: 173; Wegener 1995: 105, 153; Darski 1979). As an approximation, I give the following formulation, which will be revised in the course of the discussion:<sup>2</sup>

(1) *Principle of Monoinflection*

The first element within a noun phrase carries the strong and the second one the weak ending.

This language-specific principle manifests itself slightly differently in noun phrases with structural or inherent case. In what follows, I illustrate this morphological alternation with nominals in the nominative and the dative.

The traditional descriptive literature (e.g. Duden, 1995: 277) distinguishes three paradigms with regard to German adjectives: a weak, a strong, and a “mixed” paradigm.

In the weak paradigm, a definite determiner precedes the adjective. As expected under

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\* This part is a revised version of Roehrs (2002).

<sup>1</sup> I am using traditional terminology here. This is not to be confused with Chomsky’s (1995) strong and weak features. Other terms found in the literature are “pronominal” vs. “nominal”, “determining” vs. “determined”, and “primary” vs. “secondary”.

<sup>2</sup> For instance, the term “first” will be defined as “highest”, that is, “closest” with respect to the clausal predicate.

(1), the determiner as the first element has a strong inflection and the adjective as the second element has a weak ending:

- (2) a.    der           gute        Wein  
          the(NOM.STRONG) good(WEAK) wine(M)  
          ‘the good wine’
- b.    dem           guten       Wein  
          the(DAT.STRONG) good(WEAK) wine(M)

In the strong paradigm, the adjective is the first element and carries the strong ending in accordance with (1) (for noun phrases with several adjectives, see section 6.1. below):

- (3) a.    guter            Wein  
          good(NOM.STRONG) wine(M)  
          ‘good wine’
- b.    gutem            Wein  
          good(DAT.STRONG) wine(M)

With a preceding indefinite determiner, the mixed paradigm poses a partial exception to (1): whereas in (4b), the first element carries the strong ending as expected, in (4a) it is the second element that carries the strong ending:<sup>3</sup>

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<sup>3</sup> As also observed by Zwicky (1986: 959-60) and Demske (2001: 40), there is no correlation between the definiteness of the noun phrase and the type of morphological inflection on the adjective (for problems with such a correlation in the Scandinavian languages, see Kester 1996b: 67, 80, 146).

- (4) a. ein guter Wein  
a(WEAK) good(NOM.STRONG) wine(M)  
‘a good wine’
- b. einem guten Wein  
a(DAT.STRONG) good(WEAK) wine(M)

The example in (4a) violates the generalization in (1) also in another way: not only is the strong ending on the second element, the first element also carries an assumed weak null ending (see below). In other words, the endings seem to have been “switched” with regard to their position. Furthermore, the behavior of *ein* ‘a’ is also peculiar in another way. While *ein* cannot have a strong ending with a following noun, it has to be strong in a split NP, where part of the noun phrase has been topicalized. Compare (5a) to (5b):

- (5) a. Das ist {ein /\*einer} Wein!  
this is a(WEAK) / a(NOM.STRONG) wine(M)
- b. Wein ist das {einer /\*ein}!  
wine is that one(NOM.STRONG) / a(WEAK)

While, similar to (4a), (5a) also violates the generalization in (1), this is not the case with the split NP in (5b). Importantly, I argue below that the strong ending is neither a necessary nor a sufficient condition to license the null element following *einer* in (5b). With this in mind, assuming that *ein* is the same lexical item in (5a) and (5b) and considering that it can, in principle, take a strong ending (5b), (4a) and (5a) should not be



treated as exceptions. This chapter is devoted to an explanation of the morphological alternations illustrated above. Extending the main claim of this dissertation to German, I argue that certain determiners may also move into the DP “later”, that is, in PF.

This chapter consists of three individual parts. In part I, I discuss the basic alternation of the strong and weak inflection. Part II examines different kinds of *ein* ‘a’ (determiner, numeral, and adjective) and split NPs. Pronominal DPs such as *wir Linguisten* ‘we linguists’ are discussed in part III. Focusing on the basic alternation first (part I), I start with a summary of some previous accounts of the strong and weak inflection. Following that, I provide my own proposal involving movement of the determiner. This basic proposal is then illustrated and further refined.

## **2. Survey of Previous Proposals**

In this section, I distinguish two types of discussions with regard to strong and weak inflection: one type is concerned with the number and types of different paradigms, the other with explaining the different distributions of the adjectival inflections. In other words, the former deals with the inventory of inflections and the latter with the relation between the different types of inflections.

## 2.1. *Discussions of the Inventory of Adjectival Paradigms*

The general goal of discussions on the different adjectival paradigms is to find regularities and reduce the number of distinctions inner- and intra-paradigmatically (for an early survey, see Darski 1979: pp. 190).<sup>4</sup> There are two general approaches. First, most grammars distinguish three types of adjectival inflections: weak, strong, and “mixed” (e.g. Helbig & Buscha 2001: pp. 273, Eisenberg 1998: pp. 171, Duden 1995: pp. 277, Engel 1988: pp. 571, Erben 1980: pp. 171). The second type of approach distinguishes only two adjectival paradigms, a strong and a weak one (e.g. Eisenberg 1999: pp. 232, Weinrich 1993: pp. 483, Jung 1990: pp. 294, Grundzüge 1981: pp. 628, Wurzel 1970: pp. 55). The latter discussions find different solutions to the “mixed” paradigm. In what follows, I briefly review some representative approaches and extrapolate the main relevant insights for my immediate concerns. Before I turn to the findings of the two general approaches (i.e., the tripartite and bipartite ones), I flesh out the basic paradigm from the introduction as the basis for the discussion. For this exposition, I choose the tripartite system, which is typically discussed in textbooks of German.

If the adjective is preceded by a definite determiner, the adjective is weak. If the adjective is not preceded by a determiner, it is strong. This is schematically represented as follows:

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<sup>4</sup> For the general diachronic and synchronic relevance of the notion “paradigm”, see Wurzel (1984, 1989) and Carstairs (1987), respectively (for the idea that paradigms themselves may be epiphenomenal, see Müller’s 2002b Optimality theoretic account of nominal inflections).

(6) a. [ definite determiner(STRONG) adjective(WEAK) noun ]

b. [ adjective(STRONG) noun ]

Starting with (6a), definite determiners have the following forms, depending on the case, gender, and number of the noun phrase:<sup>5</sup>

Table 1: Inflections on the Definite Determiner

case \ gender	masculine	neuter	feminine	plural
nominative	de-r	da-s	di-e	di-e
accusative	de-n	da-s	di-e	di-e
dative	de-m	de-m	de-r	de-n
genitive	de-s	de-s	de-r	de-r

Besides the definite determiner, there are other items that take a weak adjective:<sup>6</sup>

(7) *der* ‘the’ = *dieser* ‘this’, *jeder* ‘every’, *jener* ‘that’

I will refer to the elements in (7) as “*der*-words”.

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<sup>5</sup> With the exception of the genitive (*dessen*, *deren*, *derer*) and the dative plural (*denen*) forms, relative pronouns and certain demonstratives have the same inflections as determiners. For the historical development of the additional endings *-en* and *-er*, see Lühr (1991b) and Olsen (1989b: 153 fn. 13).

<sup>6</sup> The items in (7) behave exactly like the definite article and the ones in (i) do with some restrictions (for more details, see Bhatt 1990: chap. 9, Helbig & Buscha, 2001: 274):

(i) *mancher* ‘some’, *irgendwelcher* ‘any’, *solcher* ‘such’, *welcher* ‘which’, *aller* ‘all’

Not all the items in (i) seem to be definite in their interpretation. I return to some of these elements later on (see also Roehrs 2003).

Adjectives following these *der*-words have a weak ending. There are two types: for nominative masculine, nominative/accusative neuter, and nominative/accusative feminine, the ending is *-e*; elsewhere, the ending is *-en*:

Table 2: Weak Adjectival Inflections

case \ gender	masculine	neuter	feminine	plural
nominative	gut-e	gut-e	gut-e	gut-e-n
accusative	gut-e-n	gut-e	gut-e	gut-e-n
dative	gut-e-n	gut-e-n	gut-e-n	gut-e-n
genitive	gut-e-n	gut-e-n	gut-e-n	gut-e-n

As for (6b), adjectives with a strong ending have the following inflections, depending on the case, gender, and number of the noun phrase:

Table 3: Strong Adjectival Inflections

case \ gender	masculine	neuter	feminine	plural
nominative	gut-e-r	gut-e-s	gut-e	gut-e
accusative	gut-e-n	gut-e-s	gut-e	gut-e
dative	gut-e-m	gut-e-m	gut-e-r	gut-e-n
genitive	<b>gut-e-n</b>	<b>gut-e-n</b>	gut-e-r	gut-e-r

Notice that the inflections on the *der*-words and the strong adjectival endings are exactly the same.<sup>7</sup>

As already seen above, the mixed adjectival paradigm partially violates the generalization in (1). Whereas (8b) is expected, (8a) is not:

- (8) a. [ indefinite determiner(-/WEAK) adjective(STRONG) noun ]
- b. [ indefinite determiner(STRONG) adjective(WEAK) noun ]

The exception in (8a) holds in the three cases where the indefinite determiner does not have an obvious ending: the nominative masculine singular and nominative/accusative neuter singular. There is debate over whether *ein* ‘a’ in these cases has a (weak) null ending (Duden 1995: 307, Wegener 1995: 98, Darski 1979: 198) or whether it does not have an ending at all (e.g. Demske 2001: 40, Eisenberg 1999: 233, Olsen 1991: 47 fn. 14, Bhatt 1990: 199). In the introduction, I assumed that the ending is a weak null one (and I will argue for this below). Before I provide the individual inflectional forms, note that not only the indefinite determiner *ein* ‘a’ but also other elements behave in the same manner:

- (9) *ein* ‘a’ = possessive determiners (e.g. *mein* ‘my’, *ihr* ‘her’ etc.), negative *kein* ‘no’

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<sup>7</sup> There are two things to note. First, there are two cases where the strong adjective endings differ from those of the determiner (given in bold print in table 3): unlike the expected inflection *-es*, the weak ending *-en* appears in the masculine/neuter genitive. These cases are true exceptions (see footnote 17). Second, although the spellings of <di-e> and <gut-e> both end with an <e>, their corresponding pronunciations differ: with the *der*-word it is [i:] whereas with the adjective it is schwa [ə]. Although I basically follow Wiese (1988), who takes only the consonantal part as the adjectival ending and argues for schwa-epenthesis with adjectives, I provide the traditional segmentations.

As with the *der*-words (footnote 6), not all these items seem to form a natural semantic group.<sup>8</sup> I will refer to the elements in (9) as “*ein*-words”. Since Germanic does not have an (overt) indefinite determiner in the plural (analogous to French *des*), I will illustrate the paradigm involving *ein* usually with a possessive determiner (the forms with no or a weak null ending are given in bold print in shaded cells):<sup>9</sup>

Table 4: Paradigm of the Possessive Determiner *mein* ‘my’

case \ gender	masculine	neuter	feminine	plural
nominative	<b>mein-/∅</b>	<b>mein-/∅</b>	mein-e	mein-e
accusative	mein-e-n	<b>mein-/∅</b>	mein-e	mein-e
dative	mein-e-m	mein-e-m	mein-e-r	mein-e-n
genitive	mein-e-s	mein-e-s	mein-e-r	mein-e-r

With the exception of these three forms, the inflections of the *ein*-words are identical to the inflections of the *der*-words and to those of the strong adjectival paradigm.

*Ein*-words are followed by adjectives with mixed inflections that contain both strong and weak endings. The unambiguously strong ones are marked in bold print in shaded cells:

<sup>8</sup> However, we will see below that *ein* ‘a’ is a kind of “supporting” element not only for D in the DP but also for possessive determiners such as *mein* ‘my’ and negative *kein* ‘no’, elements which I assume to be brought about by Distributed Morphology (DM):

- (i) a. *mein* <= DM = possessor head *m*= + (vacuous) *ein*  
 b. *kein* <= DM = *nicht* + (vacuous) *ein*

<sup>9</sup> This allows me to provide the endings in the plural. If it is correct that *mein* and *kein* are the result of DM (footnote 8), then this implies that *ein* does exist in the plural (before it is combined with the possessor or negation). See Plank (2003: 15-6) and Delsing (1993: 33-5) for “unbound” non-singular usages of *a* and *one* in some languages.

Table 5: Mixed Adjectival Inflections

case \ gender	masculine	neuter	feminine	plural
nominative	<b>gut-e-r</b>	<b>gut-e-s</b>	gut-e	gut-e-n
accusative	gut-e-n	<b>gut-e-s</b>	gut-e	gut-e-n
dative	gut-e-n	gut-e-n	gut-e-n	gut-e-n
genitive	gut-e-n	gut-e-n	gut-e-n	gut-e-n

Observe that, where *ein* has no/a weak null ending, the adjective is strong. At this point, let us take stock of the individual sets of endings. I pointed out that the inflections of the definite determiner and the strong adjectival paradigm are the same. I will collapse this into one set of endings and call it henceforth “the strong (adjectival) inflections”.

Furthermore, I discussed the weak adjectival inflection, the inflections of the *ein*-words, and the mixed adjectival inflection. Taken together, these make up four sets of endings: the strong, weak, mixed, and *ein*-word paradigms. I now turn briefly to the tripartite and bipartite approaches to the adjectival inflectional paradigms in German, extrapolating relevant insights for my own proposal. My goal is to reduce the number of paradigms from four to two, leaving only the strong and weak inflections. As a general consequence, the two remaining paradigms are category-independent in that they provide the endings for both determiners and adjectives.

### 2.1.1. Duden (1995)

As shown above, Duden (1995) uses the tripartite system to describe the adjectival paradigms. Perhaps the most interesting insight of the Duden (1995: 280) is that the mixed and strong inflections are identical in the singular nominative/accusative. Compare table 5 and 3 from above, repeated here (the relevant cells are shaded):

Table 5: Mixed Adjectival Inflections

case \ gender	masculine	neuter	feminine	plural
nominative	<b>gut-e-r</b>	<b>gut-e-s</b>	<b>gut-e</b>	gut-e-n
accusative	<b>gut-e-n</b>	<b>gut-e-s</b>	<b>gut-e</b>	gut-e-n
dative	gut-e-n	gut-e-n	gut-e-n	gut-e-n
genitive	gut-e-n	gut-e-n	gut-e-n	gut-e-n

Table 3: Strong Adjectival Inflections

case \ gender	masculine	neuter	feminine	plural
nominative	<b>gut-e-r</b>	<b>gut-e-s</b>	<b>gut-e</b>	gut-e
accusative	<b>gut-e-n</b>	<b>gut-e-s</b>	<b>gut-e</b>	gut-e
dative	gut-e-m	gut-e-m	gut-e-r	gut-e-n
genitive	gut-e-n	gut-e-n	gut-e-r	gut-e-r



I take this observation to imply that the singular structurally case-marked elements form a different group in the mixed paradigm. I propose that these endings in the mixed paradigm in table 5 are not only homophonous with the strong ones but are, in fact, strong inflections.<sup>10</sup> The weak adjectival paradigm shows the same grouping but with different endings. I turn to its discussion next.

### 2.1.2. Eisenberg (1998, 1999)

Unlike the Duden (1995), Eisenberg (1999) argues for only two adjectival paradigms. Since this argumentation is closely tied to the *explanation* of the distribution of the strong inflection, I discuss it in the next section (2.2). Eisenberg (1998: 173-4) observes that the singular structurally case-marked weak endings form a contrast vis-à-vis the plural and/or inherent case-marked ones (i.e., ones in the dative or genitive). While the first type of ending is *-e*, the second one is *-en*.<sup>11</sup> He simplifies the weak adjectival paradigm in table 2 to table 6 such that singular structurally case-marked items represent the unmarked instances:

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<sup>10</sup> Helbig & Buscha (2001: 275) take the “mixed” inflections on the adjectives in the nominative/accusative feminine also as the strong ending. However, there are two differences from the present discussion: (i) they state that the element preceding the adjective is without an ending (despite *ein-e*) and (ii), they group the accusative masculine with the adjectives of plural and inherent case-marked noun phrases (which prevents them from forming a natural group).

<sup>11</sup> Comparing the tables 1 through 5, we see that the nominative and the accusative are almost always the same. The only exception is the accusative masculine, which is especially marked (*-n*). Putting this case aside, I proceed by assuming that nominative and accusative are always identical.

Table 2: Weak Adjectival Inflections

case \ gender	masculine	neuter	feminine	plural
nominative	<b>gut-e</b>	<b>gut-e</b>	<b>gut-e</b>	gut-e-n
accusative	<b>gut-e-n</b>	<b>gut-e</b>	<b>gut-e</b>	gut-e-n
dative	gut-e-n	gut-e-n	gut-e-n	gut-e-n
genitive	gut-e-n	gut-e-n	gut-e-n	gut-e-n

Table 6: Simplified Weak Adjectival Inflections

	(singular)	plural
(structural)	<b>-e</b>	-en
inherent	-en	-en

Furthermore, Eisenberg (1998) claims that both types of weak endings are the “weakest” suffixes in German, both with regard to substance and function. He notes that the weaker of the two, that is *-e*, occurs after determiners that fully distinguish the gender of the noun phrase (*de-r/de-n* for masculine, *da-s* for neuter, and *di-e* for feminine). While this is true for nominative/accusative singular, determiners with other specifications do not unambiguously distinguish gender (see table 1). Thus, while I follow Eisenberg in assuming that the explanation of the distribution of the ending *-e* lies in the fact that German treats singular structurally case-marked elements specially, my account does not refer to gender (see below).

So far, after fleshing out the basic paradigms using the tripartite system, I briefly reviewed a tripartite and a bipartite approach for its relevant findings. I highlighted Duden's (1995) insight about the mixed adjectival paradigm having strong endings in the singular structurally case-marked instances. Following that, the same (natural) grouping was identified in Eisenberg's (1998) discussion of the weak adjectival paradigm. In the new proposal (section 3), I will make crucial use of the singular structurally case-marked instances as a natural group to reanalyze the endings of the *ein*-words. Having discussed some proposals with respect to the number and types of the different paradigms, I now turn to analyses that seek to explain the different distributions of the adjectival inflections.

## 2.2. *Explaining the Distributions of the Inflections in the Noun Phrase*

Abney (1987) stimulated much important research on the noun phrase. However, most of the discussions of German concentrated on the structure of the DP (e.g. Haider 1988, Felix 1990, Löbel 1990, Vater 1991) and only surprisingly few contributions have been devoted to the explanation of morphosyntactic phenomena such as the distribution of adjectival inflections. It is perhaps telling that three monographs on the DP, Bhatt (1990), Wegener (1995), and Demske (2001), discuss only three different types of analyses at length (they all discuss Olsen 1991b). First, I examine a more "traditional" account of the adjectival inflection and then I turn to Olsen (1989a, 1989b, 1991a, 1991b), Gallmann (1996, 1998), and Demske's (2001) HPSG proposal.

### 2.2.1. Eisenberg (1999)

Eisenberg (1999: 233) attempts to reduce the number of adjectival inflectional patterns to two: roughly, while keeping the strong one, he collapses the weak and the mixed paradigms into one. He calls the first “nucleus oriented” (“kernorientiert”) and the latter “head oriented” (“kopforientiert”). “Nucleus” refers to the head noun and “head” refers to the (overt) determiner. Starting with the latter, Eisenberg (1999: 233) states that the head oriented inflection of the adjective is predictable if the inflection on the head, that is the determiner, is “known”. Concretely, the adjective in (10a) is strong because the indefinite determiner has no inflection. On the other hand, the adjective in (10b) is weak because the indefinite determiner is strong (I continue to use the traditional terms “weak” and “strong”):

- (10) a. ein kluger Schüler  
a smart(NOM.STRONG) student(M)  
'a smart student'
- b. einem klugen Schüler  
a(DAT.STRONG) smart(WEAK) student(M)  
'a smart student'

To rule out cases such as *\*ein-er kluge Schüler*, where *ein* has a strong ending in the three exceptional instances, Eisenberg stipulates that *ein* 'a' has no inflection in the nominative masculine and nominative/accusative neuter. In these cases, the adjective will be strong.

The strong paradigm is nucleus oriented, that is, it is dependent on the head noun. This nicely predicts different adjective inflections with reference to the absence vs. presence of case marking on the nucleus: in (11a), the adjective is strong, with the nucleus having no inflection; in (11b), the adjective is weak, with the nucleus showing genitive case marking:

- (11) a. kalter Tee  
cold(NOM.STRONG) tea(M)  
‘cold tea’
- b. kalten Tee-s  
cold(WEAK) tea(M.GEN)  
‘cold tea’

If an inflected determiner and an inflected nucleus are present, Eisenberg (1999: 234) assumes head oriented inflection:

- (12) eines klugen Kopf-es  
a(GEN.STRONG) smart(WEAK) head(M.GEN)  
‘a smart head’

Besides this “overlap” in determination of the adjectival inflection, there are some flaws with the nucleus oriented inflection. For example, consider an example in the dative

masculine/neuter. Gallmann (1996: 289) states that the dative *-e* can appear on masculine/neuter nouns with a preceding inflected adjective (or determiner):

- (13) aus hartem Holz(e)  
from hard(DAT.STRONG) wood(N.DAT)  
'made of hard wood'

However, the adjective has to be strong even if overt case marking is present on the nucleus (cf. Gallmann 1996: 310 fn. 30):

- (14) \* aus harten Holze  
from hard(WEAK) wood(N.DAT)  
'made of hard wood'

Crucially, although the presence of the ending *-e* in (13) gives an archaic flavor, the example in (14) is sharply ungrammatical. This case then does not fall under either the head oriented paradigm (as there is no determiner and it does not apply) or under the nucleus oriented one (since, despite the presence of a case ending on the nucleus, the adjective cannot be weak). Finally, and more generally, implied in the two types of inflections (head and nucleus) is the claim that the “government” of inflection in the noun phrase is bi-directional: both the determiner and the head noun contribute some features. However, it is not likely that both contribute the same. If this were the case, then we would not only expect loss of inflection on the head noun as documented by Wegener

(1995: 154-63) and Gallmann (1996: 287-88) but also on the determiner in some cases. In other words, the question arises of why the relevant inflection is not obligatory with all nouns, as in (15a), but it is obligatory with all determiners, as in (15b) (this imaginary loss of inflection is represented by schwa here):<sup>12</sup>

- (15) a. d-es Barock  
the<sub>(GEN.STRONG)</sub> baroque<sub>(M/N)</sub>  
‘the baroque’
- b. \* d[ə] Wein-s  
the<sub>(WEAK)</sub> wine<sub>(M.GEN)</sub>  
‘the wine’

This problem does not arise if we do not attempt to explain the weak adjective ending in the genitive masculine/genitive in (11b) by reference to the overt marking of the noun (cf. also Müller 2002b: 135). It seems to be better to treat these two cases as exceptions (see footnote 17).

To conclude, apart from the vague notion of “knowing” the inflection of the head with head oriented inflection (which itself begs the question as to how and why the strong ending got on the head), the stipulation with regard to *ein*, and the problems with the nucleus oriented inflection, I will follow Eisenberg’s basic insight that inflection is

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<sup>12</sup> Furthermore, the genitive ending on the noun has different properties than the inflections of adjectives in general. While certain nouns allow an optional schwa before the inflection, schwa is obligatory for pre-nominal adjectives:

- (i) a. des Berg(e)s  
of the mountain  
b. ein arg\*(e)s Schicksal  
a bad fate

licensed bi-directionally (his overlap in the trigger of the head oriented inflection and the nucleus oriented one). In section 6.2, I will argue that there are two agreement relations with regard to the noun phrase, an external one (manifested by the Principle of Monoinflection) and an internal one (brought about by the determiner moving into the DP).

### 2.2.2. Olsen (1989a, 1989b, 1991a, 1991b)

In a series of papers (1989a, 1989b, 1991a, 1991b), Olsen discusses inflection within the German DP (I will refer only to her last paper, since that contains the main relevant insights). Assuming Abney's (1987) DP-Hypothesis, she proposes that phi-features (person, number, gender, and case, abbreviated as AGR) are located under D. AGR needs to be made visible. Agreement within the DP is brought about through the selection of a complement NP by a functional head D and percolation of superscripts from NP "down the tree". Here are the relevant definitions (my translations):<sup>13</sup>

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<sup>13</sup> These are the original definitions (Olsen 1991b: 40, 38):

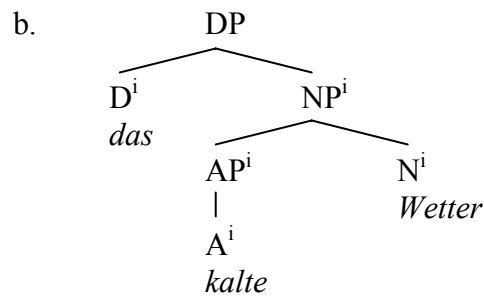
- (i) a. *Prinzip der morphologischen Realisierung*  
Grammatische Merkmale werden phonologisch sichtbar gemacht.
- b. *Kongruenzkette:*  
Eine Kongruenzkette besteht aus einer ununterbrochenen Folge identischer Indizes, die auf der Basis der funktionalen Selektion entsteht, die zwischen einer AGR-Kategorie und ihrem Komplement erfolgt.



- (16) a. *Principle of morphological realization*  
 Grammatical features are rendered phonologically visible.
- b. *Agreement chain:*  
 An agreement chain consists of an uninterrupted sequence of identical indices which are brought about by functional selection, which holds between an AGR-category and its complement.

As an illustration, I give the following expression (with a simplified tree diagram):

- (17) a.        *das*                *kalte*                *Wetter*  
                   *the*<sup>(NOM.STRONG)</sup> *cold*<sup>(WEAK)</sup> *weather*<sup>(N)</sup>  
                   ‘the cold weather’



AGR is made visible under D by the definite determiner *das*, which has a strong inflection. An identical superscript is on NP (by functional selection) and on N and A (by percolation). To ensure unique realization of the grammatical feature, Olsen follows Emonds’ (1987: 615) Invisible Category Principle:

(18) *Invisible Category Principle*

A closed category B with positively specified features  $C_i$  may remain empty throughout a syntactic derivation if the features  $C_i \dots$  are all alternatively realized in a phrasal sister of B.

As an illustration, the Invisible Category Principle restricts the realization of the comparative to just one overt maker:

- (19) a. [DEG more ] brightØ  
b. [DEG Ø ] bright-er

Relevant for the discussion of adjective inflection, this principle allows the realization of AGR on a sister node, the adjective in (20b), and rules out double strong marking in (20c):<sup>14</sup>

- (20) a. das kalteØ Wetter  
the(NOM.STRONG) cold(WEAK) weather(N)  
'the cold weather'

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<sup>14</sup> While Olsen (1991b: 44) states that one strong inflection in (20) exemplifies a tendency for economical realization of features or an avoidance of redundancy (cf. "may" in (18)), this statement is presumably not strong enough to rule out the double marking in (20c), a point made by Željko Bošković (p.c.). With this in mind, however, care must be taken not to lose the account of several adjectives, which, under certain conditions, all have a strong ending (see section 6.1.).

- b.     [<sub>D</sub> Ø ] kalte-s             Wetter  
          cold(NOM.STRONG) weather(N)  
          ‘cold weather’
- c. \*   da-s             kalte-s        Wetter  
          the(NOM.STRONG) cold(STRONG) weather(N)  
          ‘the cold weather’

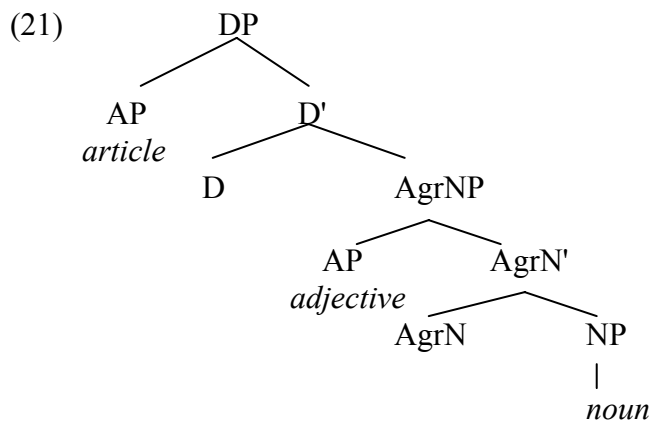
The weak ending in (20a) is assumed to be the “unmarked” inflection of the adjective (Olsen 1991b: 44). Crucially, the strong ending can only be realized on the sister node (i.e., the adjective but *not* the noun), if D is empty (20b). In order to rule out cases such as \**ein-es kalte Wetter*, where *ein* would have a strong ending in the three exceptional cases, Olsen (1991: 47 fn. 14) stipulates that *ein* ‘a’ does not have an inflection in the nominative masculine and the nominative/accusative neuter. More generally, by ruling out (20c), the Invisible Category Principle in effect captures the generalization of the Principle of Monoinflection.

Besides cases where AGR is present but does not have to be overtly realized (*ein Auto* ‘a car’; *Karls Auto* ‘Karl’s car’), there are instances where AGR is completely absent. Concretely, in order to capture the difference in grammaticality between singular countable nouns such as \**Witz* ‘joke’ and mass nouns such as *Bier* ‘beer’ in argument position, Olsen (1991: 46) follows Haider (1988: 51) in arguing that both DPs *and* NPs can be arguments. In other words, singular countable nouns have to project a DP, but mass nouns do not and consequently do not have AGR. Bhatt (1990: 191), Löbel (1990: 235) and Vater (1991: 26) point out that this leads to the problem that these nouns have to

enter (noun-external) agreement relations without AGR (for other problems, see Wegener 1995: 159-63, Bhatt 1990: 44). What is at stake here in more general terms is that Olsen's proposal is incompatible with the NP-DP hypothesis, which claims that predicates are NPs and arguments are DPs (see Roehrs 2002). Considering the stipulation about *ein*, the caveat mentioned in footnote 14, and the incompatibility with the NP-DP generalization, I conclude that Olsen's (1991) proposal cannot be left as it stands.

### 2.2.3. Gallmann (1996, 1998)

Gallmann (1996: pp. 295) assumes the following structure for the noun phrase: article words are in the Specifier position of DP, with the head D being empty. Adjectives are also assumed to be in Specifier positions, either in the Specifier position of an iterative AgrNP or, alternatively, as multiple specifiers of AgrN. Both article words and adjectives are assumed to be adjectival heads in APs:



Gallmann proposes to derive the distributions of the inflections by two types of agreement relations, Spec-head and head-head. Besides the simple Spec-head relation of

D with its Specifier, covert N-to-D raising brings about the necessary constellations between the noun and the Specifier positions containing the adjectives: here both the head-head relation (between raising N and AgrN) and the Spec-head relation (between Spec,AgrNP and AgrN) hold. He considers two versions of his proposal.

According to version A, the relevant agreement feature is the abstract feature [f]. This feature is always present in D. Its presence or absence in N is responsible for the alternation between strong and weak inflections. Gallmann provides the following definitions (my translations):<sup>15</sup>

- (22) a.     “Strong” (pronominal) adjectival inflection (version A)  
 An adjective or an article word is strongly inflected, if and only if it has the feature *f*.
- b.     *Distribution of the adjectival inflection (version A)*  
 The inflected head A<sup>0</sup> of an AP shows the feature *f*,  
 a) if the AP is in Spec,DP (= article word)  
 b) if the AP is in Spec,AgrNP and AgrN<sup>0</sup> (i.e., N<sup>0</sup>) has the feature *f*.

There are two more essential assumptions: (i) uninflected (suffixless) adjectival word forms have no feature for *f*, number, gender, or case; (ii) inflected adjectives without *f* are

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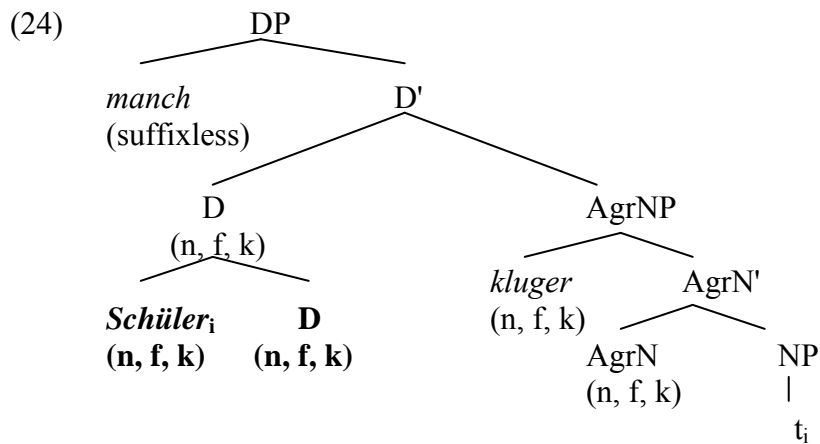
<sup>15</sup> Here are the original definitions (Gallmann 1996: 299):

- (i) a.     “Starke” (pronominale) Adjektivflexion (Version A)  
 Ein Adjektiv oder ein Artikelwort ist genau dann stark flektiert, wenn es das Merkmal *f* aufweist.
- b.     *Steuerung der Adjektivflexion (Version A)*  
 Der flektierte Kern A<sup>0</sup> einer AP weist das Merkmal *f* auf,  
 a) wenn die AP in Spec-DP steht (= Artikelwort)  
 b) wenn die AP in Spec-AgrNP steht und AgrN<sup>0</sup> (bzw. N<sup>0</sup>) das Merkmal *f* aufweist.

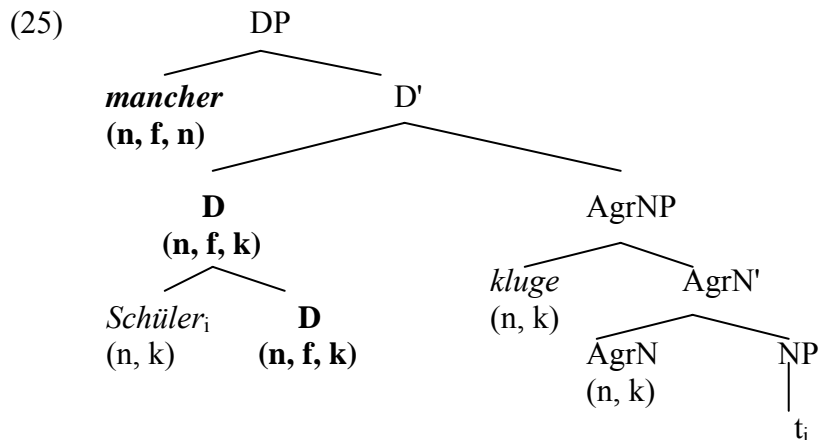
weak. To illustrate, consider the following examples (n = number and gender, k = morphological case):

- (23) a.    *manch*        *klug-er*        *Schüler*  
           A°            A°(n, f, k)    N°(n, f, k)  
           (suffixless)    (strong)  
           ‘some smart student’
- b.    *manch-er*    *klug-e*        *Schüler*  
           A°(n, f, k)    A°(n, k)        N°(n, k)  
           (strong)        (weak)

Simplified, one can state that the presence of the feature *f* in N brings about the strong ending in (23a): it is on the head noun (and thus by N-to-D raising, head-head and Spec-head agreement on the adjective) and consequently the adjective is strong by (22a). The following tree diagram shows the feature distribution after covert N-to-D movement (abstracting away from intermediate landing sites such as AgrN):



If D agrees with the article word in its Specifier, there is no feature *f* in N and consequently the adjective is weak. Consider the tree for (23b):



In order to avoid the co-occurrence of a strong ending on both a determiner and an adjective, it is assumed that D can only agree with either N (24) or Spec,DP (25).

In a later part of the paper, Gallmann (1996: 304) attempts to reduce the feature *f* to a mere label (version B of this proposal). Relevant for our purposes, Gallmann makes the distinction between pure head-head agreement and double agreement (i.e., a situation in which Spec-head and head-head agreement hold at the same time). While the pure head-head and the Spec-head relations are primary, the head-head agreement relation with double agreement seems to be “weakened” (i.e., it is a secondary or “echo”-agreement). Crucially, it is assumed that the strong ending comes about when primary agreement holds. In other words, what was formerly achieved by the presence of *f*, is now brought about by certain agreement configurations.

Considering (24) under these assumptions, we find pure head-head agreement between D and N, which is primary. Consequently, the adjective is strong. In (25), there

are two agreement relations: a Spec-head relation between D and Spec,DP and a head-head relation between D and N. As the former is primary, the article in Spec,DP is strong. The primary agreement relations in (24) and (25) are given in bold print.

Apart from a number of technical issues (e.g., the “inertness” of suffixless article words such as *ein*; determiners in Spec,DP, which would not allow any extraction from the DP, cf. Gavrusseva 2000), the distribution of *f* in N, or, alternatively, the “ranking” of primary over secondary inflection merely follows from the definitions themselves. Furthermore, the strong inflection on the adjective in (24) is only an *indirect* consequence of the primary head-head agreement between N and D. Spec-head agreement between AgrN and Spec,AgrNP must be present also in this case, as otherwise the adjective would not agree at all. In conclusion, despite the empirical coverage of Gallmann’s (1996) proposal, it seems desirable to me to derive these phenomena in a less stipulative manner.

#### 2.2.4. HPSG-Proposals (Demske 2001)

Pointing out problems with both Olsen (1991b) and Gallmann (1996), Demske (2001) discusses proposals in the representational framework of Head Phrase-Structure Grammars (HPSG) (for a GPSG proposal, see Zwicky 1986). Besides Svenonius (1993a) and Netter (1994), she mainly concentrates on ideas of Kiss (1995).

Relevant to the discussion here, Kiss’ (1995) proposal brings about agreement in the noun phrase by both head-complement and head-modification relations. The first relation is based on a selection mechanism between the head D and the complement NP which involves categorial, semantic, and crucially also morphological selection. Similar



to Olsen (1991b), phi-features (abbreviated as AGR) can appear on both the head and the complement by way of identical indices. The strong/weak adjective alternation is brought about by a binary feature DECL(ension) [strong/weak] and the second agreement relation “head-modification”.

To illustrate, article words with DECL *strong* select complements with DECL *weak* and the ones with *weak* select *strong*. (26a) exemplifies the weak and (26b) the strong adjectival inflection:

- (26) a. article word [AGR [1]; DECL *strong*; SUBCAT< NP [AGR [1]; DECL *weak*]>]
- b. article word [AGR [1]; DECL *weak*; SUBCAT< NP [AGR [1]; DECL *strong*]>]

The value for AGR(ement) indicates that both the article word and the NP (by the head-complement relation) and the adjective (by the head-modification relation) share the same feature with regard to case, number, and gender. The feature DECL on the article brings about the distribution of the adjectival inflection. This head-complement selection represents a one-way relationship through government by the article and results in the mutual complementarity of the strong and weak endings.

Unlike Kiss (1995), Demske (2001: 95) follows Pollard & Sag (1994), who claim that rather than head-complement, the Spec-head relation is relevant. In other words, Demske (2001) locates the article word in the Specifier position of NP. According to her, this will allow for a straightforward mutual determination of features in the noun phrase by the article and the noun. For instance, the article determines definiteness and the noun

contributes its inherent features (such as gender). The basic claim involving selection in (26) remains unchanged.

According to (26), an article can, in principle, be either strong or weak. Under this assumption, cases such as (27) can only be ruled out by assigning a lexical feature (DECL strong) to *ein* in the dative neuter:

(27) \* mit einen rotem Auto  
with a(WEAK) red(DAT.STRONG) car(N)  
'with a red car'

Considering the regularity of inflection in general, this does not seem a desirable (or needed) feature for a lexical entry. Furthermore, Demske (2001: 56 fn. 24) states that it is actually not correct to say that articles alternate between strong and weak. Rather, they are inflected (and thus strong) or they are not inflected at all. Alternatively then, in order to avoid listing *all* determiners and their respective features in the lexicon, Demske might suggest that only *some* determiners are lexically listed (perhaps with the feature “uninflected”, the other determiners being strong by default, or vice versa). However, this would lead to giving up the straightforward account in (26), involving only two features: determiners would now be strong or uninflected but adjectives would be strong or weak.

In order to account for (27), we are faced with either a lexical account or giving up the two-feature dichotomy, both making the analysis less attractive. As with Eisenberg (1999) above, I will follow below Demske’s general idea of mutual determination of features in a noun phrase by the article and the head noun.

To sum up these subsections, all proposals have to stipulate that *ein*-words are exceptions in the three relevant cases and none of the proposals discusses split NPs (in detail) where the strong ending on the *ein*-words reemerges (see part II). Having pointed out some shortcomings of previous proposals for the distribution of the adjectival inflection, I turn to my own analysis.

### **3. A New Proposal**

The following proposal explains both the exceptions to the Principle of Monoinflection in (1), that is, part of the “mixed” paradigm, and this generalization itself. To foreshadow the analysis, it is suggested that the clausal predicate assigns the strong inflection to its “closest” element in the noun phrase and that the weak inflection is then realized as a default option. To account for the apparent exceptions to this pattern, I first argue for a natural group with regard to the three *ein*-word exceptions, concluding that there are actually six “exceptional” cases. Second, taking the generalization in (1) as a guide for investigation, I propose that the apparent exceptions behave in a different way, such that these *ein*-words do not precede the adjective at the point when strong morphological case is assigned. However, rather than “late” (pure) merge of the exceptional determiners in D, I suggest, in keeping with the main proposal, that all determiners are merged below the adjective but that they move into the DP at different times (see also part III). Depending on the point in the derivation where they move and thus precede the adjective, they will receive the strong ending or a weak inflection by default. In essence, then, the mixed paradigm is accounted for by the different points in the derivation where certain

indefinite determiners move to precede the adjective. The generalization in (1) will be explained in sections 4 and 5 by the interaction between the DP and the clause in the framework of phases (e.g., Chomsky 2000, 2001) and the radical version of Multiple Spell-Out (Uriagereka 1999). First, I turn to the three exceptions in an attempt to find a natural group.

### 3.1. Singular Structurally Case-marked Elements as a Natural Group

As already pointed out in section 2, *ein*-words do not have an apparent ending in three instances, that is, in the nominative masculine and in the nominative/accusative neuter:

Table 4: Paradigm of the Possessive Determiner *mein* ‘my’

case \ gender	masculine	neuter	feminine	plural
nominative	<b>mein/-Ø</b>	<b>mein/-Ø</b>	mein-e	mein-e
accusative	mein-e-n	<b>mein/-Ø</b>	mein-e	mein-e
dative	mein-e-m	mein-e-m	mein-e-r	mein-e-n
genitive	mein-e-s	mein-e-s	mein-e-r	mein-e-r

In exactly these three cases, the adjective is indisputably strong. In the introduction, I assumed without argument that these *ein*-words have a null weak ending (rather than no ending at all):

- (28) a.    mein     guter                Wein                               (Nom M)  
           my(WEAK) good(NOM.STRONG) wine(M)  
           ‘my good wine’
- b.    mein     gutes                Bier                               (Nom N)  
           my(WEAK) good(NOM.STRONG) beer(N)  
           ‘my good beer’
- c.    mein     gutes                Bier                               (Acc N)  
           my(WEAK) good(ACC.STRONG) beer(N)  
           ‘my good beer’

At the end of this section, I will give some arguments that the assumption of a null weak ending has some advantages. Note that these three exceptions (in the shaded cells in table 4 above) do not form an apparent natural class. In section 2.1, I pointed out that singular structurally case-marked elements are peculiar in two (out of four) paradigms. On the one hand, Duden (1995: 280) observed that in these cases, the mixed adjectival endings are identical to the strong ones. On the other hand, Eisenberg (1998: 173-4) pointed out that all the weak endings in *-e* are on singular structurally case-marked elements. Recall that adjectives in the mixed paradigm follow *ein*-words. Note now that the paradigm of *ein*-words is exceptional in itself in that it is different in three places from the paradigm of the definite determiner. What is surprising here is that the six exceptions in the mixed adjectival paradigm contrast with only three exceptions with the *ein*-words, although these elements co-occur in one and the same environment. As a first step, I propose – perhaps somewhat counter-intuitively at first glance – that there are not only three

exceptions with *ein*-words but rather six: *all* singular structurally case-marked *ein*-words are exceptional in the relevant sense. If true, they will then form a natural class, similar to the other two paradigms. To fully appreciate this rearrangement, consider the inflectional distribution in the three “new” exceptions in (29a-c):

- (29) a.    mein-en gut-en Wein                    (Acc M)  
           my     good wine(M)
- b.    mein-e gut-e Limo                    (Nom F)  
           my     good soda(F)
- c.    mein-e gut-e Limo                    (Acc F)  
           my     good soda(F)

With the three “old” exceptions in (28a-c), the strong ending surfaces with the adjective, whereas with (29a-c), the strong ending has been assumed to surface with the *ein*-word as the first word. Notice now that in all the latter cases, both the strong ending of the *ein*-word and the weak ending of the adjective are the same, *-e* or *-en*. If we assume – contrary to traditional descriptions – that also in these three cases, the strong ending is actually with the adjective and the weak ending is with the *ein*-word, then all six cases can be summarized in a natural group: all singular structurally case-marked *ein*-words have a weak ending. Under this assumption, all the weak *ein*-words and weak adjectives ending in *-e* cover the same cells in the table now (recall from footnote 11 that the accusative masculine always behaves somewhat differently):

Table 7: Natural Grouping

case \ gender	masculine	neuter	feminine
nominative	mein-/gut-e	mein-/gut-e	mein-e/gut-e
accusative	mein-en/gut-en	mein-/gut-e	mein-e/gut-e

This new rearrangement shows three weak endings rather than two: the zero ending for three of the *ein*-words as well as *-e* and *-en* for both the remaining weak *ein*-words and the adjectives. Although this may seem undesirable, I will return to the issue below pointing out some advantages.<sup>16</sup>

So far, I have reconsidered the inflectional paradigm involving *ein*-words and that of the mixed adjectival paradigm. Both are “interlocked” in that an *ein*-word is followed by an adjective in the mixed paradigm. Building on the insight of Duden (1995) that the structurally case-marked endings in the mixed paradigm are the same as in the strong one, I suggested that they are, in fact, strong. As for the *ein*-words, I proposed that not only are the nominative masculine and the nominative/accusative neuter exceptional but that all singular structurally case-marked *ein*-words are weak. This leaves us with the result that, on the one hand, all weak singular structurally case-marked *ein*-words are followed by strong singular structurally case-marked adjectives and, on the other, strong plural and/or inherent case-marked *ein*-words precede weak plural and/or inherent case-

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<sup>16</sup> The question arises now of whether this natural grouping is specific to German or has (morphological) reflexes in other languages. First of all, from the perspective of the Mainland Scandinavian languages and Dutch, the three “old” exceptions present the regular case, since *all* adjectives following indefinite determiners are strong (these languages do not distinguish between structural and inherent case). Treating the three “new” exceptions on a par with the three “old” ones brings German closer to these languages. Second, Russian makes a difference between structural and inherent cases with regard to the genitive of quantification assigned by numerals (Payne 1993: 136, Franks 1994). I will not pursue further the cross-linguistic significance of the dichotomies between singular vs. plural and structural vs. inherent case.

marked adjectives. Although these natural groupings already simplify the relevant paradigms, I propose below that the four sets of endings (strong, weak, mixed, and *ein*-words) can be reduced to two: the weak and the strong paradigm. This has the effect that the paradigms become more *abstract* in that each of the two applies to both determiners and adjectives alike. Consequently, the identical endings on these elements are no longer an accidental fact but are accounted for in a principled way. In what follows, I employ the general framework of chapter 1, which proposed that determiners move. In particular, I will argue that singular structurally case-marked *ein*-words move to D *after* the strong inflection is licensed.

### 3.2. *Movement of the Determiner at Different Times*

Turning to the second step of my proposal, this newly formed natural group of singular structurally case-marked *ein*-words and the adjectives in the mixed paradigm violates the Principle of Monoinflection in two ways: the strong ending is on the second item (rather than the first) and the weak ending is on the first one (rather than the second). In other words, both types of endings seem to have been “switched” with regard to their position. In order to explain these apparent exceptions to the generalization, I take the Principle of Monoinflection in (1) at face value and propose that these six exceptions behave in a special way, such that these *ein*-words do not precede the adjective at the point when strong morphological case is assigned. In other words, the determiner is in its base-position. Since the adjective is the first relevant overt item, it gets the strong ending. It is only later that the *ein*-word moves to D to precede the adjective on the surface. The claim



then is that determiners may move at different times into the DP. For ease of exposition, however, I will continue to call these six instances “exceptions”.

Thus far, forming the natural group of singular structurally case-marked elements, the paradigm of the *ein*-words has been “streamlined”. Now these six “exceptional” *ein*-words are weak and cover the same paradigmatic cells as the strong inflections of the mixed adjectival paradigm. Independent evidence for the special character of this group comes from the weak adjectival paradigm, where the ending *-e* only occurs in just these cases, and from the parallelism with the Scandinavian languages and Dutch (cf. footnote 16). Second, extending the proposal of chapter 1 that determiners move, I suggested that singular structurally case-marked *ein*-words move to D *after* the strong ending is assigned to the first item, the adjective. This explains the apparent exceptions to the generalization established in (1). Furthermore, we can now reduce the number of paradigms from four to two: with the exceptional instances in the paradigms of the *ein*-words and the mixed adjectives accounted for by later movement of certain *ein*-words to D, only the strong and the weak paradigms remain. However, these paradigms are now more abstract in that they are no longer tied to specific lexical categories, that is, determiners or adjectives, but become relevant with regard to the first item in a noun phrase. This does not pose a problem for the strong inflections, where we noted that determiners and (unprecedented) adjectives always have the same endings.<sup>17</sup> However, this is different for the weak inflection, where we added a weak null ending for the determiner.

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<sup>17</sup> Besides the difference between determiners and adjectives in the pronunciation of one inflectional ending (footnote 7), there is one (true) exception to this parallelism. In the genitive masculine/neuter, the weak ending *-en* surfaces in the strong paradigm (rather than the expected *-es*):

- (i)        guten                Weins  
              good(GEN.WEAK) wine(M.GEN)

Interestingly, according to the Duden (1995: 278 fn. 1), the expected strong ending on the adjective is, among other things, displayed in some set phrases:

Rex A. Sprouse (p.c.) points out to me that the weak zero ending of the *ein*-words in the three “old” cases contrasts with the weak *-e* ending of the adjectives, thus calling into question the claim made here that determiners may have the same endings as adjectives. Under my movement analysis, there are two possible approaches (independent of which one we take, the adjective will be strong in either case): on the one hand, we could claim that *ein*-words indeed do not have an ending in these three cases and, when they move to D, they do not get a weak default ending. On the other hand, we could stick with a weak null ending as a default, as assumed all along. Although the first solution might seem to be more attractive at first sight, there are some arguments that the second solution is probably better. Most of these arguments are derived from assumptions about the storage of lexical items in the lexicon.

As far as I can see, exempting *ein*-words from taking any ending in these three cases is tantamount to stipulating that they take a weak null ending. In other words, whether we stipulate that the relevant *ein*-words are exempt from the default mechanism in PF or stipulate that these *ein*-words receive a different ending, with a generally applying default mechanism, both approaches would involve stating a lexical property. However, the assumption of a weak null ending makes the singular structurally case-marked *ein*-words a “true” natural group and not one consisting of three cases with a weak ending and three with no ending whatsoever. This may have advantages for child language acquisition, which is presumably marked by the urge to find natural groupings.

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- (ii) reines                      Herzens  
       pure(GEN.STRONG) heart(M.GEN)

Rex A. Sprouse (p.c.) informs me that this particular case was the object of grammatical prescriptions in the 18th and the 19th centuries (see also Darski 1979: 199, Demske 2001: 42). The contemporary norm may well be an artificial “learned” pattern. In the following discussion, I will disregard these (true) exceptions.

Second, *ein*-words are different from some *der*-words that have an ending in *all* or *none* of the cases throughout the entire paradigms (e.g., *mancher* vs. *manch* ‘some’). This difference follows straightforwardly, if we assume that some lexical items have to agree (e.g., *ein*-words), others can potentially agree (e.g., *manch(er)*), depending on the analysis assigned to them by the speaker (see section 5.2), and finally still others never agree (e.g., *lauter* ‘a lot of’).<sup>18</sup> The advantage here is that no individual lexical item contains the specification that in some particular syntactic environments (i.e., the three exceptional cases), it must not agree while in others it has to. In other words, we do not have to assume exceptions about indeclinable elements *within* the (abstract) paradigm (of the *ein*-words) but we can simply state some low-level readjustment rule for the three cases (presumably also needed for the exceptions stated in footnote 11 and 17). Finally, besides these conceptual arguments, there is empirical evidence against the assumption of no ending, which can be derived from split NPs (see part II). In the next section, we consider the derivation of the strong/weak alternation in more detail.

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<sup>18</sup> *Lauter* ‘many’ seems to be a determiner-like element in that it cannot co-occur with a definite article:

- (i) a. (\*die) lauter Leute  
          the many people
- b. die vielen Leute  
          the many people

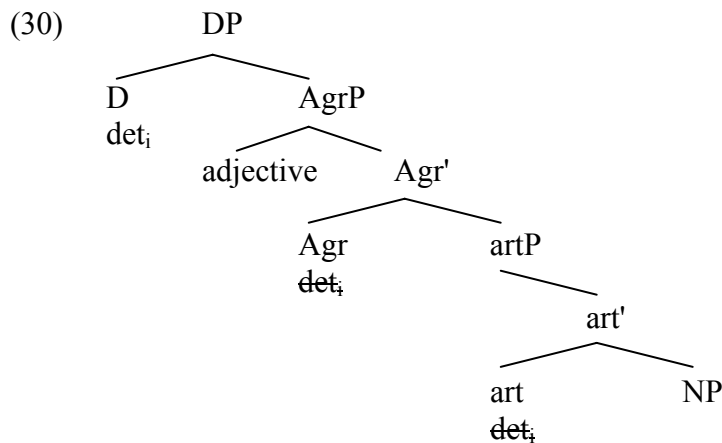
Crucially, it shows no alternation whatsoever:

- (i) a. {lauter / viel-e} nette Leute  
          many           nice people
- b. mit {lauter / viel-en} netten Leuten  
          with many           nice people

There are other elements of this type: *allerlei* ‘a lot of’, *mancherlei* ‘some’, *etwas* ‘some’, etc. I assume that these lexical items are marked “non-agreeable” (with the exception of genitive forms *zwei-er* ‘two’ and *drei-er* ‘three’ [see part II], the same goes for numerals).

#### 4. The Execution of the Proposal

In chapter 1, I followed Abney (1987) in analyzing noun phrases as DPs, and I extended Brugè's (1996, 2002) proposal in that not only demonstratives move into the DP but also definite and indefinite articles do. In concrete terms, all noun phrases are assumed to be DPs that consist of a null determiner D and an artP lower in the structure. The artP initially contains the actual overt determiner. The adjective is in the Specifier position of a recursive AgrP. Now, with the adjective an intervener (chapter 2), the overt determiner moves from artP to the DP to value the uninterpretable [definite] feature on D (for unmodified DPs, see part II). Furthermore, the definite determiner in DP brings about referentiality of the DP (cf. Longobardi 1994). Consider the following simplified tree structure:



Relevant for our discussion, the derivation is assumed to consist of two phases (in the spirit of Chomsky 2000, 2001), a clausal phase and a DP-phase (for the discussion of the latter, see Svenonius 2004, Bošković 2005). Both phases are assembled separately. The

DP(-phase) is merged into the clausal phrase when a verbal or prepositional predicate of the clausal phase requires an argument.

At a more general level, I claim that there are two syntactic relations with regard to the noun phrase. On the one hand, there is an external relation (“agreement”) that the noun phrase as a whole enters into, for instance, with its predicate. This relation is assumed to be reflected by the Principle of Monoinflection. On the other hand, there is an internal relation (“concord”) such that features within the noun phrase are valued by movement of the determiner into the DP. Leaving the latter for section 6.2 and part III, I now turn to the former relation. First I illustrate the DP-phase, then the interaction between the DP and the clausal phase, and finally, I comment on what happens in PF.

#### 4.1. *The DP-Phase*

For ease of exposition, I assume with Chomsky (1995) that lexical items are taken out of the lexicon fully inflected<sup>19</sup> and are merged in a bottom-up fashion. The noun projecting an NP merges with a determiner, which, in turn, projects an artP. If an adjective is in the numeration, it is merged in the Specifier of AgrP. This structure then merges with a null D projecting a DP:

(31) [DP D [AgrP (**adjective**) [artP **determiner** [NP **noun** ]]]]

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<sup>19</sup> This is in contrast to Distributed Morphology (Halle & Marantz 1993) the framework assumed here, which argues for “late” insertion of phonological features. As I keep referring to the first “overt” element, this has to be understood as an element with a certain feature matrix (that is filled in by DM) but is crucially not present with phonetically null elements. For ease of exposition, I follow Chomsky here but it should be kept in mind that “overt” stands for the presence of the relevant feature matrix.

In keeping with the main proposal, this is the assumed (simplified) structure before the determiner moves to D. All DPs under discussion share this part of the derivation. Following Gallmann (1996), Müller (2002a), and Schütze (2001), I make a distinction between abstract and morphological case. Abstract case is realized on the entire DP whereas morphological case is realized on the actual overt elements within the DP (cf. Laenzling 1998: 133, who exploits this distinction with regard to clitic pronouns). The inflections on the lexical items have to be checked or “licensed”. For clarity, I reserve the term “valuing” for abstract features and “licensing” for (visible) morphological features. I assume that there is a distinction between the movement of the *entire* DP inside the clausal phase and its case valuation (triggered by null D) vs. the movement of overt elements *within* the DP and their feature “licensing”. Both instances of movement and valuing or licensing occur independently of one another. I begin by considering the distribution of strong inflection.

As proposed in chapter 2, D has an uninterpretable [definite] feature that needs to be valued by the determiner. With an adjective present, the determiner has to move to the DP at some point in the derivation, that is, valuation can occur overtly or covertly. I assume that definite determiners (demonstratives and definite article) move to the DP overtly. As for the indefinite article, I assume that plural and/or inherently case-marked instances move overtly whereas singular structurally case-marked ones move covertly to value the feature in D.<sup>20</sup> In that sense, the singular structurally case-marked instances are

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<sup>20</sup> This implies that the feature driving overt movement (e.g., an EPP feature) is in the moving element. Also, other *der*-words (e.g., *jeder* ‘every’, *mancher* ‘some’) are assumed to be merged in Spec,CardP (with a null determiner in art moving to D). Independently of whether or not they move to the DP to bring about a strong quantificational reading (chapter 1), they will always precede adjectives and get the strong ending. As they are of a different category, the adjective will be weak (see below). As for *ein*-words, possessive pronouns and the negator *kein* ‘no’ are composites (see part II) and only *ein* moves from art to D.

similar to the suffixal determiner in common Modern Icelandic (chapter 2). In contrast to Icelandic, all determiners precede the adjective on the surface in German. I propose that the null D head in German needs to be supported in PF. Thus, singular structurally case-marked indefinite determiners move not only covertly to D but also in PF (in part II, we turn to more evidence that *ein* is a supporting element).

Assuming that the overt syntax of the DP is completed by the time the DP is merged into the clause, all *der*-words will precede the adjective:

- (32) a.     **der**           **gute**       **Wein**  
           the(NOM.STRONG) good(WEAK) wine(M)  
           ‘the good wine’
- b.     [DP **der<sub>i</sub>**+D [AgrP **gute** [artP **der<sub>i</sub>** [NP **Wein** ]]]]

The same holds for plural and/or inherent case-marked *ein*-words:

- (33) a.     **einem**       **guten**       **Wein**  
           a(DAT.STRONG) good(WEAK) wine(M)  
           ‘a good wine’
- b.     [DP **einem<sub>i</sub>**+D [AgrP **guten** [artP **einem<sub>i</sub>** [NP **Wein** ]]]]

In contrast, singular structurally case-marked *ein*-words stay in situ, by assumption:

- (34) a.    ein            guter            Wein  
           a(NOM.WEAK) good(STRONG) wine(M)  
           ‘a good wine’
- b.    [DP D [AgrP **guter** [artP **ein** [NP **Wein** ]]]]

Thus far, we have seen that *der*-words as well as plural and/or inherent case-marked *ein*-words have moved into the DP to value the [definite] feature in D. Singular structurally case-marked *ein*-words have remained in artP. The DP-phase is now ready to be merged into the clause.

#### 4.2. *The Clausal Phase*

The clausal phase itself has been partially assembled and reached a point at which a DP needs to be merged as an argument. In what follows, I illustrate this with DPs as subjects in the nominative and as complements of a preposition in the dative case. Recall that the lexical items have been merged fully inflected and that these inflections have to be checked or rather “licensed”. To repeat, the term “valuing” is reserved for abstract features and “licensing” for (visible) morphological features. With regard to the latter, there are two kinds of morphological case: strong and weak (corresponding to the two sets of morphological inflections given above). Strong morphological case is “licensed” by a verb or a preposition at the time the DP is merged into the clausal phase. Concretely, I propose that the strong ending can only be licensed on an element in an appropriate



position. I assume that this is an L-marked position. Consider the following definitions, making a crucial difference between lexical and functional elements:

(35) *L-marking*

- a. Lexical elements such as verbal predicates and prepositions L-mark the Specifier position and the head of their argument.
- b. Functional elements such as D and overt determiners only L-mark the Specifier position of their argument.

The intuition here is that all relevant heads license adjacent Specifiers on their right but only lexical heads L-select their complement and thus the head of this complement. This results in the following L-marked positions, which I provide with their relevant occupants:

(36) *L-marked Positions*

- a. Spec,DP – demonstratives (after movement)
- b. D – articles (after movement)
- c. Spec,AgrP – adjective
- d. lower Specs – empty or irrelevant

Neither the overt article in art nor the noun in N is L-marked. Consequently, they cannot get a strong ending licensed in these positions. Furthermore, with a moved and thus preceding determiner, both this element and the following adjective are in L-marked

positions and both could potentially have their strong inflection licensed, in contrast to what actually occurs. To rule out this “double-marking”, we could either assume that single marking is more economical or we could posit a language-specific rule. With the exception of several adjectives (see section 6.1), German is unusual in that only one element shows the strong inflection. I propose then to reformulate the Principle of Monoinflection in (1) as a language-specific rule:

(37) *Rule of Monoinflection (first version)*

License the strong morphological inflection on the first overt element at the point where the DP is merged into the clause.

Finally, to capture the fact that morphological and abstract case is subject to locality restrictions, I assume with Grimshaw (1991) that the DP is the extended projection of the lexical noun. In the sense of Bobaljik & Wurmbrand (2005), I assume that the lexical noun introduces a new “agreement domain”, which could technically be instantiated by some percolation mechanism as part of the extended projection of the noun. The effect of this is that elements below the lexical noun are not part of this agreement domain and cannot get case from the higher clausal predicate.

To continue the derivations from section 4.1., (32b) with a weak adjective is merged in Spec,*v*P. The definite determiner is in the L-marked position D and has its strong inflection licensed.<sup>21</sup>

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<sup>21</sup> Alternatively, one could assume that strong morphological case is licensed by the verb or preposition if it is inherent case and by the functional head if it is structural case (once the DP has raised to the Specifier of that functional head). Under this assumption, valuing of abstract case and licensing of morphological case would occur at the same time.

(38) [<sub>VP</sub> [<sub>DP</sub> **der**<sub>i</sub>+D [<sub>AgrP</sub> **gute** [<sub>artP</sub> **der**<sub>i</sub> [<sub>NP</sub> **Wein** ]]]] v [<sub>VP</sub> ... ]]

Although the adjective is also in an L-marked position, it does not have a strong ending licensed by rule (37). The DP may now move to Spec,IP to value the abstract nominative case on null D.

Turning to the strong adjectival paradigm, the DP is assembled as discussed above. However, instead of an overt determiner, a zero element is merged with a mass noun in art. The null determiner raises to support D. However, independently of when it moves, the adjective is the first overt element in an L-marked position in the DP. Consequently, strong morphological case will be licensed on the adjective:

(39) [<sub>VP</sub> [<sub>DP</sub>  $\emptyset$ <sub>i</sub>+D [<sub>AgrP</sub> **guter** [<sub>artP</sub>  $\emptyset$ <sub>i</sub> [<sub>NP</sub> **Wein** ]]]] v [<sub>VP</sub> ... ]]

As far as the “mixed” paradigm is concerned, dative case on the DP can only be valued by a dative-taking predicate. Assume then that (33b) is merged with the preposition *mit* ‘with’, which takes the dative:

(40) [<sub>PP</sub> mit [<sub>DP</sub> **einem**<sub>i</sub>+D [<sub>AgrP</sub> **guten** [<sub>artP</sub> **einem**<sub>i</sub> [<sub>NP</sub> **Wein** ]]]]]]

At this point, strong morphological case is licensed on the *ein*-word as it is the first overt item of the DP in an L-marked position.

In the nominative, with singular structurally case-marked *ein*-words, the determiner stayed in situ, repeating here (34b):

(41) [DP D [<sub>AgRP</sub> **guter** [<sub>artP</sub> **ein** [<sub>NP</sub> **Wein** ]]]]

Then, the DP is merged in Spec,<sub>v</sub>P of the clausal phase. The predicate *v* licenses the strong morphological inflection on the first element in an L-marked position, in this case the adjective:

(42) [<sub>vP</sub> [<sub>DP</sub> D [<sub>AgRP</sub> **guter** [<sub>artP</sub> **ein** [<sub>NP</sub> **Wein** ]]]] *v* [<sub>VP</sub> ... ]]

The entire DP may now move to Spec,IP to value the abstract nominative feature of the null D.

#### 4.3. *Finalizing the Derivations in PF*

Citing, among others, Boeckx & Stjepanović (2001), Chomsky (2001: 37-38) discusses some favorable consequences of head movement in PF (for other recent proposals involving movement in PF, see Chomsky 2000: 144 fn. 44, Lasnik 2001, Embick & Noyer 2001, and Sauerland & Elbourne 2002). Although Boeckx & Stjepanović's (2001) arguments for head movement in PF have been reanalyzed by Baltin (2002) as phrasal movement in PF, this, of course, does not mean that head movement in PF does not exist. In fact, I propose that the exceptional *ein*-words represent just this case. Note, however, that this is not movement to check/value features but to support an element (D).<sup>22</sup> As a

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<sup>22</sup> Movement to support an affix has been proposed before. Chomsky (1991: 155) treats the expletive *there* as an LF affix that the associate has to adjoin to in LF to prevent this affix from being stranded (cf. also Chomsky & Lasnik 1993: pp. 65).

consequence, I suggest that both phrasal and head movement may occur in syntax as well as PF.

Resuming the derivation of the noun phrases involving the singular structurally case-marked *ein*-words, they adjoin to D in PF to support D. Consequently, they precede the adjective on the surface:

(43) [DP **ein**<sub>i</sub>+D [AgrP **guter** [artP **ein**<sub>i</sub> [NP **Wein** ]]]]

(A similar derivation will be proposed for pronominal DPs such as *Ich blöder Idiot* ‘I stupid idiot’ in part III.) Above, I proposed that the strong inflection is licensed at the time the DP is merged into the clause. I now turn to the explanation of the weak endings.

Schütze (2001) argues for a postsyntactic notion of default case. Crucially, this case is not assigned to avoid the Case Filter (a syntactic notion) but it is realized on a relevant element to spell out a terminal node.<sup>23</sup> Now, singular structurally case-marked *ein*-words and adjectives that are preceded by a determiner have not had a strong inflection licensed. I propose they receive a weak ending by default in PF. This is in keeping with Eisenberg’s (1998: 173) observation that *-e* and *-en* are the least specific suffixes, both with regard to substance and function, and the current proposal stands in stark contrast to Zwicky (1986: 986), who assumes that the strong inflection is the default.<sup>24</sup>

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<sup>23</sup> The present proposal follows Schütze (2001) and differs from Abney (1987: 301). Abney takes up a suggestion by Larson (1987: 250-2), who argues that adjectives, being [+N] elements, need to get case to escape the Case Filter (also Emonds 1985: 58).

<sup>24</sup> As pointed out by Željko Bošković (p.c.), two default endings are somewhat odd. As a way out, one could suggest that *-e* and *-en* are due to different processes. First, with the exception of *lila*-type adjectives, all pre-nominal modifiers have an additional schwa. This could be stated as a schwa-insertion

So far, nothing has been said about the deletion of the lower copies of the determiners in the DP. As a final step of the derivations from above, I employ Nunes' "Copy+Merge" theory of movement. Deleting the lower copy of the determiner, this completes the derivations for the weak adjectival paradigm:

- (44) a.     der           gute       Wein  
           the(NOM.STRONG) good(WEAK) wine(M)  
           ‘the good wine’
- b.     [DP **der**<sub>i</sub>+D [AgrP **gute** [artP ~~der~~<sub>i</sub> [NP **Wein** ]]]]

The same holds for the two instances of the mixed paradigm:

- (45) a.     einem       guten       Wein  
           a(DAT.STRONG) good(WEAK) wine(M)  
           ‘a good wine’
- b.     [DP **einem**<sub>i</sub>+D [AgrP **guten** [artP **einem**<sub>i</sub> [NP **Wein** ]]]]

- (46) a.     ein           guter       Wein  
           a(NOM.WEAK) good(STRONG) wine(M)  
           ‘a good wine’
- b.     [DP **ein**<sub>i</sub>+D [AgrP **guter** [artP **ein**<sub>i</sub> [NP **Wein** ]]]]

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rule. Second, one could say that the default ending is just *-n* and is only assigned to the elements that are in oblique case and/or in the plural.

As for the strong adjectival paradigm in (39b), no overt element has moved from art to D and there are no relevant overt copies to delete.

To sum up, I argued for a difference between movement of elements within the DP and movement of the entire DP. Movement of the determiners within the DP phase is triggered by the need to value the [definite] feature on D, whereas movement of the entire DP is triggered by an abstract case feature on the null head D. Whereas strong morphological case is “licensed” by the verb or preposition once the entire DP is merged with that verb or that preposition, abstract case of the entire DP is valued by the verb or preposition (if inherent) or after movement of the DP to a functional head (if structural).<sup>25</sup> Weak morphological case is the default option after Spell-Out. Here again are the main steps of the derivation:

- (A) Within the DP phase, *der*-words as well as plural and/or inherently case-marked *ein*-words move to the DP to value D. Upon merge of the DP into the clause, strong morphological case is licensed on the *der*-, the *ein*-word or, alternatively, on the adjective (if nothing precedes it).
- (B) The entire DP can then either stay in situ or move before Spell-Out (e.g., for structural case).

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<sup>25</sup> To be clear, I argued for independent mechanisms for morphological and abstract case licensing/valuing. On the one hand, there seems to be some redundancy here, and on the other, this seems to make the prediction that these could in principle differ. Note that despite the redundancy, the mentioned prediction may not be an unwanted one. For instance, in Icelandic, inherent case-marked arguments move in ECM constructions (here, out of their thematic verb phrase):

- (i) Ég tel Harald hafa batnað veikin  
I believe Harald(DAT) to-have recovered-from the-disease(NOM)  
'I believe Harald to have recovered from the disease.'

I conclude then that both types of mechanisms exist independently of one another. This has been suggested before in Double Case Approaches (for discussion, see Freidin & Sprouse 1991) and allows for a potentially interesting connection between the strong/weak alternation in German and case phenomena in Icelandic. The question that arises is why the phenomenon observable in Icelandic is not more frequent. I will not attempt to solve this larger issue here.

- (C) After Spell-Out, *ein*-words which remained in situ move to D to support it. Weak morphological case is then licensed on them and the remaining caseless adjectives as a default option.

Having laid out and illustrated the most important assumptions and claims of the execution of this proposal, we are now ready to extend the range of data and make some further refinements.

## **5. Further Data and Refinements**

Considering a wider range of data, I show in what follows that not all overt elements have an influence on the distribution of the adjectival inflection. This will lead to a reformulation of the Rule of Monoinflection. In the final subsection, I turn to cases where the adjectival inflection is not on the expected adjectival head but on a right peripheral element of the phrase containing the adjective.

### *5.1. The Weak Adjectival Paradigm*

Besides the above discussed (47a) and (47c), German also allows the adjective to be – what is traditionally called – “nominalized”, as in (47b) and (47d):



- (47) a.    der               gute           WEIN  
           the(NOM.STRONG) good(WEAK) wine(M)  
           ‘the good wine’
- b.    der               GUTE  
           the(NOM.STRONG) good(M.WEAK) (one)  
           ‘the good one’
- c.    dem               guten           WEIN  
           the(DAT.STRONG) good(WEAK) wine(M)
- d.    dem               GUTEN  
           the(DAT.STRONG) good(M.WEAK) (one)

Despite different nuclear stress, indicated by capital letters, the distribution of the inflections is the same. Following Olsen (1987, 1988) (also Kester 1996b: chapter 4, Fanselow 1988: 101, but Haider 1988: 44-5), I assume that the adjectives in (47b) and (47d) are not turned into nouns but that there is an implicit head noun. Rather than *pro*, I follow again Grimshaw (1991) in that all noun phrases have a noun as the head of their extended projection. I will assume with Panagiotidis (2002a, b; 2003a, b) that this head is the null noun  $e_N$ . As inflection here is independent of the phonetic realization of the head noun (for split-NPs, see part II), the analysis from above carries over directly.

The weak adjectival paradigm occurs not only on freestanding adjectives, but also with compound words, such as *diejenige(n)* ‘(the.)those’. In Roehrs (2003), I give some pieces of evidence that this is a (kind of) compound. First, although the second component *-jenige(n)* has a typical adjective-forming morpheme (*-ig*), it is not a

freestanding word by itself and cannot be used separately. Second, the stress marking is different from (47): whereas the freestanding determiner is unstressed in (47), the first part of the compound is stressed in (48) (for the full morphological paradigm, see Duden 1995: 336):

- (48) a. DER-jenige Wein  
the(NOM.STRONG).one(WEAK) wine(M)  
‘that wine’
- b. DEM-jenigen Wein  
the(DAT.STRONG).one(WEAK) wine(M)

I will assume then that *diejenige(n)* ‘those’ is a compound consisting of two components, a definite determiner and an adjectival part.

It is a standard assumption that words are opaque to certain syntactic processes. I take the licensing of morphological inflection to be such a syntactic operation (see also the discussion of *ein jeder* ‘(an) every’ in Roehrs in prep). In order to license the strong morphological endings “inside“ the compound words in (48), we have to assume that the two parts of the compound were merged separately. The present proposal forces us to assume just that, since the determiner has been argued to be merged in art below the adjective. Thus, after movement of the *der*-word from art to D, the *der*-word as the first item has its strong ending licensed. In PF, the weak ending is licensed on the adjectival part *-jenige(n)* and both components form a compound. Thus, the assumed opacity of (compound) words for syntactic processes forces us to assume that the relevant elements

merge separately. This is in keeping with the present proposal, which argues for the movement of determiners.

## 5.2. *The Strong Adjectival Paradigm*

As already discussed above, if no overt determiner precedes the adjective, it carries the strong ending. The same holds for “nominalized” adjectives, compare (49a) to (49b) and (49c) to (49d):

- (49) a.     guter             Wein  
          good(NOM.STRONG) wine(M)  
          ‘good wine’
- b.     Guter  
          good(NOM.M.STRONG) (one)  
          ‘good one’
- c.     gutem             Wein  
          good(DAT.STRONG) wine(M)
- d.     Gutem  
          good(DAT.M.STRONG) (one)

Apart from the different spelling convention (capitalization of the nominalized adjective), the inflections are the same. Again, assuming the null noun  $e_N$ , the discussion of (49b,d) follows that of (49a,c).

An adjective with a strong ending can also appear in noun phrases with different elements preceding it. For instance, the adjective is also strong when a possessive DP precedes it:

- (50) a. Vaters     guter             Wein  
         father(GEN) good(NOM.STRONG) wine(M)  
         ‘father’s good wine’
- b. Vaters     gutem             Wein  
         father(GEN) good(DAT.STRONG) wine(M)

This situation is more general. If the possessive DP Vaters ‘father’s’ is exchanged with the genitive question word wessen ‘whose’ or the relative pronouns dessen or deren ‘whose’, the same distribution of the adjective endings holds. This is unexpected under the generalization in (1), as the adjective is strong although another overt element precedes it in the DP. Unlike the mixed paradigm, this holds in all cases and I will not argue for late movement of the genitive DPs in PF. Rather, the preceding element is of a different type such that it is a (genitive) phrase and, secondly, that it does not agree with the features of the head noun Wein ‘wine’ (also Olsen 1989: 150-1). Following an idea of Steven Franks (p.c.), I modify the rule in (37) as follows:

(51) *Rule of Monoinflection (second version)*

At the point where the DP is merged into the (partially assembled) clause, license the strong morphological inflection on the first overt element that the head noun can establish an agreement relation with. There are two relevant subcases: elements are

- (i) “agreeable” in general
- (ii) “agreeing”, depending on the analysis assigned by the speaker

An “agreeable” element is one that enters into an agreement relation with the phi-features of the head noun. This ability is an inherent property of some lexical items. As for an “agreeing” element, it can *potentially* agree with the head noun. Its actual status depends on the analysis the speaker assigned to that lexical item in a specific context. With this in mind, let us consider some elements that do not have any impact on the inflection of the adjective.

Illustrating “non-agreeable” items first, the genitive phrase above has other features and it will not be agreeable in the sense of (51i). As such, it is not relevant. This implies that once a (phrasal) element has certain features, they may not be changed later in the derivation (cf. Valois’ 1991: 116 Agreement Resistant Principle). This assumption will exclude not only preceding genitive DPs but also preceding PPs that act as extended adjectival modifiers:

- (52) ein [auf seinen Sohn] stolzer Vater  
 a on his son proud(STRONG) father(M)  
 ‘a father who is proud of his son’

Like the preceding genitive DP, a preceding PP does not enter into an agreement relation with the head noun and so it will not be relevant. From this assumption it follows that the adjective, as the first relevant overt item, has the strong ending licensed before the *ein*-word moves to D. The same applies to preceding adverbs. I assume that they do not agree with the head noun, since they modify the adjective. Consequently, they will not be relevant either:

- (53) ein [schnell] laufendes Pferd  
 a quickly running(STRONG) horse(N)  
 ‘a quickly running horse’

Turning to (potentially) “non-agreeing” elements (51 ii), the adjective may vary as to what inflection some *der*-words take: if the *der*-word has the strong ending, the adjective is weak, as expected, but if the *der*-word does not have any ending, the adjective is strong (for more, see Helbig & Buscha 2001: 275). Compare (54a) and (54b) to (54b) and (54d):

- (54) a.   mancher           gute           Freund  
           some(NOM.STRONG) good(WEAK) friend(M)  
           ‘some good friend’
- b.   manch guter           Freund  
           some good(NOM.STRONG) friend(M)  
           ‘some good friend’
- c.   manchem           guten           Freund  
           some(DAT.STRONG) good(WEAK) friend(M)  
           ‘some good friend’
- d.   manch gutem           Freund  
           some good(DAT.STRONG) friend(M)  
           ‘some good friend’

Again, this distribution holds both in the structural and the inherent cases and is thus different from that of the *ein*-words. Similar to the genitive phrase, I will not assume late movement of the *der*-word. Unlike with the genitive phrase, I suggest that speakers may analyze these forms as either “non-agreeing” or “agreeing”. If the element is analyzed as non-agreeing, then the adjective is strong (as it will be the first item in the DP that can undergo agreement). If the element is analyzed as agreeing, then the adjective is weak. (The same ability to potentially agree will be argued in part III to hold for personal pronouns in pronominal DPs such as *wir gute(n) Linguisten* ‘we good linguists’.)

In this section, I showed that preceding phrases such as genitive DPs, PPs and AdvPs do not have an effect on the licensing of the inflectional endings on overt elements

within the DP. I referred to these elements as (inherently) “non-agreeable”. Furthermore, if it is assumed that speakers may vary in their analysis of particular lexical items with regard to their ability to agree, then the relevant data also follow from the modified version of the Rule of Monoinflection. I referred to these items as (potentially) “agreeing”.

### 5.3. *The Mixed Adjectival Paradigm*

The mixed adjectival paradigm also has several subcases. As already discussed above, the inflection on the adjective varies depending on the number and case of the indefinite determiner, or more generally the *ein*-word. Again, the same holds for the “nominalized” adjectives in (55b) and (55d):

- (55) a.    ein     guter            Wein  
           a(WEAK) good(NOM.STRONG) wine(M)  
           ‘a good wine’
- b.    ein     Guter  
           a(WEAK) good(NOM.M.STRONG) (one)  
           ‘a good one’
- c.    einem     guten        Wein  
           a(DAT.STRONG) good(WEAK) wine(M)
- d.    einem        Guten  
           a(DAT.M.STRONG) good(WEAK) (one)



Similar to above and apart from the spelling convention, the distribution of the inflections is the same. Again, I assume  $e_N$  to be the head noun in (55b) and (55d). Second, the adjective in pronominal DPs such as *ich blöder Idiot* ‘I stupid idiot’ behaves similarly (for full discussion, see part III). Before I turn to section 6, I shall discuss the “suffixal” status of the adjectival inflections. This will lead to the final version of the Rule of Monoinflection.

#### 5.4. Adjectival Inflections as “Phrasal” Suffixes

As discussed in chapter 1, an adjective (phrase) is in a Specifier position of AgrP. As pointed out there, these adjective phrases can be more complex and agreement phenomena are assumed to be relevant for the head position:

- (56) a. ein [ auf seinen Sohn sehr stolz-er ] Vater  
           a    of his     son   very proud    father
- b. das [ immer noch zu lesend-e ] Buch  
           the   ever   still   to reading   book  
           ‘the book still to be read’
- c. das [ bei weitem schönst-e ] Mädchen  
           the   by far     most beautiful girl

However, van Riemsdijk (1998: 671-4) points out (for Dutch) that there are some cases where a different element from the head gets the inflection (also Grosu 2003: 173-5). In

(57), neither of the heads *schnell* ‘quick’ and *brauner* ‘brown’ has any inflection but *mögliche* ‘possible’ and *braune* ‘brown’ do:

- (57) a. das [ so schnell wie möglich-e ] Aufräumen  
the so quick as possible straightening out
- b. ein [ brauner als braun-es ] Auto  
a browner than brown car

This suggests that it is the right most element of the relevant phrase in Spec,AgrP that gets the inflection, independent of its status as a head of that phrase (without going into any details, Dutch is somewhat more restrictive than German). Interestingly, this is not possible with *genug* ‘enough’:

- (58) a. Das Auto ist schön genug.  
the car is nice enough
- b. \* das [ schön(e) genug-e ] Auto  
the nice enough car

In both (57) and (58), an adjective is combined with part of a Degree Phrase. The difference is that the resulting element ends in an adjective in (57) but an adverb in (58):

- (59) a. das mögliche Aufräumen  
the possible straightening out

- b. ein braunes Auto  
a brown car
- c. \* das genuge Wasser  
the enough water

I tentatively propose that adjectival inflection is a kind of “phrasal” suffix that must attach to an adjectival element on the very right periphery of the phrase in Spec, AgrP.<sup>26</sup> At a more general level, this discussion implies that, at the time the inflection is licensed, be it strong or weak, the syntactic structure of the phrase has to be still available. Finally, if adjectival inflections are “phrasal” suffixes, then their licensing by a predicate can be formulated in terms of c-command such that the left-to-right asymmetry follows from that.<sup>27</sup>

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<sup>26</sup> The quotation marks on “phrasal” are meant to indicate the special character of these elements, an issue raised by Željko Bošković (p.c.). Note in this respect that true phrasal affixes are not sensitive to the part of speech of their host (cf. the English possessive ‘s). The text discussion has an interesting consequence. It provides an account of the ungrammaticality of post-adjectival complements in pre-nominal position (cf. Emonds’ 1985: 130 Recursion Restriction, Williams’ 1982a Head-Final Filter):

- (i) \* ein [ stolz auf seinen Sohn-er ] Vater  
a proud of his son father

Assuming that APs have to show agreement, (i) is ungrammatical as the only potential host of the suffix is the adjective, which, however, is not on the right edge. Note also that other languages (e.g., Greek) allow (i) and as such, an account ruling out (i) should be specific to a language (group).

<sup>27</sup> Besides Olsen’s (1991b) assumption of an AGR under D, there is another way to derive the left-to-right asymmetry. Giusti (1996) makes the proposal that an assumed K(ase)P and DP can be collapsed into FP (p. 78, 81).

- (i) a. Q – K – D – Agr<sup>n</sup> – etc. – N  
b. Q – F – Agr<sup>n</sup> – etc. – N

She assumes that a case-morpheme is in F, which is then supported by N-incorporation (p. 86). Giusti proposes that at a later stage in language development, this morpheme is interpreted as an individual word, bringing about the article. However, this proposal raises some serious questions.

First, to the extent that I am aware, Old High German did not have consistent N-to-D raising. Second, elements in different positions from F (demonstratives in Spec,FP; universal quantifiers such as *jeder* ‘every’ in QP; adjectives in AgrP) have the exact same endings. Under this approach, these identical endings become accidental. Furthermore, Bittner & Hale (1996) provide evidence that K can co-occur with D (for more problems, see Lyons 1999: 324-5, Spencer 1992, Wegener 1995: 162).

(60) *Rule of Monoinflection (final version)*

At the point where the DP is merged into the (partially assembled) clause, license the strong morphological inflection on the “closest”<sup>28</sup> overt element (with respect to the clausal predicate) that the head noun can establish an agreement relation with. There are two subcases: the relevant elements are:

- (i) “agreeable” in general
- (ii) “agreeing”, depending on the analysis assigned by the speaker.

In other words, the highest element will get the strong ending licensed by the predicate under Agree. I will not flesh this out here any further. Finally, I shall try to answer the question of why German has the agreement patterns it does.

Uriagereka (1999) derives the existence of agreement from a kind of “address mechanism,” needed for the radical version of Multiple Spell-Out. In that version, the Specifier of a structure is not merged with that structure at all but is associated with it by way of agreeing with it. Although his proposal only applies to non-complements (i.e., “left branch” elements), if we could extend the relevant part of the mechanism also to complements and adjuncts (without losing the account of the differences between these elements), then we could suggest that this mechanism is uniquely observable in German’s Rule of Monoinflection. In a sense, the strong morphological inflection overtly reflects the establishment of an associative relation between the DP and the clausal phase. In other words, the strong inflection is on the “closest” element of the DP because of the interaction between the DP phase and the clausal phase.

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<sup>28</sup> The notion of “closeness” is defined such that Y is closer to X than Z if X asymmetrically c-commands Y and Y asymmetrically c-commands Z.

## **6. Apparent Violations of the Principle of Monoinflection**

So far I have assumed that the strong inflection in German comprises features such as case and gender (number is on the head noun). As documented above, the grammatical function is typically expressed on the closest “agreeable” or “agreeing” overt item in the DP. This followed from the interaction of the two phases: at the moment the DP phase is merged into the clausal phase, the clausal predicate licenses strong morphological case on the “closest” element of the DP (Rule of Monoinflection), which might facilitate the association of the two different phases in a system of Multiple Spell-Out. Furthermore, I suggested that the remaining items in the DP have a weak ending licensed by default. This has been the interpretation of the Principle of Monoinflection in this part of chapter 4.

On the face of it, this claim seems to be too strong, because there are two violations of this principle: on the one hand, there are noun phrases where no strong inflection is present at all and, on the other, there are cases with two or more strong inflections. While I postpone the discussion of the former to part II, I turn to the latter momentarily, distinguishing between elements of the same category and of different ones.

6.1. *Several Adjectives*

If there is more than one pre-nominal adjective, all these adjectives will have the same ending. This applies to the weak, the strong, and the mixed adjectival pattern alike, as shown in (61), (62), and (63), respectively:

(61) a. der            gute            süße            Wein  
the(NOM.STRONG) good(WEAK) sweet(WEAK) wine(M)  
'the good sweet wine'

b. dem            guten            süßen            Wein  
the(DAT.STRONG) good(WEAK) sweet(WEAK) wine(M)

(62) a. guter            süßer            Wein  
good(NOM.STRONG) sweet(NOM.STRONG) wine(M)  
'good sweet wine'

b. gutem            süßem            Wein  
good(DAT.STRONG) sweet(DAT.STRONG) wine(M)

(63) a. ein    guter            süßer            Wein  
a(WEAK) good(NOM.STRONG) sweet(NOM.STRONG) wine(M)  
'a good sweet wine'

b. einem            guten            süßen            Wein  
a(DAT.STRONG) good(WEAK) sweet(WEAK) wine(M)

This violates the Principle of Monoinflection only in number but not in nature. In all the examples, the violation involves elements of the same lexical category. In other words, there is a parallelism within the category of the adjective such that adjectives all agree in their marking. With the Rule of Monoinflection being language-specific (actually dialect-specific, see Demske 2001), I define a more general notion of “concord in agreement” by formation of a “Chain”:

(64) *Concord-Chain*

Elements of the same category form a Chain within a given syntactic domain.

All adjectival elements are in a recursive AgrP. I suggest that the (representational) Chain is established by the recursive AgrP itself and as such is a reflection of the build-up of phrasal structure. This then brings about concord with regard to the lexical category. This general formulation of a concord Chain makes the prediction that not only adjectives display identical endings but also determiner(-like) elements. In the few cases where the complementary distribution does not hold, this is indeed the case:

- (65) alle                    diese                    guten                    Weine  
       all(NOM.STRONG) these(NOM.STRONG) good(WEAK) wines  
       'all these good wines'

Under above assumptions, we are forced to conclude that *alle* ‘all’ is base-generated in a recursive DP (moved pronouns, as in *ihr alle* ‘you all’, provide evidence that *alle* is a





- b. de-s            guten      Wein-s  
the(GEN.STRONG) good(WEAK) wine(M.GEN)
- c. die              guten      Weine  
the(NOM.STRONG) good(WEAK) wines
- d. de-n            guten      Weine-n  
the(DAT.STRONG) good(WEAK) wines(DAT)

However, unlike with the determiner, the inflections on head nouns are much more restricted, both in number and by other conditions (e.g. Müller 2002a, Gallmann 1996).<sup>30</sup> For instance, as discussed by Wegener (1995: 154-63) and Gallmann (1996: 287-88), it is sometimes already possible to leave out the inflection on the head noun. This is in stark contrast to the determiner (cf. section 2.2.1 above; recall also that the two types of ending are not identical to begin with, see footnote 12). To capture this difference, I propose that there are two different syntactic relations with regard to noun phrases: (i) syntactic

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<sup>30</sup> Müller (2002a) makes the insightful distinction between primary and secondary inflection. Simplified, while primary inflection is always obligatory, as in (66), secondary inflection is dependent on the condition “double or nothing”: a suffix on the head noun must be licensed by adjectival agreement on a second element and vice versa. Consider the following paradigm (adopted from Müller 2002a: 91, going back to Gallmann 1996: 284; also Haider 1992: 330):

- (i) a. Orchester ohne [ dies-en / eigen-en Dirigent-en ]  
orchestra without this / own conductor  
‘orchestra without this / its own conductor’
- b. \* Orchester ohne [ dies-en / eigen-en Dirigent ]  
orchestra without this / own conductor  
‘orchestra without this / its own conductor’
- c. \* Orchester ohne [ Dirigent-en ]  
orchestra without conductor  
‘orchestra without conductor’
- d. Orchester ohne [ Dirigent ]  
orchestra without conductor  
‘orchestra without conductor’

Müller (2002a: 90 fn. 2) points out that not all speakers judge the starred examples as fully ungrammatical. This is in stark contrast to the primary endings where the judgments are much sharper. I assume then that primary inflection has a different account from the secondary one: the former is syntactic and the latter is presumably post-syntactic (cf. Müller 2002b: 127, pp. 140). I will not deal with secondary inflection in more detail here (for more interesting data, see Gallmann 1996, 1998).

(functional) relations between the noun phrase and other elements outside it, manifested by the Principle/Rule of Monoinflection (“agreement”) and (ii) syntactic (agreement) relations within the noun phrase (“concord”). The latter has two mechanisms: one that ensures agreement between different categories within the noun phrase (determiner movement, see part III) and one that ensures parallelism within the same category inside the noun phrase as discussed above (Chain formation). I take the external and internal relations to hold independently of one another and the apparent violations of the Principle of Monoinflection are argued to reduce to overt agreement phenomena *inside* the noun phrase. In other words, I propose that the inflections on head nouns are merely the overt reflex of establishing agreement within the DP and not with a different phase. This distinction explains the fact that there is no “weakening” of inflection with determiners and adjectives but only with nouns.

## **7. Conclusion**

We started with the language-specific generalization, called the Principle of Monoinflection, that the first overt item in the noun phrase has a strong and the second one a weak ending. Facing some apparent exceptions, I proposed that singular structurally case-marked *ein*-words form a natural group. The exceptional instances of the paradigms involving the *ein*-words and the mixed adjectives were explained under the assumption that certain *ein*-words are in a lower position at the time when strong morphological case is licensed by a clausal predicate. (After movement into the DP in PF, these determiners and other caseless adjectives receive weak default case.) To the extent

that this is correct, it provides an argument for the main proposal of this work. As a desirable consequence of the discussion, the number of paradigms could be reduced to two (from four). Interestingly, these paradigms are more abstract in the sense that they do not refer to specific categories but rather to “items”. As such, the identical endings on the determiners and adjectives are no longer an accidental fact but are accounted for in a principled way. The analysis was then refined and some consequences were pointed out (e.g., that adjective inflections are some type of “phrasal” suffixes).

More generally, this part of chapter 4 extended ideas of Abney’s (1987) and Brugè (1996, 2002) to German, that is, the analysis involved DPs where determiners move from artP into the DP. Furthermore, I argued for the existence of two basic types of syntactic relations with regard to a DP. On the one hand, the DP establishes relations with other elements in the clause (Principle of Monoinflection) and, on the other hand, there is an agreement relation within the DP (determiner movement, Chain formation). Taking these relations to hold independently of one another, apparent violations of the Principle of Monoinflection were argued to reduce to the overt reflex of the agreement relation within the DP.

## II. Different Types of *ein*

### 1. Introduction

In part I of chapter 4, I illustrated the overriding generalization that the strong ending is typically found on the first agreeable item and the weak one on the second. I reformulated the Principle of Monoinflection as a rule (simplified here for present purposes):

(1) *Rule of Monoinflection*

License the strong morphological inflection on the first overt element at the point where the DP is merged into the clause.

The weak ending was interpreted as a default option in PF. These assumptions straightforwardly accounted for the distribution of the endings in noun phrases with *der*-words, as in (2a). Apparent exceptions, as in (2b), were accounted for by proposing that the determiner may move from below the adjective to the DP at different times: whereas *der*-words always move before the DP is merged into the clausal phase, singular structurally case-marked *ein*-words move in PF. Since the *ein*-word is below the adjective in (2b) at the time the strong ending is licensed, the adjective itself is the first overt element and gets its strong ending licensed. *Ein* then moves to D and precedes the adjective on the surface:

- (2) a. Ich habe das frische Brot gekauft.  
 I have the(STRONG) fresh(WEAK) bread bought
- b. Ich habe ein frisches Brot gekauft.  
 I have a(WEAK) fresh(STRONG) bread bought

This discussion provided an argument for the proposal that determiners move within the DP. In the following section, I will elaborate on that argument, discussing “split NP” constructions.<sup>1</sup>

Split NPs involve discontinuous noun phrases. In other words, parts of the same noun phrase occur in different positions in the sentence. With the above discussion in mind, the account of (2b) straightforwardly extends to cases involving a lower adjective, as in (3a). What needs to be explained is the presence or absence of the strong ending on *ein* without a following adjective. Compare the split example (3b) and the non-split (3c):

- (3) a. Brot habe ich ein frisches.  
 bread have I a(WEAK) fresh(STRONG)
- b. (Frisches) Brot habe ich ein\*(es).  
 (fresh) bread have I one(STRONG/\*WEAK).
- c. Ich habe ein(\*es) Brot.  
 I have a(WEAK/\*STRONG) bread

---

<sup>1</sup> Some other names for this construction are “split topicalization” (van Riemsdijk 1989) or “split-topic” (Diesing 1992). I will be using the discourse-neutral term “split NP” despite the fact that I fully adopt the DP-hypothesis.

For expository purposes, I will call the presence of the strong ending on *ein* in (3b) “reemergence”.

*Ein* is in the first position in both (3b) and (3c). While the split (3b) falls under the rule in (1), the non-split (3c) does not. I will argue below that a strong ending is neither a necessary nor a sufficient condition on the licensing of the null element in (3a-b). Thus, I will argue that split NPs are not special in this regard and should be captured in basically the same way as unsplit noun phrases. In other words, the goal of this section is to employ the system developed in the last part and to spell out in more detail the account for *ein* in unmodified noun phrases and split NPs in general. I will argue that these cases involve one and the same type of lexical item for *ein* and I will derive the differences in a systematic way proposing that under certain conditions, singular structurally case-marked *ein* must move to D already in syntax.

To set the stage, I will first discuss three different types of *ein*, highlighting some similarities and differences between the indefinite determiner, the numeral, and adjectival *ein* (sections 2-4). While the similarities will follow from the assumption that the numeral is derived from the indefinite determiner, the differences between the three types are proposed to follow from their different positions in the syntactic tree (section 5). After that, I turn to the discussion of split NPs where I argue for a hybrid approach involving both base-generation of two noun phrases and movement of one of them. Finally, I derive the distribution of the inflection on *ein*.

## 2. Different Kinds of *ein*

The indefinite article has been analyzed in different ways. For example, Perlmutter (1970) derives *a(n)* as an unstressed version of the numeral *one*. Vater (1982, 1984) proposes that there is no indefinite article but only a numeral/quantifier (“Quantor”) (cf. also Bisle-Müller 1991: 100-116). Finally, Higginbotham (1987: 47) argues that the indefinite article in predicate nominals is an adjective meaning ‘one’ (but see his footnote 4). It is interesting that none of these proposals discusses all the kinds of (what looks like) the indefinite article. In what follows, I will try to provide a more comprehensive discussion of the different types of *ein* in German.

As a point of departure, the possessive pronoun *mein* ‘my’ and the negation *kein* ‘no’ are in complementary distribution with other determiners (*meine EINE Freundin* ‘my one girlfriend’ is possible with stress on *eine* but has a different meaning, see below):

- (4) a. nicht {eine / die} Freundin  
not a / the girlfriend
- b. \* meine {eine / die} Freundin  
my a / the girlfriend
- c. \* keine {eine / die} Freundin  
no a / the girlfriend

In part I, I suggested that *ein* is a supporting element of D. If we assume that *ein* is also part of both *kein* and *mein*, then we do not expect a second determiner and the complementary distribution follows straightforwardly. Employing Distributed Morphology (Halle & Marantz 1993), we derive both the possessive pronoun and negation as the spell-out forms of abstract heads denoting possession and negation in combination with a semantically vacuous *ein* ‘a’:

- (5) a.     *mein*   <= DM = possessor head *m*= + (vacuous) *ein*  
       b.     *kein*   <= DM = *nicht*                   + (vacuous) *ein*

Let us look at some independent evidence for this proposal.

Assuming an adjacency requirement for DM, the facts in (6a-b) follow from the composite analysis in (5). Starting with (6a), I argue in Roehrs (2005b) that the possessive head (inside its PossP) moves to Spec,DP. In chapter 2, I suggested that a demonstrative followed by a possessive is adjoined to the DP proper. Adjacency between *ein* in D and the possessive head holds in (6a). Consequently, the possessive can be spelled out. Turning to (6b), its ungrammaticality is surprising: in Roehrs (2005b), I argue that *von*-possessives in cases such as (6c) are adjoined to the DP proper. We also know that determiners can undergo PF Merger with elements outside the DP, as in (6d), where the determiner *der* ‘the’ contracts with the preposition *zu* ‘to’. Finally, I argued in part I that *ein* can move across other phrases, for instance, adjective phrases. With this in mind, the question arises why (6b) is ungrammatical. I propose that the demonstrative presents an intervener, blocking movement of *ein* outside of the DP proper. Since the



possessive head and *ein* are not adjacent, they cannot be spelled out by the morphology, which explains the ungrammaticality of (6b):

- (6) a. diese [<sub>DP</sub> m+eine Frau ]  
this my wife
- b. \* m+eine [<sub>DP</sub> diese Frau ]  
my this wife
- c. von Peter die Frau  
of Peter the wife
- d. zur Frau  
to.the wife

Similar facts can be observed for negation. The examples in (7a) and (7b) establish that negation is higher than the degree particle and that *so* can intervene between negation and the indefinite determiner. However, with an intervening *so*, negation is not adjacent to *ein* and cannot be spelled out as *kein* by DM, as in (7c) and (7d):

- (7) a. nicht (so) ein Idiot  
not such an idiot
- b. \* so nicht ein Idiot  
so not an idiot
- c. ?\* kein so Idiot  
no such idiot

- d. \*    so kein Idiot  
           so no    idiot

In what follows then, I take two points as established: possessive pronouns such as *mein* ‘my’ and the negation *kein* are composites and they are morphological spell-outs.<sup>2</sup> As we will see throughout this part, this analysis has a number of other advantages, allowing for a simple account of the different kinds of *ein*.

In part I, we saw that, although they do not form a semantically natural class, *ein*, *mein*, and *kein* behave morphologically the same. Reducing *mein* and *kein* to composites partially consisting of *ein* captures the morphological similarities straightforwardly. With this in mind, I will first assume and then argue for the following classification, which contains three main types of *ein* and some subtypes. These different kinds are illustrated below the proposed classification:

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<sup>2</sup> There is other evidence for a composite analysis. Starting with the possessive, the stem of this pronoun agrees with its antecedent but the ending agrees with the head noun. For instance, dative feminine *s-einer* ‘his’ may agree at the same time with a masculine subject and with a dative feminine head noun. This mismatch follows straightforwardly from the composite analysis.

As for *kein*, evidence for this type of approach comes from different prosodies and corresponding interpretations:

- (i)    Ich habe kein Buch gekauft.  
       I    have no    book bought  
       ‘I bought no book/I did not buy a book.’
- (ii)    Ich habe nicht ein BUCH gekauft, sondern ein HEFT.  
       I    have not a    book bought but    a    booklet  
       ‘I did not buy a book but a booklet.’

Without special intonation, (i) states the simple fact that no book was bought. However, (ii) states that something other than a book was bought, namely a booklet. This sentence is marked by a different prosody and negation is “split-up” and realized in a different way. Without this intonation, as in (i), *ein* supports negative *k-* (for more evidence, see Kratzer 1995: 144-147; Haider 1993: 227, 211; Kratzer 1998).

- (8) 1. *ein* as a determiner:
- indefinite determiner (9a)
  - vacuous determiner:
    - *ein* as part of a composite:
      - possessive pronoun (9b)
      - negation (9c)
    - *ein* in predicative noun phrases (9d)
  - complex determiner (9e)
2. *ein* as a numeral (9f)
3. *ein* as an adjective (9g)

Consider some illustrative examples:

- (9) a. *indefinite determiner*
- Ich habe ein (frisches) Brot mitgebracht.  
I have a (fresh) bread brought
- b. *possessive pronoun*
- Ich habe mein (frisches) Brot mitgebracht.  
I have my (fresh) bread brought

c. *negation*

Ich habe kein (frisches) Brot mitgebracht.

I have no (fresh) bread brought

d. *predicative*<sup>3</sup>

Meine Mutter ist (eine) Lehrerin.

my mother is a teacher

e. *complex determiner*

Ich habe ein jedes (frisches) Brot mitgebracht.

I have an every (fresh) bread brought

f. *numeral*

Ich habe EIN (frisches) Brot mitgebracht.

I have one (fresh) bread brought

g. *adjective*

Ich habe das eine (frische) Brot mitgebracht.

I have the one (fresh) bread brought

In order to motivate the approach that some *eins* should be treated in the same way, I will illustrate in more detail certain morphological similarities between these

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<sup>3</sup> There is no apparent semantic difference in this example that correlates with the presence vs. absence of the determiner. However, there are cases where the determiner is “optional“ but its presence has semantic import:

- (i) a. Pumpernickel ist Brot.  
pumpernickel is bread (= the substance)
- b. Pumpernickel ist ein Brot.  
pumpernickel is a bread (= certain kind of that substance)

Finally, there are also instances where the determiner is obligatory:

- (ii) Er ist \*(ein) Idiot  
he is an idiot

Since these differences are not the main point of the discussion, I will not investigate them further here.

different kinds of *ein*. Following that, some phonological and semantic differences are pointed out (for English, see Perlmutter 1970). These differences are summarized in table 1 below (for the complex determiner *ein jeder* ‘(an) every’, see Roehrs in prep).

To preview the analysis, I will argue that there are two syntactic types of *ein*: the determiner and the adjective. Synchronically deriving the numeral from the indefinite determiner, I account for their identical morphology. The differences between the determiner, the numeral and the adjective follow from their different positions in the tree: the determiner is in D, the numeral in Spec,CardP, and the adjective is in Spec,AgrP.

### 3. Similarities

In what follows, I will concentrate on morphological similarities in four contexts. I discuss the occurrence of the strong ending on *ein* in split NPs, split NPs with a fronted adjective, elided nouns, and fronted adjectives with an elided noun. Note that split NPs and elided nouns need special contexts to be felicitous.

#### 3.1. *Split NPs*

As already noted in the introduction, split NPs with a “stranded” adjective have basically the same morphology as non-split noun phrases:<sup>4</sup>

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<sup>4</sup> *Immer nur* ‘always only’ and *kein* ‘no’ are incompatible in the examples to follow. Thus, in order to check the judgments for *kein*, *immer nur* must be left out.

- (10) a. *indefinite determiner/possessive pronoun/negation/numeral*  
 Brot habe ich immer nur {ein / mein / kein / EIN} frisches mitgebracht.  
 bread have I always only {a / my / no / one} fresh brought
- b. *predicative*  
 Brot ist das vielleicht ein frisches!  
 bread is that perhaps a fresh
- c. *adjective*  
 Brot habe ich nur das eine frische mitgebracht.  
 bread have I only the one fresh brought

### 3.2. Split NPs with a Fronted Adjective

If the adjective is in the higher position, the strong ending on *ein* reemerges. With a determiner preceding, no change is expected for adjectival *ein* in (11c):<sup>5</sup>

- (11) a. *indefinite determiner/possessive pronoun/negation/numeral*  
 (Frisches) Brot habe ich immer nur {ein(e)s / mein(e)s / kein(e)s /  
 (fresh) bread have I always only {a / my / no /  
 EIN(E)S} mitgebracht.  
 one} brought

---

<sup>5</sup> When *ein* is stranded, it is actually stressed. This makes the indefinite determiner ambiguous with the numeral.

b. *predicative*

(Frisches) Brot ist das vielleicht ein(e)s!

(fresh) bread is that perhaps one

c. *adjective*

(Frisches) Brot habe ich nur das eine mitgebracht.

(Fresh) bread have I only the one brought

### 3.3. *Adjectives followed by an Elided Noun*

Noun phrases with elided nouns have the same morphology as non-elided ones:

(12) a. *indefinite determiner/possessive pronoun/negation/numeral*

Ich habe immer nur {ein / mein / kein / EIN} frisches mitgebracht.

I have always only {a / my / no / one} fresh brought

b. *predicative*

Das ist vielleicht ein frisches!

that is perhaps a fresh (one)

c. *adjective*

Ich habe nur das eine frische mitgebracht.

I have only the one fresh brought

### 3.4. Fronted Adjectives with an Elided Noun

Like 3.2, if the adjective is in the higher position, *ein* carries the strong ending. No change is expected for adjectival *ein* in (13c):

- (13) a. *indefinite determiner/possessive pronoun/negation/numeral*  
Frisches habe ich immer nur {ein(e)s / mein(e)s / kein(e)s / EIN(E)S}  
fresh have I always only {a / my / no / one}  
mitgebracht.  
brought
- b. *predicative*  
Frisches ist das vielleicht ein(e)s!  
fresh is that perhaps one
- c. *adjective*  
Frisches habe ich nur das eine mitgebracht.  
fresh have I only the one brought

With the exception of adjectival *ein*, then, all types of *ein* are marked by reemergence of the strong ending when “stranded” by themselves.



## 4. Differences

In this section, I focus on three phonological and semantic differences of *ein*: encliticization, stressability, and semantic singularity.

### 4.1. Encliticization

Cliticization to a preceding word is possible only with a (non-composite) indefinite determiner and predicative *ein*:<sup>6</sup>

- (14) a. *indefinite determiner/possessive pronoun/negation/numeral*  
Ich hab' { 'm / \*m'n / \*k'n / \*'M } (frisches) Brot mitgebracht.  
I have { a / my / no / one } (fresh) bread brought
- b. *predicative*  
Meine Mutter ist ('ne) Lehrerin.  
my mother is a teacher
- c. *adjective*  
\* Ich habe nur das 'ne (frische) Brot mitgebracht.  
I have only the one (fresh) bread brought

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<sup>6</sup> Coronal 'n as the reduced form of *ein* becomes 'm when it is encliticized onto a word ending in a labial sound (Wiese 1996: 166).

#### 4.2. *Stressability*

With regard to the possibility of bearing stress, some of the judgments in 4.1 reverse. The types of *ein* fall into three groups: first, the indefinite determiner may not be stressed; second, the possessive pronoun, negation and *ein* in predicative noun phrases may be stressed (for (15b), see Higginbotham 1987: 68 fn. 4); and third, the numeral and adjectival *ein* must typically be stressed:

- (15) a. *indefinite determiner/possessive pronoun/negation/numeral*  
Ich habe {\*EIN / MEIN / KEIN / \*ein} (frisches) Brot mitgebracht.  
I have { A / MY / NO / one} (fresh) bread brought
- b. *predicative*  
Meine Mutter ist EINE Lehrerin.  
my mother is ONE teacher
- c. *adjective*  
Ich habe nur das EINE frische Brot mitgebracht.  
I have only the ONE fresh bread brought

#### 4.3. *Semantic Singularity*

While the indefinite determiner usually implies singularity of the object, the numeral emphasizes singularity as opposed to plurality:

- (16) a. Ich habe ein Mädchen geküßt.  
           I have a girl kissed
- b. Ich habe EIN Mädchen geküßt, nicht ZWEI.  
           I have one girl kissed, not two

Turning to the vacuous instances, *ein* as part of the possessive pronoun and negation as well as *ein* in predicative noun phrases have no relevance with regard to semantic singularity. Independently of *ein*, the possessive and negation can take a complement with plural morphology and a predicative noun phrase does not denote an object but a property:

- (17) a. Ich fahre meine Autos.  
           I drive my cars.
- b. Ich fahre keine Autos.  
           I drive no cars.
- c. BMW ist ein Auto.  
           BMW is a car.

Finally, like numeral *ein* in (18a), adjectival *ein* in (18b) is stressed. However, unlike the numeral, the adjective presupposes existence of a second man and thus implies plurality of the relevant kind:

- (18) a. EIN Mann  
           one man
- b. der EINE Mann  
           the one man

In fact, as noted by M. Müller (1986: 43), *eine* in (18b) has a partitive sense, presupposing a set of (typically) two men in the relevant world of discourse. *Eine* must also be preceded by a definite element (see below), and it is usually contrasted with a second DP containing *andere* ‘other’:

- (19) Der eine Mann kam, der andere nicht.  
       The one man came the other not

Last but not least, besides *ein* in the possessive and negation composites, adjectival *ein* can also be morphologically plural:<sup>7</sup>

- (20) die einen, die anderen  
       the ones the others

---

<sup>7</sup> There is other independent evidence for the existence of plural *ein* in German. For instance, the *was-für* construction may contain an optional plural indefinite determiner:

- (i) was für (eine) Frauen  
       what for a women

I take this to be another semantically vacuous instance of *ein* (for discussion, see Bennis, Corver & den Dikken 1998 and Hulk & Tellier 2000: 47-8; for other unbound non-singular uses of *a* and *one*, see part I).

The preceding differences are summarized in table 1 (the properties are coded as follows: OK = “optional”; +/- = inherent; N.A. = not applicable):

Table 1: Summary of the Differences between the Types of *ein*

kinds of <i>ein</i>		enclitic	stress	singularity	morphol. plural	
determiner	indefinite	OK	-	+	-	
	vacuous	possessive	-	OK	N.A.	OK
		negation	-	OK	N.A.	OK
		predicative	OK	OK	N.A.	-
numeral		-	+	+	-	
adjective		-	+	-	OK	

Some remarks are in order here. On the one hand, if an element is stressed (numeral, adjective), it does not allow encliticization. This follows from the fact that stress is on the root vowel, which prevents cliticization. On the other hand, cliticization inside a word (possessive, negation) can presumably not take place, since the relevant vowels cannot be deleted either. Furthermore, elements denoting singularity (indefinite determiner, numeral) cannot appear with plural morphology as this would result in a morpho-semantic number clash inside a noun phrase. In contrast, items with a plural presupposition can appear with plural inflection. Having set out the basic similarities and differences, I turn to accounting for them.

## 5. Three Different Positions of *ein*

In the first subsection, I propose that synchronically, the numeral *ein* derives from the indefinite determiner even though historically, the relationship was the reverse. This captures the identical morphology of these elements. The phonological and semantic differences between them are argued to derive from the two different positions they occupy in the syntactic tree. In the second subsection, adjectival *ein* is argued to be independent of the indefinite determiner and occupies a third position.

### 5.1. *Determiner vs. Numeral*

In this subsection, I first provide two pieces of evidence that numeral *ein* is in a different position than the indefinite determiner. Then I proceed to derive the numeral from the indefinite determiner.

#### 5.1.1. Uniform Positions of all Numerals

Numerals are in a different position than determiners (21a). If we assume that all numerals are in the same position, then determiner *ein* in (21b) and numeral *ein* in (21c) must be in two different positions:

- (21) a.     die zwei Männer  
          the two men

- b. ein Mann  
a man
- c. EIN Mann  
one man

There are two issues that need to be addressed: first, if the determiner and the numeral are in different positions, then we need to explain why the two cannot co-occur. This is presumably not due to semantic reasons as other (adjectival) elements emphasizing singularity are possible (for similar facts in Dutch, see de Schutter 1997: 317):<sup>8</sup>

- (22) a. \* ein EIN Mann  
a one man
- b. ein {einzelner / einziger} Mann  
an individual / sole man

Second, we have documented above that indefinite determiners and numerals have the same morphology. What is interesting to note is that, under certain conditions, the German numerals for ‘two’ and ‘three’ can take an ending in the genitive. In this case, the numeral and the following adjective have an identical ending. This is in stark contrast to *ein*, which does not have the same ending as the adjective:

---

<sup>8</sup> Adjectival *ein* is also ungrammatical since it is only licensed in a definite context (see below).

(i) \* ein EINER Mann  
a one man

- (23) a. das Auto zweier netter Freunde  
the car of two(STRONG) nice(STRONG) friends
- b. das Auto EINES netten Freundes  
the car of one(STRONG) nice(WEAK) friend

Assuming that all numerals are in the same position, we need to explain this unexpected morphological difference between the numerals for ‘one’ and ‘two’ (and ‘three’).

#### 5.1.2. Different Scope of *mehr als* (*nur*)

The second piece of evidence that the determiner and the numeral are in different positions derives from scopal facts. For instance, *mehr als* ‘more than’ may take scope over numerals. This implies for (24a) that at least two students came and for (24b) at least one hundred and one did:

- (24) a. Es kam **mehr als** EIN Student.  
there came more than one student
- b. Es kamen die **mehr als** HUNDERT Studenten.  
there came the more than one hundred students.

As already discussed in chapter 1, Svenonius (1993b: 445-6) points out that, in order to prevent a modifier from taking scope over the entire noun phrase, this modifier and its modifyee must be inside a Specifier position. If we assume that the same is true for



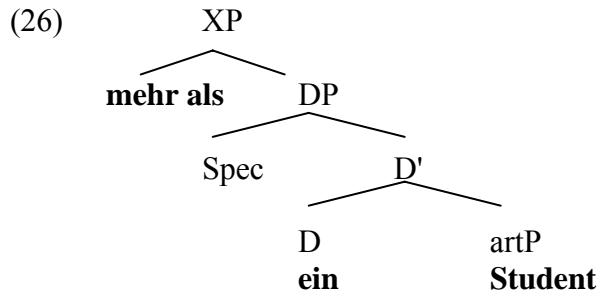
numerals, then numerals are also in a Specifier position (Spec,CardP, see chapter 1), rather than in a head position of the extended projection of the noun.

Second, *mehr als* can also take scope over the entire noun phrase where the nuclear stress is on the noun. In this case, it is implied in (25a) that the relevant person is more than just a student (perhaps he is a professor at a different university), and in (25b) that not only exactly the one hundred students came but perhaps other students came or even other people with different “jobs”:

- (25) a. Er ist **mehr als** ein Student.  
          he is more than a student
- b. Es kamen **mehr als** die hundert Studenten.  
          there came more than the one hundred students

In this case, the scopal element must be outside the DP. Crucially, whereas *mehr als* has an obviously different position with regard to the definite determiner in the (b)-sentences, it precedes *ein* in both of the (a)-examples. In order to derive the different scopal relations in a uniform way, I propose that *mehr als* may also be in different positions when it precedes *ein*. Consider this in more detail.

First, when *mehr als* ‘more than’ takes scope over the entire DP in (25), I suggest that it is outside the DP (the exact location is not important for my point here):

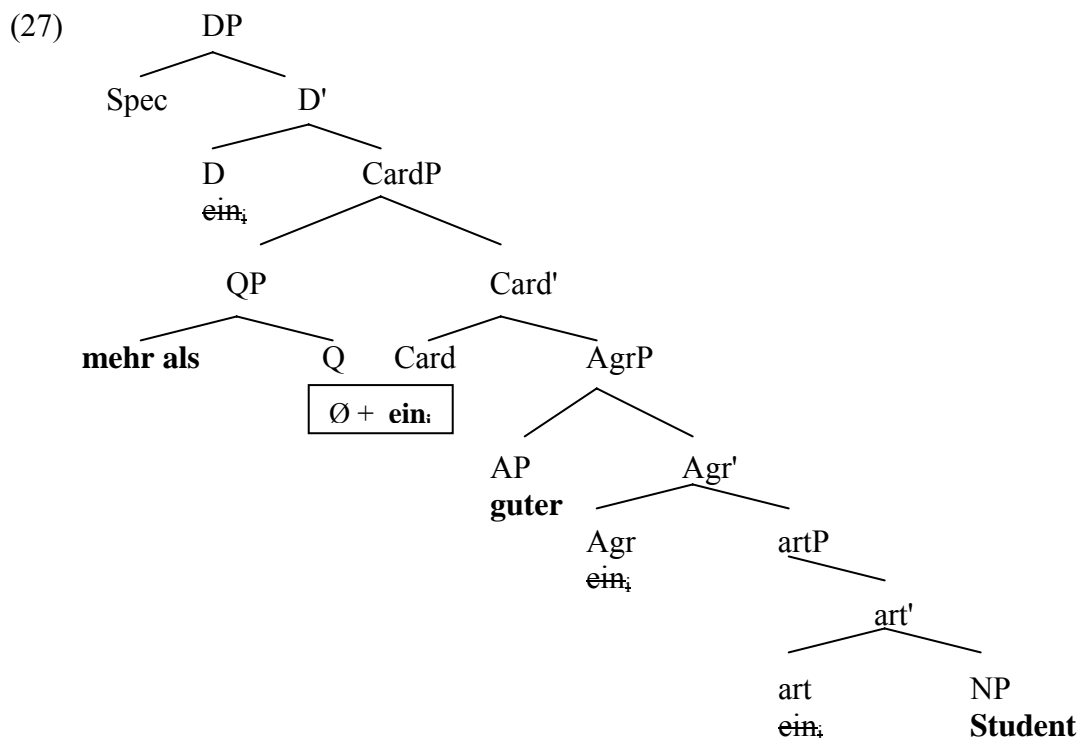


*Mehr als* c-commands the DP and the scopal facts follow. Turning to the numeral in (24), we concluded above that *mehr als* and *ein* must be inside Spec,CardP. Although in the same position as other numerals, *ein* inflects like the indefinite determiner in D (cf. (23)). In order to capture the positional similarity to other numerals, on the one hand, and the morphological similarity to the indefinite article, on the other, I propose to derive the numeral from the indefinite determiner. Concretely, I suggest that the numeral ‘one’ is a null affix, typically attracting stress. As with all affixes, I assume that this affix needs to be supported, in this case by the adjacent indefinite determiner copy in Card (no movement is implied here as indicated by the box in (27)).<sup>9</sup> Distributed Morphology then spells out the null affix and the indefinite determiner as the numeral, effectively deriving the numeral from the determiner:<sup>10</sup>

<sup>9</sup> This also explains the alternation between the indefinite determiner *a* and the numeral *one* in English (Perlmutter 1970), as well as the one in southern German and Austrian dialects (Bhatt 1990: 201, citing personal communication by Hubert Haider):

(i) a / ða Biachl  
a / one book

<sup>10</sup> Several authors (e.g., Bernstein 1993: 128, Julien 2002: 274) share the intuition that the indefinite determiner is merged lower and then raises to the DP. In contrast to the text proposal, they basically derive the indefinite determiner from the numeral. As far as I can see, there are a number of issues with this assumption (at least for Modern German): for instance, it is unclear to me how to account for the morphological differences between *ein* and the other numerals; second, it is not clear how to account for morphological differences of *ein* in the three exceptional cases in unsplit and split noun phrases in a non-stipulative way, see part I and below, respectively (for other problems, see Perlmutter 1970 fn. 10, 13).



This analysis has an interesting consequence. Above, I argued that *ein* supports D. If so, there must be a null element in D also in (27). In part I section 4.2., we saw that null elements can support D in mass nouns and plural indefinite DPs (e.g., [DP Ø<sub>i</sub>+D [AgrP *guter* [artP t<sub>i</sub> [NP *Wein* ]]]] ‘good wine’). Unlike those cases, however, the null determiner in D here is a deleted copy of *ein* (cf. also *Peters* Ø *Auto* ‘Peter’s car’). Now, Franks (1998) and Bošković (2001) independently argue that a lower copy of a moved element can be pronounced to circumvent some PF violation. In order to attract stress, the null affix in Spec,CardP must be overtly realized, that is, supported by *ein*. Since D can, in principle, be supported by a null element, as just discussed, the lower copy must be pronounced.

To sum up, deriving the numeral from the indefinite determiner accounts for their lack of co-occurrence and their morphological similarity. At the same time, this account

allows us to put all numerals in the same position and derives different scopal effects in a straightforward way.

## 5.2. *Determiner vs. Adjective*

Above, I derived the numeral from the indefinite determiner. Among others, this accounted for the fact that they may not co-occur although they are in different positions. This now makes the prediction that, when *ein* does occur with a determiner, this *ein* cannot be the indefinite determiner (or the numeral). I will argue that this instance of *ein* is adjectival. In what follows I provide more evidence for this categorically different *ein*, suggesting that it is in yet another position.

### 5.2.1. Different Morphology

Unlike the determiner and the numeral, adjectival *ein* always has a weak ending, just as the following adjective *frisch* ‘fresh’. This is illustrated here in the nominative and dative neuter:

- (28) a.    {ein        / EIN}        frisches        Brot  
          a(WEAK) / one(WEAK) fresh(NOM.STRONG) bread
- b.    das            eine        frische        Brot  
          the(NOM.STRONG) one(WEAK) fresh(WEAK) bread
- c.    {einem        / EINEM}        frischen        Brot  
          a(DAT.STRONG) / one(DAT.STRONG) fresh(WEAK) bread

- d. dem einen frischen Brot  
 the(DAT.STRONG) one(WEAK) fresh(WEAK) bread

In order to derive the adjectival endings in a uniform way, I propose that adjectival *ein* is merged in a position similar to that of other adjectives, presumably the highest Spec,AgrP.

### 5.2.2. Different Semantics

Besides the difference with regard to singularity mentioned above, numerals can be modified by *mehr als* ‘more than’, while adjectival *ein* cannot:<sup>11</sup>

- (29) a. Mehr als EIN Student kam zur Party.  
 more than one student came to the party
- b. Mehr als HUNDERT Studenten kamen zur Party.  
 more than one hundred students came to the party
- c. \* Der mehr als EINE Student kam zur Party.  
 the more than one student came to the party
- d. Die mehr als HUNDERT Studenten kamen zur Party.  
 the more than one hundred students came to the party

---

<sup>11</sup> Something similar holds for adjectival *ein* when modified by the degree particle *so*, as in (ib):

- (i) a. so [ ein Mann ]  
 so a man
- b. \* der so eine Mann  
 the so one man
- c. der so andere Mann  
 the so {different / \*other} man

Furthermore, when preceded by *so*, the adjective *andere* in (ic) can only be interpreted as ‘different’. Thus, the ungrammaticality in (ib) and the interpretative restriction in (ic) fit well with the discussion above, where I showed that adjectival *ein* often co-occurs with *andere* in the meaning of ‘other’.

### 5.2.3. Co-occurrence with Possessives

In addition to the different morphology and semantics, adjectival *ein* may also co-occur with a possessive which itself contains *ein* ((30a) is taken from Fanselow 1988: 111 fn. 29):

- (30) a. \* keine EINE Frau<sup>12</sup>  
no one woman
- b. \* eine EINE Tochter  
a one daughter
- c. Meine EINE Tochter kam, meine andere nicht.  
my one daughter came, my other not

The sequence of two *eins* in (30a) and (30b) cannot be ruled out by haplology, which describes the reduction of identical sequences of sounds (see Bhatt 1990: 201 for the discussion of (30b) in this regard; cf. Szabolcsi 1994: 210 on Hungarian). If this were the case, we would expect (30c) to be ungrammatical as well, in contrast to fact. Note that the right instance of *eine* in (30) is ambiguous between a numeral and an adjective. Let us consider each analysis in turn.

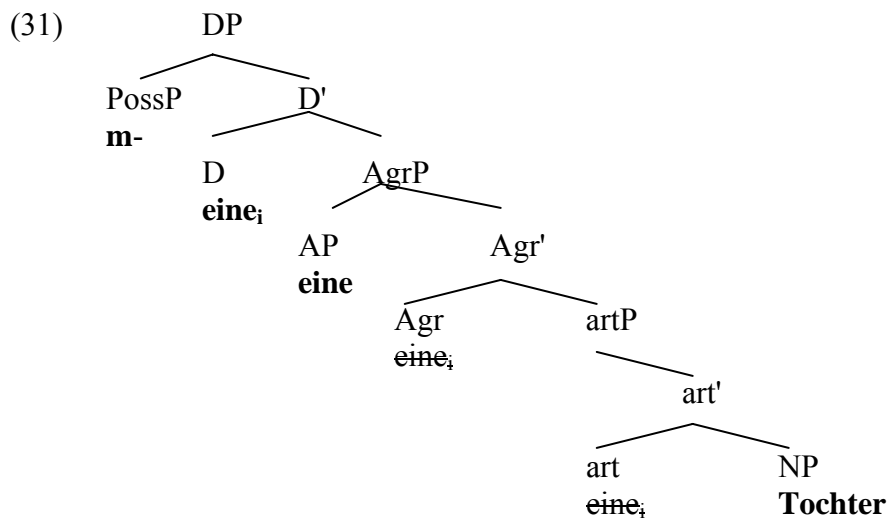
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<sup>12</sup> The following example (inspired by Tappe 1989) exhibits two *ein*:

- (i) a. So<sup>1</sup>nen Wagen kann ich mir keinen leisten.  
such a car can I refl none afford
- b. Ich kann mir keinen so\*(<sup>1</sup>nen / teuren) Wagen leisten.  
I can refl no such a / expensive car afford

As indicated, *so* cannot occur alone before the head noun. Consequently, I will assume that *ein* licenses *so* (see also de Schutter 1997: fn. 4; ex. 22b) but it is unclear what this *ein* is. If it turns out to be a regular indefinite determiner, we need to state the deletion rule with regard to the copies of *ein* differently to allow for the appearance of two copies of *ein*. If *ein* is of yet another type, other changes in the discussion above may have to be made.

As already discussed above, the indefinite determiner and numeral *ein* cannot co-occur. Deriving the numeral from the indefinite determiner, we expect only one copy after Copy deletion, ruling out (30a-c) under this analysis. Turning to adjectival *ein*, (30a-b) are ruled out by the semantics: stressed adjectival *ein* implies duality, which is incompatible with the null set, implied by *kein*, and the singleton set, implied by the indefinite determiner. No such semantic problems arise for the possessive in (30c), which does not presuppose a null set or a singleton set. Note now that *eine* as part of the possessive and adjectival *eine* are of different categories and that they do not stand in a syntactic relation with one another. Thus both instances can co-occur.



The claim that *eine* is an adjective in this case is further strengthened if we treat *eine* as categorially parallel to *andere* ‘other’ in (30c): the adjectival status of the latter becomes apparent in that it cannot license a singular count noun by itself (\**ander(e) Tochter* ‘other

daughter’).<sup>13</sup> For the sake of completeness, we shall look at a licensing condition on adjectival *ein*.

Besides the definite determiner and the possessive pronoun, *ein* can also co-occur with other definite elements:<sup>14</sup>

- (32) a. Peter sein EINER Sohn  
           Peter his one son  
           ‘Peter’s one son’
- b. Peters {\*ein / EINER} Sohn  
           Peter’s a / one son
- c. von Peter {ein / EIN / der} Sohn  
           of Peter a / one / the son

---

<sup>13</sup> Another indication for categorial parallelism comes from the fact that adjectival *ein* can also be coordinated with *andere*, as in the following idiom:

- (i) der eine oder andere Mann  
       the one or other man  
       ‘some men’

However, the relevant interpretation of *eine* is different here, since the idiom does not denote just two people.

<sup>14</sup> There are also some interesting lexicalized forms. In the following two cases, *ein* appears in a definite context but does not imply the existence of another entity (the strong ending on *ein* is presumably due to a null noun):

- (i) a. meiner einer  
           my one (= colloquial for ‘I’)
- b. A: Na, Ihr zwei.  
           Hey, you two.  
           B: Na, Du einer.  
           Hey, you one.

First, both cases in (i) are usually used in a joking manner. Second, the ending on *mein* followed by *einer* in (ia) is strong, which is exceptional (the possessive cannot be in the genitive as the phrase in (ia) is usually used as a subject). Presumably, this form is in analogy to *unsereiner* (‘our.one = we’ and not #’one of us’). Third, *du einer* in (ib) is odd in that *einer* is combined with a definite element but, if exchanged with a full DP, it produces the same humorous effect: *Na, Ihr zwei Süßen* ‘Hey, you two cuties’ vs. *Na, Du (%ein) Süßer* ‘Hey, you a/one cutie’. In part III, I treat personal pronouns as determiners. If these observations are correct, then (ia) contains two indefinite determiners (the possessive and the numeral) and (ib) has a (pronominal) determiner and an indefinite determiner (the numeral). I take the prevalent humorous effect as a reflex of the presence of the two determiners, indicating that the discussion in the text is on the right track. I assume then that these cases are lexicalized forms.



d. Dieser eine Junge hat viele Wunder vollbracht.

this one boy has many miracles accomplished

In Roehrs (2004), I argue that (32a) and (32b) have essentially the same structure such that the possessive element is licensed by *ein* in (32a) and by a null determiner  $\emptyset$  in (32b). In both cases, adjectival *ein* presupposes the existence of another son and the examples follow from our assumptions. In (32c), *ein* can be either the indefinite determiner or the numeral, as evidenced by the (null weak) ending, the lack of the presupposition property, and the general possibility of a definite determiner in D. In fact, I argue in Roehrs (2005b) that the *von*-possessive is not part of the DP proper but is adjoined to the left of it. Again, the example follows from the above assumptions. The (d)-example is more problematic.

Although *eine* has adjectival morphology, it lacks the presupposition property here (M. Müller 1986: 45). I will tentatively suggest that the demonstrative determiner, with its strong deictic force, cancels the presupposition of adjectival *ein*. Furthermore, *ein* is not stressed here, presumably also a reflex of the presence of word stress on the demonstrative.<sup>15</sup> With this in mind, I suggest that *ein* is an adjective that can only occur in definite contexts, presumably due to its presuppositional property. Table 2 below summarizes the differences among the various kinds of *ein* and the positions from which these differences are proposed to follow:

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<sup>15</sup> With a contrastively stressed adjective, adjectival *ein* is not stressed itself and does not seem to have the usual presupposition property either:

Ich habe das eine FRISCHE Brot mitgebracht.

I have the a fresh bread brought

Apparently, stress and the presupposition of duality are connected in some way.

Table 2: Summary of the Properties of the Types of *ein*

kinds of <i>ein</i>		enclitic	stress	singularity	morph. pl.	position	
determiner	indefinite	OK	-	+	-	(art) D	
	vacuous	poss.	-	OK	N.A.		OK
		neg.	-	OK	N.A.		OK
		pred.	OK	OK	N.A.		-
	numeral	-	+	+	-	Spec,CardP	
adjective		-	+	-	OK	Spec,AgrP	

I have illustrated three different types of *ein*: the indefinite determiner, the numeral, and the adjective. In order to capture the morphological similarities between the determiner and the numeral, I proposed to derive the numeral from the determiner, assuming a null affix that is supported by the indefinite determiner. Adjectival *ein* was proposed to be an independent element. In order to account for the differences, I suggested that the three *eins* are in different positions in the syntactic tree. Before illustrating the actual derivations of the weak/strong alternation on *ein*, I turn to a general discussion of split NPs.

## 6. Reemergence of the Strong Ending on *ein* in Split NPs

Recall from the introduction that split NPs are discontinuous noun phrases such that one part stays in situ and the other part appears to the left of the former:

- (33) a. [ Hemden ] habe ich [ keine ] getragen.  
           shirts     have I     none   worn
- b. [ split-off ]     ...     [ source ]

To establish some terminology, I will call the in situ part the “source” and the part to the left of it the “split-off”. Before I discuss earlier proposals of the split NP, I briefly illustrate a number of cases of reemergence, concluding that they are of a different type than *ein*.

#### 6.1. *What Lexical Categories have Reemergence?*

What is interesting about split NPs is that the strong inflection appears when the relevant element is “stranded”:

- (34) a. Brot habe ich ein\*(es).  
           bread have I   one(STRONG/\*WEAK).
- b. Ich habe ein(\*es)       Brot.  
           I    have a(WEAK/\*STRONG) bread

Recall that I refer to the appearance of the strong ending in (34a) as “reemergence”. Like *ein*-words, certain adjectives and *alle* ‘all’ also show reemergence when they are stranded. However, there are also a number of differences.

To illustrate, when adjectives such as *lila* ‘purple’ are stranded, they have an obligatory ending (35a). Unlike *ein*-words, however, this ending is optional when a bare noun follows (35b-c) and obligatory again when another adjective follows (35d) ((35a-b) is adopted from Fanselow 1988: 101, (35c-d) are adopted from Schachtl 1989: 110):

- (35) a. Bücher habe ich lila\*(ne)  
           books have I purple
- b. Ich habe lila(ne) Bücher  
           I have purple books
- c. Ich habe schwere lila(ne) Bücher  
           I have heavy purple books
- d. Ich habe lila\*(ne) amerikanische Bücher.  
           I have purple American books

Similar to *ein*-words and the adjective *lila*, *alle* ‘all’ also has an obligatory ending when stranded (36a). Unlike the two elements above, this ending is preferably absent when a definite article follows (36b) (at least to my ears, but see Merchant 1996) and obligatorily present when a bare noun follows (36c). Again like *lila*, the ending is obligatory when an adjective follows (36d):

- (36) a. Die Studenten sind all\*(e) gekommen.  
           the students have all come

- b. All(<sup>??</sup>e) die Studenten sind gekommen.  
 all the students have come
- c. all\*(e) Studenten  
 all students
- d. {alle netten / \*all nette(n)} Studenten  
 all nice / all nice students

Numerals are different. Unlike *ein*, *lila*, and *alle*, they have an optional (dialectal) ending when they are stranded (37a) (but see footnote 20). Similar to *ein*, numerals cannot have an ending when the noun follows (37b):

- (37) a. Studenten sind nur vier(e) gekommen.  
 studtens are only four come
- b. Es sind vier(\*e) Studenten gekommen.  
 there are four students come

In the following sections, I concentrate on the unique morphological alternation of *ein*-words. However, adjectives such as *lila* and numerals will figure below.<sup>16</sup> Before that, I turn to earlier proposals which deal with split NPs.

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<sup>16</sup> For more differences between *ein* and floating quantifiers such as *alle* ‘all’, see, among others, Krifka 1998: 100-102 and Kniffka 1996: 2-3. The latter author provides F<sub>0</sub>-curves (pp. 116), tracking the rise-fall intonation pattern of the split NP construction. (For a recent analysis of floating quantifiers, see Bošković 2004.)

## 6.2. *Previous Proposals and Illustrative Data*

In what follows, I will divide the proposals into three basic types: movement out of the noun phrase in situ, base-generation of two independent noun phrases, and a combination of the two approaches (for early generative proposals, see the literature mentioned in Fanselow 1988: 109 fn. 5).<sup>17</sup> I provide the basic proposals and concentrate on some of the data, which I give with their original judgments (for arguments against the individual approaches, see the alternative analyses discussed). In the course of the discussion, we will come across some paradoxical data that seem to suggest that the “source” and the “split-off” stand in a movement relation, on the one hand, and that they involve individual base-generations, on the other.

### 6.2.1. Movement out of the Noun Phrase

The following two subtypes of proposals argue that split NPs are the result of movement out of the source.

6.2.1.1. Movement out of NP. Van Riemsdijk (1989: 106) takes southern varieties of German as a point of departure. Here we find an “overlap” with regard to the indefinite determiner:

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<sup>17</sup> In Roehrs 2006a, I argue against Fanselow & Ćavar’s (2002) proposal of distributed deletion. They suggest that the entire noun phrase moves to Spec,CP but that different parts of the two copies are deleted.

(38) **Einen** Wagen hat er sich noch **keinen** leisten können.

a car has he refl yet none afford could

(As for cars, he has not been able to afford one yet)

Assuming that noun phrases are NPs, van Riemsdijk argues that N' moves to Spec,CP.

Since N' is a non-maximal projection in a phrasal position, NP has to be regenerated and a second determiner is introduced. The determiner can be overt or covert, depending on the dialect considered. Consider the two derivational steps for (38):

(39) a. [N' Wagen ]<sub>i</sub> hat er sich noch [NP keinen t<sub>i</sub> ] leisten können

b. [NP Einen / Ø [N' Wagen ]]<sub>i</sub> hat er sich noch [NP keinen t<sub>i</sub> ] leisten können

Van Riemsdijk (1989: 118) further claims that *ein* is the unmarked nominal determiner.

Thus, it follows that only *ein* can be introduced (p. 108). Forcing the introduction of the determiner through (mostly) independently motivated assumptions, this approach presents a potential argument against the DP-hypothesis (which in turn would involve movement of NP and *ein* would not be forced to be inserted). There is more evidence for movement of the split-off.

Van Riemsdijk (1989: 122) observes that the linear order of the adjectives in the split NP corresponds to the one without a split:

(40) a. Ein neues amerikanisches Auto

a new American car

b. \* Ein amerikanisches neues Auto

(41) a. Ein amerikanisches Auto kann ich mir kein neues leisten  
an American car can I refl no new afford

b. \* Ein neues Auto kann ich mir kein amerikanisches leisten

He shows the same for complements (van Riemsdijk 1989: 122):

(42) a. eine Verurteilung dieses Tatbestandes durch den Präsidenten  
a condemnation of this state of affairs by the president

b. \* eine Verurteilung durch den Präsidenten dieses Tatbestandes

(43) a. Eine Verurteilung dieses Tatbestandes wäre mir eine durch den  
a condemnation of this state of affairs would-have me one by the  
Präsidenten lieber gewesen

president dearer been

(I would have preferred a condemnation of this state of affairs by the  
president.)

b. \* Eine Verurteilung durch den Präsidenten wäre mir eine dieses  
Tatbestandes lieber gewesen

By relating the (a)-examples to each other and contrasting them to the (b)-examples, superficially adjacent elements can move to form the split-off.



Finally, van Riemsdijk (1989: 113) shows that split NPs are subject to island constraints:

- (44) a. Eine Lösung sagt er hat er eine bessere als ich.  
 a solution says he has he a better (one) than I
- b. \* Eine Lösung kenne ich keinen, der eine bessere hat als ich.  
 a solution know I noone who a better (one) has than I

The example in (44a) establishes the fact that the split-off can undergo long-distance topicalization. If so, then the ungrammaticality in (44b) follows straightforwardly from an island effect.

6.2.1.2. Movement out of DP. Adopting the DP-hypothesis, Bhatt (1990: 249-250) argues that NPs and DegPs containing adjectives may move out of the source:

- (45) a. Autos hat er nur diese schnellen amerikanischen gemocht.  
 cars has he only these fast American liked
- b.  $[_{NP} \text{ Autos } ]_i \text{ hat er nur } [_{DP} \text{ diese } [_{DegP} \text{ schnellen } [_{DegP} \text{ amerikanischen } [_{NP} t_i ]]]] \text{ gemocht.}$

- (46) a. Amerikanische Autos hat er nur diese schnellen gemocht.  
 American cars has he only these fast liked
- b.  $[_{DegP} \text{ Amerikanische } [_{NP} \text{ Autos } ] ]_i \text{ hat er nur } [_{DP} \text{ diese } [_{DegP} \text{ schnellen } [_{DegP} t_i ]]] \text{ gemocht.}$

As above, superficially adjacent elements can undergo movement. Next, I illustrate data that seem to suggest that the source and the split-off are base-generated separately.

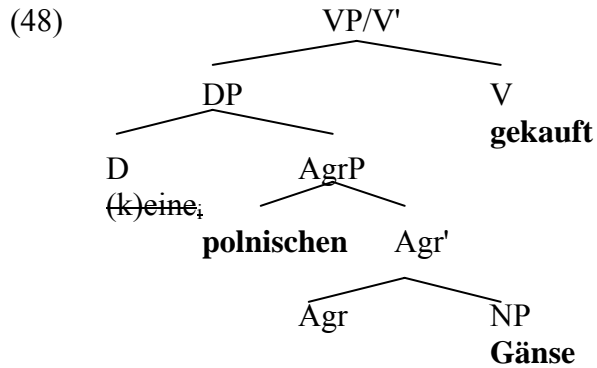
### 6.2.2. Two Base-generated Noun Phrases

The following two subtypes of proposals argue that split NPs are formed from two noun phrases that do not stand in a movement relation with each other.

6.2.2.1. Base-generation of Two Noun Phrases in VP. Fanselow (1988: 99) notices that a verb can also be part of the topicalized element:

- (47) a. Sie hat keine polnischen Gänse gekauft.  
she has no Polish geese bought
- b. [ Polnische Gänse gekauft ] hat sie keine.  
Polish geese bought has she none

Apparently, the verb and part of the noun phrase must have moved as a constituent. For constituency to hold, one would have to assume that the determiner moves out of the verbal constituent before the remnant VP fronts:



However, while *ein* can move out of the VP by itself, it cannot strand the split-off in situ:

- (49) a. Er hat gestern EIN frisches Brot gekauft.  
 he has yesterday one fresh bread bought
- b. Er hat EIN(E)S gestern (\*frisches Brot) gekauft.  
 he has one yesterday fresh bread bought
- c. EIN(E)S hat er gestern (\*frisches Brot) gekauft.  
 one has he yesterday fresh bread bought

This raises the question of why the split-off has to move (cf. Haider 1990: 99, 102; Haider 1993: 228; van Riemsdijk 1989: 121). While an answer to this question is available (see below), the problem of movement of a non-constituent remains if both the determiner and an adjective form part of the source, as in (50b):

- (50) a. Er hat gestern nur EIN frisches deutsches Brot gekauft.  
 he has yesterday only one fresh German bread bought

- b. [ Deutsches Brot gekauft ] hat er gestern nur EIN frisches.  
 German bread bought has he yesterday only one fresh

In other words, referring back to the tree diagram in (48), it is clear that the determiner and the adjective do not form a constituent to the exclusion of the lower part of the DP. As such, they cannot vacate the VP before it moves to Spec,CP. Observing that both (47b) and (50b) are grammatical, we conclude that the split-off cannot have moved out of the source. As a solution, Fanselow (1988: 103-6) proposes to base-generate two noun phrases in the VP: the source in the Specifier position of VP and the split-off as part of a verbal complex (also Krifka 1998: 101). Moving the NP or the verbal complex V, we derive (51) and (52), respectively:

- (51) a. [ Polnische Gänse ] hat sie keine gekauft.  
 Polish geese has she none bought
- b. [NP polnische Gänse ]<sub>i</sub> hat sie [VP [NP keine pro<sub>i</sub> ] [V t<sub>i</sub> gekauft ]]
- (52) a. [ Polnische Gänse gekauft ] hat sie keine.  
 Polish geese bought has she none
- b. [V [NP polnische Gänse ]<sub>i</sub> gekauft ]<sub>k</sub> hat sie [VP [NP keine pro<sub>i</sub> ] t<sub>k</sub> ]

Treating the two noun phrases as independent also accounts for the endings on the adjectives. Although both noun phrases agree in case, number, and gender, the inflection of the adjective is different in the split-off:

- (53) a. Ich habe keine bunten Blumen gekauft.  
 I have no(STRONG) multi-colored(WEAK) flowers bought
- b. Bunte Blumen habe ich keine gekauft.  
 multi-colored(STRONG) flowers have I no(STRONG) bought

A strong ending on an unprecedented adjective is exactly what we expect if the two noun phrases are independent of each other. Moreover, this even extends across the same category, such that several instances of adjectives and determiners may have different kinds of endings in the same sentence (cf. Haider 1993: 215 for similar data; (55) inspired by Tappe 1989, see below):

- (54) a. Ich habe keine großen bunten Blumen gekauft.  
 I have no(STRONG) big(WEAK) multi-colored(WEAK) flowers bought
- b. Bunte Blumen habe ich keine großen gekauft.  
 multi-colored(STRONG) flowers have I no(STRONG) big(WEAK) bought

- (55) So 'n Auto kann ich mir keins leisten.  
 such a(WEAK) car can I refl none(STRONG) afford

In (54b), the adjectives differ in their endings; in (55), the determiners do.

6.2.2.2. Base-generation of One Noun Phrases in VP and the Other in Spec,CP. Haider (1990) argues that one noun phrase is generated in the VP and the other in Spec,CP. One

argument in favor of this proposal is that the split-off is ungrammatical in its apparent base-position in (56a) but grammatical in Spec,CP in (56b):

- (56) a. Es gibt {ein / \*welch(es)} Brot  
          there is a / some bread
- b. Brot gibt es {ein(e)s / welches}.  
          bread is there one / some
- c. Es gibt welches Brot?  
          there is which bread
- d. Brot gibt es welches?  
          bread is there which

If we were to assume movement of the split-off out of the source, then (56a) and (56b) would essentially be the same since both would have (a copy of) *Brot* following *welches*. However, the contrast follows straightforwardly if the split-off in (56b) is base-generated in Spec,CP without prior movement out of DP. As seen in the echo questions in (56c) and (56d), this is not a morphological but a lexical issue.

### 6.2.3. A Combination of Base-generation and Movement out of the Noun Phrase

Adopting the DP-hypothesis, Tappe (1989: 173-4) argues that one DP is merged in Spec,CP and another in a lower position. The DP in Spec,CP has no NP complement and the NP of the lower DP is argued to move into the higher complement position inside Spec,CP. The crucial datum he observes is derived in (57b):

- (57) a. So\*(’nen) Wagen kann ich mir keinen leisten  
 such a car can I refl none afford
- b. [<sub>DP</sub> so’nen [<sub>NP</sub> Wagen ]<sub>i</sub> ] kann ich mir [<sub>DP</sub> keinen t<sub>i</sub> ] leisten

Before summarizing the paradoxical facts from above, I will provide an example which illustrates the paradox between movement and base-generation *within* one and the same piece of data.

#### 6.2.4. A Paradox in and of itself

Van Riemsdijk (1989: 115) discusses reconstruction effects in split NPs:

- (58) Bücher von einander<sub>i</sub> sind uns<sub>i</sub> keine bekannt.  
 books by one another are to us none known

Concretely, for the anaphor *einander* ‘one another’ to be bound, the topicalized element must be in a c-commanded position with regard to its antecedent *uns* ‘us’. This constellation only holds if the topicalized element is below the antecedent, presumably its base position in the VP (for reconstruction effects involving Condition B and C, see van Riemsdijk’s paper). Recall now that split NPs with *welch* ‘some’ have no grammatical basis in the lower position (Haider 1990). If we combine the reconstruction data above with *welch* and the resulting example is grammatical, then we arrive at a paradox within

one and the same datum. The following example, taken from Fanselow (1988: 103), presents a relevant instance:<sup>18</sup>

- (59) a. Bücher über einander<sub>i</sub> würden die Männer<sub>i</sub> niemals welche schreiben.  
books about one another would the men never some write
- b. Die Männer<sub>i</sub> würden niemals (\*welche) Bücher über einander<sub>i</sub> schreiben.  
the men would never some books about one another write

In (59a), the noun phrase containing the reciprocal must undergo reconstruction.

However, as can be seen from (59b), this is not possible when *welche* is present.

#### 6.2.5. Summary of the Paradoxical Situation

Considering that regeneration to a full phrase inside Spec,CP is too powerful a process, I reinterpret van Riemsdijk's data involving two indefinite determiners as an argument for base-generation. The first column in table 3 summarizes the properties indicating a movement analysis, the second column shows the properties indicating base-generation:

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<sup>18</sup> As pointed out by Željko Bošković (p.c.), this paradox only holds if reconstruction to a position between the antecedent *die Männer* and *welche* can be excluded. If reconstruction of this sort is possible, then this also raises the independent question of whether the split-off is base-generated in this site. To rule out certain interpretations, I argue in Roehrs (2006a) that the split-off and the source must be base-generated in VP.



Table 3: Summary of the Different Properties of Split NPs

movement	base-generation
sequence of adjectives	two determiners
sequence of complements/modifiers	non-constituents
Binding	unexpected weak/strong alternations
islands	<i>welch</i>

The next section summarizes the type of data that linguists do not agree on.

### 6.3. *The Most Controversial Data*

Three sets of data seem to be most controversial with regard to grammaticality judgments: the split-off part of the noun phrase can also occur in the middle field rather than just in Spec,CP; the source noun phrase can also be definite rather than just indefinite; and split NPs can also be in the inherent cases dative and genitive rather than just accusative and nominative.

#### 6.3.1. Split NPs in the Middlefield

Grewendorf (1989: 27; 1991: 304) claims that the noun phrase does not have to appear in Spec,CP. In fact, Fanselow & Ćavar (2002: 67) provide an example with a multiply-split NP. Consider (60a) and (60b), respectively:

- (60) a. weil (Kleider) er (Kleider) immer dreckige anhat  
 because (clothes) he (clothes) always dirty wears
- b. **Bücher** hat er damals **interessante** in den Osten **keine** mitnehmen  
 books was he then interesting into the East none bring  
 dürfen.  
 allowed-to

### 6.3.2. Indefiniteness of the Source

Van Riemsdijk (1989: 108), Grewendorf (1989: 30), and Haider (1990: 99) observe that the source is always indefinite. Although perhaps not entirely perfect, I believe that split NPs with a definite source are better than *wh*-extraction out of a definite noun phrase (cf. also Bhatt 1990: 250, Fehlisch 1986: 109):

- (61) a. Ich habe immer nur die interessantesten Bücher gelesen.  
 I have always only the interesting books read
- b. (?) Bücher habe ich immer nur die interessantesten gelesen.  
 books have I immer only the interesting read
- (62) a. Ich habe die Bücher über die Evolution gelesen.  
 I have the books about the evolution read
- b. Worüber hast du {Ø / \*die} Bücher gelesen?  
 About what have you Ø / the books read

Tappe (1989: 176) provides a similar contrast with possessors:

- (63) a. ? Geld habe ich in Spanien nur Pauls ausgegeben.  
money have I in Spain only Paul's spent
- b. \* Über wen wurde Pauls Beschwerde abgelehnt?  
about whom was Paul's complaint turned-down

Kniffka (1996: 65, 126) provides both grammatical and ungrammatical examples with definite sources.

### 6.3.3. Dative and Genitive

Some authors claim that split NPs are only grammatical in the nominative and accusative (Fanselow 1988: 102; Tappe 1989: 163). However, I find examples such as the following acceptable (cf. also Bhatt 1990: 245 fn. 13, 248). This is contrasted with extraction out of inherent-case marked noun phrases (Tappe 1989: 163). Compare (64a-b) and (64c):

- (64) a. Also Brot ähnelt das nun wirklich keinem!  
Really bread resembles that now really none-DAT
- b. Lehrern hat er keinen geholfen.  
teachers has he none-DAT helped
- c. \* Von Paul haben wir den Berichten nicht geglaubt.  
of Paul have we the-DAT reports not believed

Kniffka (1996: 33, 82) provides both constructed and attested examples in oblique cases.

In this subsection, I have pointed out that there are three sets of data about which we find no agreement in the literature. Although important from an empirical point of view, the proposal below basically remains neutral with regard to these controversial data.

#### 6.4. *A New Proposal*

In section 6.2.2.1, I discussed Fanselow's (1988) proposal involving the base-generation of two noun phrases in the VP. Grewendorf (1989: 28) interprets Fanselow's verbal complex as the result of reanalysis inside the VP. According to him, reanalysis is subject to adjacency. Besides the fact that this kind of reanalysis is a very powerful operation, there is an empirical argument against this.

In the complex noun phrase in (65a), the non-proximal demonstrative is intensified by *da* 'there'. This intensifier intervenes between the head noun, on the one hand, and the *von*-phrase and the main verb, on the other:

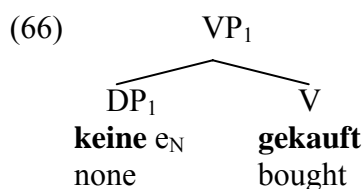
- (65) a. Ich habe nur die Bilder da von Maria angesehen.  
I have only the pictures there from Mary looked at
- b. [ **Bilder**<sub>i</sub> (\*da) **von Maria**<sub>j</sub> angesehen<sub>k</sub> ] habe ich nur **die** t<sub>i</sub> **da** t<sub>j</sub> t<sub>k</sub>.  
pictures (there) from Mary looked at have I only the there

As discussed in chapter 2, the intensifier and the demonstrative are base-generated in artP. Furthermore, while the demonstrative can move by itself in Spanish and the demonstrative and the intensifier move together in Swedish, the intensifier alone cannot move (and only undergoes PF Merger). With the intensifier intervening, adjacency does not hold in (65b). Now, if reanalysis involves adjacent elements, then (65b) cannot involve reanalysis. (Similar arguments can be derived from noun phrases with genitive and prepositional complements, see Roehrs 2006a.)

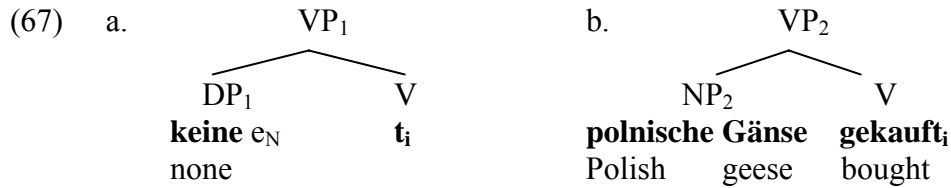
As an alternative, I propose to reanalyze Fanselow's approach as an instance of sideward movement of the verb (for general discussion of sideward movement, see Nunes 2001). After illustrating the individual steps of the derivation, I will formulate both a semantic and a syntactic condition on the occurrence of split NPs in German. Then, I turn to the explanation of the strong/weak alternation of *ein*.

#### 6.4.1. Stages in the Derivation

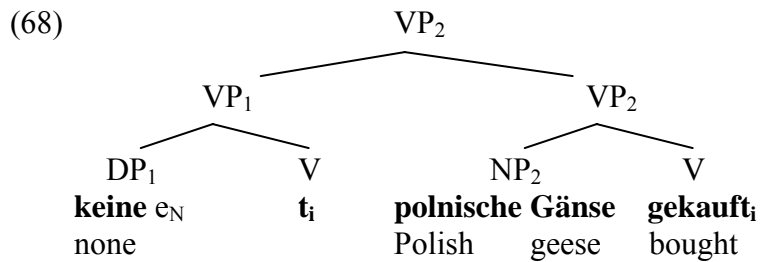
First, the verb is merged with the source, which contains the empty noun  $e_N$  (see below):



After copying the predicate, the verb is merged with a second noun phrase, as an instance of sideward movement:



Next, both VPs are merged by adjoining VP<sub>1</sub> to VP<sub>2</sub>:<sup>19</sup>



Finally, either NP<sub>2</sub> or the lower VP<sub>2</sub> may move. Below, I discuss factors that allow for only these two options.

#### 6.4.2. Semantic Identification

I propose that movement of NP<sub>2</sub> or the lower VP<sub>2</sub> is forced if we assume that e<sub>N</sub> is some kind of anaphoric element that needs to be licensed by a preceding antecedent. Note that NP<sub>2</sub> does not c-command e<sub>N</sub> if either the lower or the upper VP<sub>2</sub> is moved. Thus, rather than defining the anaphoric relation in syntactic terms, I suggest that e<sub>N</sub> is a semantic anaphor that needs to have a preceding antecedent (the split-off, see below). As a consequence, if neither NP<sub>2</sub> nor lower VP<sub>2</sub> moves or, alternatively, if DP<sub>1</sub>, VP<sub>1</sub> or the

<sup>19</sup> This structure has some virtues. For instance, with VP<sub>2</sub> a maximal projection, this structure avoids Fanselow's (1988) problem of moving a complex head to Spec,CP (cf. (52b)). Note also that the structure must be more complex for the verb to c-command its trace in VP<sub>1</sub>. Assuming another VP-layer on top of VP<sub>2</sub>, call it VP<sub>3</sub>, the verb moves to V<sub>3</sub>. Furthermore, to prevent unwanted pied-piping of the source, VP<sub>1</sub> is assumed to move out of VP<sub>3</sub>. In what follows, I will simply assume the less complex structure in (68).

upper VP<sub>2</sub> do, e<sub>N</sub> will not be licensed properly (by a preceding antecedent), leading to non-interpretability of e<sub>N</sub>.

More precisely, I follow Haider (1990: 108), Tappe (1989: 167), and Fanselow (1988: 105-6) in arguing that NP<sub>2</sub> is a (complex) nominal predicate (cf. also M. Müller 1986: 39). This seems to be a plausible assumption. First, I assume that verbs assign their theta roles only once in the course of the derivation. With the two noun phrases interpreted as one semantic unit, only one can bear a theta role. Consequently, one of these nominals must be an argument (DP<sub>1</sub>) and the other a predicate (NP<sub>2</sub>).

Second, based on (69a-b), we conclude that German singular count nouns require a determiner in argument position. If this is true, then the grammatical bare noun in (69c) must involve a predicate that is split-off from its argumental part *keins* ‘none’ (cf. Haider 1990: 108 fn.8):

- (69) a. Ich habe \*(ein) Hemd.  
I have a shirt
- b. \*(Ein) Hemd habe ich nicht.  
a shirt have I not
- c. Hemd habe ich keins.  
shirt have I none

The split-off in (69c) is the moved NP<sub>2</sub>.

Finally, it is well known that only indefinite determiners occur in predicate contexts, involving a multi-member set. If NP<sub>2</sub> is a predicate, then we expect only an indefinite determiner in the split-off. This expectation is borne out:

- (70) a. Ich halte ihn für { einen / \*den } guten Lehrer.  
 I consider him (for) a / the good teacher
- b. { 'N / \*Das } Hemd habe ich keins.  
 A / The shirt have I none

Turning to e<sub>N</sub> in DP<sub>1</sub>, with the exception of the determiner, everything can in principle be part of the split-off (but cf. footnote 25). Since the determiner is of type <<e,t>,e> (Heim & Kratzer 1998), that is, it is a function that takes a predicate as its argument and returns an entity, I argue that e<sub>N</sub> is an empty predicate (of type <e,t>) (cf. Fanselow 1988: 106). Observe now that both the predicative NP<sub>2</sub> and the null predicative e<sub>N</sub> are of the same semantic type (<e,t>). Thus, I propose that a semantic anaphoric relation between e<sub>N</sub> and its antecedent may be established and the content of e<sub>N</sub> can be identified by the preceding element.

This section has proposed that split NPs involve two noun phrases, which are connected by sideward movement of the verbal predicate and adjunction of the first VP to the second. I claim that the source DP<sub>1</sub> is argumental whereas the split-off NP<sub>2</sub> is predicative. e<sub>N</sub> contained in the argumental DP<sub>1</sub> stands in a semantic anaphoric relation with the moved predicative NP<sub>2</sub>.



### 6.4.3. Syntactic Licensing

Olsen (1987) argues that adjectives without nouns are not “nominalized” but rather contain a *pro* (see also Kester 1996a: 249, 1996b: pp. 63; Schachtl 1989: 107). In keeping with Rizzi (1986), Grewendorf (1991: 304) suggest that *pro* in the source must be identified by a strong ending. As throughout this dissertation, I assume an empty noun  $e_N$  (rather than a *pro*):

- (71) a. Hemd habe ich eins  $e_N$  getragen.  
shirt have I one(STRONG) worn
- b. Hemd habe ich ein schönes  $e_N$  getragen.  
shirt have I a(WEAK) nice(STRONG) worn
- c. Hemden habe ich immer nur diese  $e_N$  getragen.  
shirts have I always only these(STRONG) worn

What these licensers have in common is that they occur in either D (article), Spec,AgrP (adjective), or Spec,DP (demonstrative). These are exactly the positions that are L-marked. In part I above, I proposed that elements in these position can have their strong ending licensed. However, the presence of a strong ending is not a necessary condition. In particular, non-agreeable elements (72a-c) and the combination of a strong and a weak ending (72d) can also license split NPs:

- (72) a. Hemden habe ich immer nur Peters  $e_N$  getragen.  
shirts have I always only Peter's worn

- b. Hemden habe ich in meinem Leben genug  $e_N$  getragen.  
 shirts have I in my life enough worn
- c. Hemden habe ich gestern sieben  $e_N$  getragen.<sup>20</sup>  
 shirts have I yesterday seven worn
- d. Hemden habe ich immer nur diese bunten  $e_N$  getragen.  
 shirts have I always only these<sub>(STRONG)</sub> colored<sub>(WEAK)</sub> worn

The true generalization that emerges is that [+agreeable] sources must contain a strong inflection (additional weak elements are possible) and [-agreeable] cannot. What (71) and (72) have in common is that the elements are all in L-marked positions. With regard to (72), then, I suggest that  $e_N$  is not identified by a strong ending but must be licensed by an element in Spec,DP, D, Spec,Card, or Spec,AgrP. I state the syntactic condition on  $e_N$  as follows:

(73) *Licensing of  $e_N$*

The licenser must:

- (i) be overt (i.e., must have a phonological matrix to be filled in)
- (ii) c-command  $e_N$  from an L-marked position
- (iii) agree (if possible)

---

<sup>20</sup> Recall from above that the numeral for ‘four’ can have an optional ending when stranded. This however seems to be restricted to monosyllabic numerals. Consider the following contrasts (*siem* is colloquial for ‘seven’):

- (i) Ich habe {dreizehn(\*e) / sieben(\*e) / siemm(e) / vier(e)} gekauft.  
 I have thirteen / seven / seven / four bought

In view of this constraint, I assume that *-e* is not a true inflectional ending.

Before I illustrate the individual parts of (73), note that (i) implies that the condition must hold on the way between the Numeration and PF (since the phonological matrices are stripped off at Spell-out) and that (ii) implies that it must hold in narrow syntax. The intersection of these two domains is the derivation between the Numeration and Spell-out. For concreteness then, I will assume that the condition must hold at the point when the DP-phase is merged/associated with the clausal phase.

The first part of condition (73) states that the licenser has to be overt. That this part of the condition has to hold independently can be gleaned from topicalizations involving indefinite plural DPs. The standard assumption for (74a) is that the object DP moves to Spec,CP (74b), which crucially is different from (74c):

- (74) a. Hemden habe ich getragen.  
           shirts    have I    worn
- b. [<sub>DP</sub> Ø Hemden ]<sub>i</sub> habe ich t<sub>i</sub> getragen.
- c. (\*) [<sub>DP</sub> Hemden ]<sub>i</sub> habe ich [<sub>DP</sub> Ø e<sub>N</sub> ] t<sub>i</sub> getragen.

The derivation in (74c) may potentially pose learnability problems. In order to rule out this derivation, I suggest that the licenser must be overt (and cannot be a null determiner by itself).

The second subcondition (73ii) states that the licenser must c-command e<sub>N</sub> from an L-marked position. This part of the condition is needed to rule out sentences that contain indefinite plural DPs and a lower overt element, for instance, a post-nominal

possessive. To set the stage, certain genitive DPs are fully grammatical when they occur post-nominally but awkward when they are pre-nominal:

- (75) a. Hemden meines Vaters  
           shirts of my father  
       b. ?? meines Vaters Hemden

In (76b), although the source has overt material in Spec,nP, the lack of c-command from an L-marked position gives a straightforward account of the grammaticality judgement:<sup>21</sup>

- (76) a. Ich habe immer nur Hemden meines Vaters getragen.  
           I have always only shirts of my father worn  
       b. ?? Hemden habe ich immer nur [DP Ø e<sub>N</sub> meines Vaters ] getragen.  
           shirts have I always only of my father worn

This is different for pre-nominal possessives. *Von*-possessives can both follow and precede the head noun:

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<sup>21</sup> The example is grammatical when there is an overt element:

- (i) a. Hemden habe ich immer nur [DP die e<sub>N</sub> meines Vaters ] getragen.  
           shirts have I always only the (ones) of my father worn  
       b. Hemden habe ich immer nur [ die bunten e<sub>N</sub> meines Vaters ] getragen.  
           shirts have I always only the colored (ones) of my father worn

Ulrike Demske (p.c.) raises the question of whether (76b) is ungrammatical because the genitive modifier is not adjacent to the head noun. In order to account for the difference between (76b) and (i), she suggests that *die* ‘the/this’ and *bunten* ‘colored’ are “heads” such that adjacency holds in (i) but not in (76b). However, there are reasons to believe that this is not correct.

First, Panagiotidis (2002a,b; 2003a,b) argues extensively against the notion of “intransitive” determiners. He concludes that all determiners are “transitive”, suggesting that apparent intransitive ones take e<sub>N</sub>. Second, Olsen (1987, 1988) convincingly shows that “nominalized” adjectives are not nouns but also involve a null noun (for other arguments for the presence of a null head noun, see Felix 1990: 55-56). Finally, Löbel (1991) and Lühr (1991a) show that (strict) adjacency between the head noun and the genitive is not a necessary condition.

- (77) a. Ich habe immer nur Hemden von meinem Vater getragen.  
 I have always only shirts of my father worn
- b. Ich habe immer nur von meinem Vater Hemden getragen.  
 I have always only of my father shirts worn

With this in mind, consider the following examples:

- (78) a. ? Hemden habe ich immer nur [ von meinem Vater ] getragen.  
 shirts have I always only of my father worn
- b. Hemden habe ich immer nur Peters getragen.  
 shirts have I always only Peter's worn

In order to account for the grammaticality of (78a), I assume that the *von*-phrase is pre-nominal, just as the possessor is in (78b). Unlike (76b), then, the last two examples have an element in an L-marked position c-commanding  $e_N$ .

As for the third subcondition (73iii), it states that licensors must agree (if possible). This condition is motivated by the observation that optional endings become obligatory before  $e_N$ . Consider again the basic data involving adjectives like *lila* 'purple':

- (79) a. Ich habe lila(ne) Bücher  
 I have purple books

- b. Bücher habe ich lila\*(ne)  
 books have I purple

Unlike non-agreeable elements (e.g., certain possessives, numerals), the adjective *lila* has the option of agreeing and by condition (73iii) it must.

Finally, I demonstrated above that a strong inflection is not a necessary condition. Consequently, I phrased the condition on  $e_N$  in terms of L-marked positions. This raises the question of whether there are cases where an overt strong inflection is not a sufficient condition. Although I have not been able to identify any relevant split NPs, (unsplit) pronominal DPs seem to provide a case in point.<sup>22</sup> With an overt head noun, both a weak and a strong adjective are possible. However, if there is no overt head noun, the weak adjective is strongly preferred:

- (80) a. wir {netten / nette} Studenten  
 we nice(WEAK/STRONG) students
- b. wir {Netten / \*?Nette}  
 we nice(WEAK/STRONG)

---

<sup>22</sup> There are two points to note here: as discussed in part I, unpreceded adjectives in the genitive masculine and neuter are exceptional in that they have an apparent weak ending as a strong inflection. When stranded in a split NP, we notice that, while not entirely perfect, this weak ending is better than a (constructed) strong one:

- (i) Weins habe ich mich {?guten/\*gutes} erinnert.  
 wine have I refl. good(WEAK/STRONG) remembered

Depending on the ultimate interpretation of the exceptional status of this apparent weak ending, this might be a more direct indication that a strong ending is not a sufficient condition to license split NPs. Second, the null noun in (80) is presumably of a different type (see below).

In part III, I assume that *wir* ‘we’ can be analyzed by speakers as both “agreeing” and “non-agreeing”. If agreeing, the adjective is weak, if non-agreeing, the adjective is strong. This accounts for (80a). The different adjective inflections in (80b) follow from subcondition (73iii), since a potentially agreeing element must agree. Now, if *wir* agrees, then the adjective must be weak.

To sum up, besides the semantic condition on the interpretation of  $e_N$ , we also established a syntactic condition. Furthermore, I illustrated that a strong ending is neither a necessary nor a sufficient condition on the licensing of null nouns. Next, I turn to the derivation of the inflectional alternation of *ein*.

#### 6.4.4. Derivations

In part I, I assumed that the strong ending is licensed when the DP is merged with its predicate. Furthermore, licensing of the strong inflection can only occur in an L-marked position (Spec,DP, D, Spec,CardP, and Spec,AgrP). The result of this stipulation was that the overt determiner can only have its strong ending licensed if it is in the DP at the time the DP is merged with the predicate. The Rule of Monoinflection, repeated here from part I, prevents both the overt determiner in D and the adjective in Spec,AgrP from having their strong endings licensed at the same time:

(81) *Rule of Monoinflection (final version)*

At the point where the DP is merged into the (partially assembled) clause, license the strong morphological inflection on the “closest” overt element (with respect to the clausal predicate) that the head noun can establish an agreement relation with.

There are two subcases: the relevant elements are:

- (i) “agreeable” in general
- (ii) “agreeing”, depending on the analysis assigned by the speaker

The basic intuition to be developed next is that *ein* may move at different times under different conditions. I suggested in part I that *ein* moves to support D in PF and values the [definite] feature on D in LF. Let us make this assumption stronger, such that *ein* must not move unless forced to by other principles or conditions:

(82) *Least Effort* (cf. Chomsky 2000: 99)

There are no superfluous steps in the derivation unless forced by Last Resort.

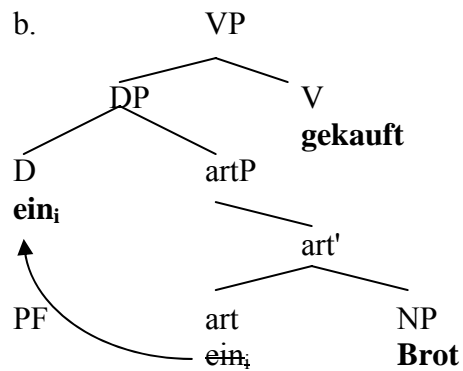
Importantly, with the condition in (73), an overt element must be in an L-marked position before the DP is merged with the verbal predicate. If *ein* is by itself, that is, if there is no adjective, then *ein* is forced to move to D earlier. I take this altruistic movement (cf. Collins 1997: 99) to be a reflex of an instance of Last Resort, which satisfies condition (73). We arrive then at the following picture: *ein* in unsplit DPs moves to D in PF, as discussed in part I; *ein* in split unmodified DPs moves to D in overt syntax. In the following, I illustrate both split and unsplit NPs with some sample derivations.



With N filled by an overt noun, non-split DPs cannot contain  $e_N$ .<sup>23</sup> Licensing of the strong ending proceeds as discussed in part I. *Ein* is in art at the time the DP is merged into the clause. Since the functional head D does not L-mark art, *ein* cannot have its strong ending licensed. In PF, *ein* moves to D and gets a weak ending as the default:

(83) a. Ich habe ein Brot gekauft.

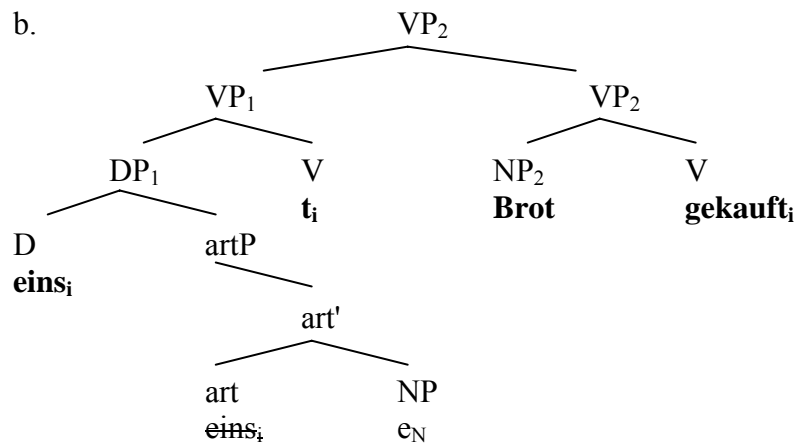
I have a(WEAK) bread bought



<sup>23</sup> As already mentioned above, this does not mean that there are no other types of  $e_N$ . (For some speculations on the language-specific nature of the null noun in split NPs, see below.)

Turning to the corresponding split NP, we find *eins* and  $e_N$ . In order to be able to license  $e_N$ , *eins* has to move to D by condition (73) before the DP is merged with the predicate. With *eins* in an L-marked position, it gets its strong inflection licensed. After that, the verb is copied and combines with *Brot* as an instance of sideward movement. NP<sub>2</sub> containing *Brot* is then moved to Spec,CP (not shown here):

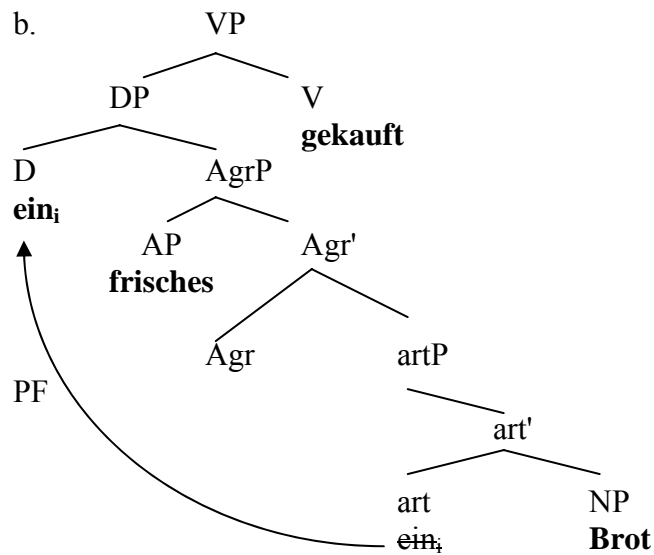
- (84) a. Brot habe ich eins gekauft.  
 bread have I one(STRONG) bought



Next I consider modified noun phrases. As above, non-split DPs do not contain  $e_N$ . As discussed in part I, the adjective precedes *ein* at the point in the derivation where the strong ending is licensed. With Spec,AgrP always L-marked, the adjective gets its strong ending licensed. *Ein* gets a weak ending after it has moved to D in PF:

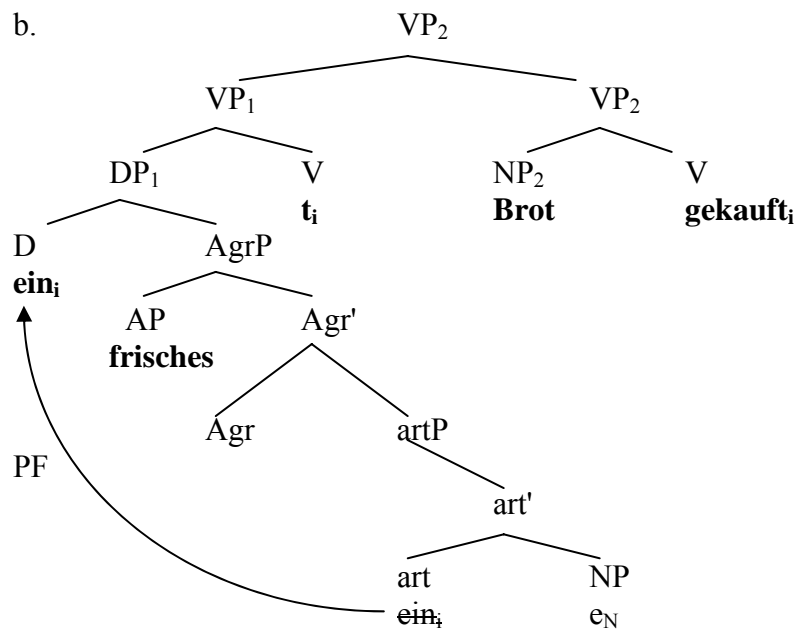
(85) a. Ich habe ein frisches Brot gekauft.

I have a(WEAK) fresh(STRONG) bread bought



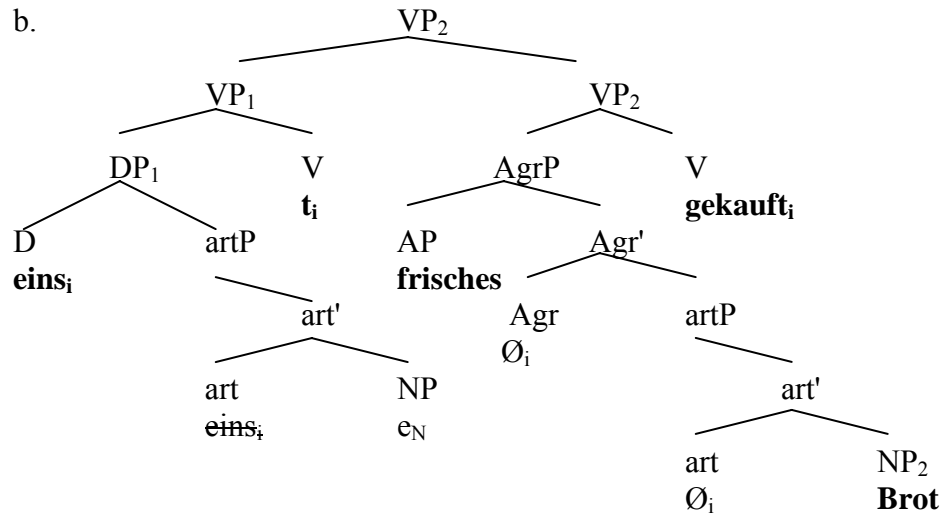
I now turn to the split NP with a stranded adjective. With an adjective present, the adjective itself fulfills all the conditions in (73). Consequently, *ein* does not have to move to D. In fact, under Least Effort it must not. The adjective in first position gets the strong ending licensed by the predicate. The verb is then copied and combines with *Brot* as an instance of sideward movement. Following that, the NP containing *Brot* moves. Lastly, *ein* raises to D in PF and has its weak ending licensed by default:

- (86) a. Brot habe ich ein frisches gekauft.  
 bread have I a(WEAK) fresh(STRONG) bought



Finally, consider a split NP with a moved adjective. Both the determiner and the adjective have a strong ending. First, *eins* and  $e_N$  are merged. As there is no adjective, *eins* must move to D to license  $e_N$  and has its strong ending licensed when the DP is merged with the predicate. The verb is then copied and combines with *frisches Brot* as an instance of sideward movement. As the adjective is the only relevant overt item, it also gets its strong ending licensed by the predicate. Thus, licensing of a strong ending may occur twice under sideward movement of the verb:

- (87) a. Frisches Brot habe ich eins gekauft.  
 fresh(STRONG) bread have I one(STRONG) bought



In this section, I formulated a semantic and a syntactic condition on  $e_N$ . These conditions were independently motivated. The main result was that  $e_N$  must be licensed by an overt element in an L-marked position that is, if possible, agreeing. As such, the strong ending on agreeing elements is a consequence of the proposal. Besides the

conceptual arguments given in part I for the existence of only one lexical entry for *ein*, consider an empirical one.

Some authors assume that *ein* in the nominative masculine/neuter and accusative neuter is indeclinable to account for case like *ein(\*er) Wagen* ‘a car’. For the reemergence of the strong ending in split NP constructions, they presumably need to assume a second lexical entry that is fully declinable in case, number, and gender. However, as seen in (72),  $e_N$  can also occur without elements showing a strong ending. This makes the assumption of a second lexical entry for *ein* implausible, since the indeclinable three instances of *ein* should be as capable of licensing  $e_N$  as the other indeclinable elements are. In fact, subcondition (73iii), which was independently motivated by the inflectional behavior of the adjective *lila(ne)* ‘purple’, implies that *ein* without overt inflection is agreeable, that is, it has a null weak ending. Assuming just one lexical entry for *ein*, I derived the different endings from the varying time *ein* moves to D forced by the independently motivated condition (73).<sup>24</sup>

The derivation of the distribution of the weak and strong endings on *ein* was crucially based on the assumption that determiners move. Thus, this part provided another argument in favor of my main proposal.

#### 6.4.5. Accounting for the Paradoxical Properties

In section 6.2.5 above, I provided a summary of the properties of the split NP construction. Some of these characteristics implicated a movement analysis (first column

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<sup>24</sup> One may object that, in view of the optional ending on *lila(ne)* when followed by an overt noun, *ein* may just have an optional null ending when followed by an overt noun. However, while the ending on *lila* becomes obligatory in split NPs and is enough to license the construction, an obligatory null ending on *ein* is not enough. Now, if we assume just one *ein* that obligatorily agrees, then it will get a strong ending licensed once it has moved to D.

of table 4 below) while others implicated base-generation (third column). The present proposal solves this apparent paradox by way of a hybrid analysis involving both separate base-generations (instantiated by sideward movement of the verb and the assumption of  $e_N$ ) and subsequent movement, which needs to be licensed by a semantic and a syntactic condition. I will now briefly illustrate how the individual properties can be captured in my system.

I propose that the movement characteristics follow from movement of the split-off and the calculation of  $e_N$ . The island effects follow directly from movement and the sequence of the adjectives and complements/modifiers as well as the binding facts are accounted for if we assume that  $e_N$  is semantically calculated on the basis of the material in Spec,CP. In other words, the split-off is interpreted in  $e_N$  and selection and Binding can be “checked” in LF.

The base-generation properties follow from the presence of two noun phrases in a complex VP, brought about by sideward movement of the verb. While the predicative nominal derives the fact that only indefinite determiners can appear in the split-off, the argumental DP containing  $e_N$  accounts for the fact that the non-interrogative use of *welch* ‘some’ cannot take an overt NP. The apparent cases of movement of non-constituents and the fact that adjectives in the split-off can be strong (although weak in the source) also follow from the construction of two independent nominals and a second instance of merge with the verb. Thus, semantic and syntactic processes (calculation of  $e_N$  and

construction of two separate noun phrases, respectively) derive all the relevant properties in this hybrid proposal. Consider the following summary:<sup>25</sup>

Table 4: Summary of the Properties of Split NPs and their Account

movement	commentary	base-generation	commentary
sequence of adjectives	after semantic calculation of $e_N$	two determiners	two separate nominals
sequence of complements/modifiers	after semantic calculation of $e_N$	non-constituents	two separate nominals
Binding	after semantic calculation of $e_N$	unexpected weak / strong alternations	two separate nominals
islands	movement of split-off	<i>welch</i>	two separate nominals

Turning finally to the controversial data set out in section 6.3, the current proposal is neutral with regard to (parts of the) split NPs surfacing lower than Spec,CP. While

<sup>25</sup> Recall from chapter 1 that there are some restrictions on both the split-off and the source. For instance, Bhatt (1990: 251) points out that numerals and quantifiers cannot be part of the split-off itself (ia). Haider (1992: 320) notes that modifiers such as *sehr* ‘very’ cannot be stranded in split NPs (ib):

- (i) a. \* [ Drei / Wenige [ Hemden ]] hat er immer nur [ diese ] getragen.  
           three / few shirts has he always only these worn  
       b. \* [ Kostbare Vasen ] besitzt er nur [ drei sehr ].  
           precious vases owns he only three very

While I assume that (ia) has a semantic explanation (recall that the example improves if there is strong stress on the numeral or the quantifier), (ib) can be accounted for in a syntactic way. As discussed in chapter 1, modifiers are in the Specifier of the adjective phrase. Assuming that intermediate A'-projections cannot move, (ib) is ruled out.



movement is forced, nothing in principle forces movement to Spec,CP, be it in one fell swoop or in successive steps (perhaps stranding more material).

The analysis is also neutral regarding the restriction to an indefinite source. Although I believe that this is not a feature in general, if it turns out that a definite source is ungrammatical under certain circumstances (for all or some speakers), the semantic calculation of  $e_N$  in a definite context might be made responsible for that.

As for the restrictions to structurally case-marked sources (and the extent to which it holds at all), it is not clear to me if this has to do with the morphological case or the grammatical function of the source. More empirical work needs to be done here.

More generally, one may wonder why split NPs of this type are a relatively rare phenomenon. Panagiotidis (2002a,b; 2003a,b) argues that languages differ with regard to which empty nouns they make lexically available. For instance, while English has both *one* and  $e_N$ , German has only  $e_N$ . To speculate, then, one could suggest that other languages do not have this kind of anaphoric  $e_N$  and the lack of this construction in these languages would follow from this lexical gap.

## **7. Conclusion**

This part of chapter 4 started out by arguing for different kinds of *ein*. Discussing similarities and differences, the indefinite determiner, the numeral, and adjectival *ein* were identified. Following that, it was proposed that the numeral derives from the indefinite determiner (deriving their similarities) and that adjectival *ein* is an independent lexical item. I proposed to derive the differences between these types of *ein* from their

different positions in the syntactic tree. The net result of the discussion is that there are only two types of *ein*: the determiner and the adjective.

Next, I turned to the discussion of split NPs. After briefly discussing some previous proposals and highlighting the paradoxical data, I illustrated my own hybrid proposal, which involves sideward movement of the verb. This derived the facts which seemed to call for separate base-generations. Furthermore, establishing a syntactic and semantic condition, the movement facts were argued to follow from movement of the split-off and from calculating the semantic value of  $e_N$  in the source on the basis of the split-off. The strong/weak alternation of *ein* was accounted for by movement of *ein* from a lower position, occurring at different times under different conditions. To the extent that this discussion is correct, it provides more evidence for the main proposal of this dissertation.

### III. Personal Pronouns as Determiners

#### 1. Introduction

In part I, I formulated a language-specific rule to the effect that the strong inflection is licensed on the first agreeable item in the DP (1a). Apparent exceptions were argued to follow from the assumption that determiners move from artP to DP at different points in the derivation (1b):

- (1) a. Ich habe das frische Brot gekauft.  
I have the<sub>(STRONG)</sub> fresh<sub>(WEAK)</sub> bread bought
- b. Ich habe ein frisches Brot gekauft.  
I have a<sub>(WEAK)</sub> fresh<sub>(STRONG)</sub> bread bought

To recapitulate briefly, I proposed that singular structurally case-marked *ein*-words move to D in PF. This accounted for the strong ending on the adjective in (1b), as it is the first overt item at the time when the strong ending is licensed. It is only later that *ein* moves to precede the adjective on the surface.

In part II, I argued that *ein* can move at different times. Similar to (1b), *ein* in (2a-b) moves to D in PF. As *ein* is not in an appropriate (= L-marked) position, it cannot have a strong ending licensed. However, in order to syntactically license  $e_N$  in (2c), I suggested

that *ein* moves before the DP is merged with the predicate. Thus, unlike in (2a-b), *ein* is in an L-marked position in (2c) at the time the strong ending is licensed:

- (2) a. Ich habe ein(\*es) Brot.  
       I have a(WEAK/\*STRONG) bread
- b. Brot habe ich ein frisches e<sub>N</sub>.  
       bread have I a(WEAK) fresh(STRONG)
- c. (Frisches) Brot habe ich ein\*(es) e<sub>N</sub>.  
       (fresh) bread have I one(STRONG/\*WEAK).

In what follows, I turn to noun phrases consisting of personal pronouns and (modified) head nouns. Treating pronouns as determiners, I will show that the behavior of these noun phrases also follows under the system developed in part I. This will make the analysis more general, lending further credibility to the main proposal.

As a first illustration, like *ein*-words, singular pronouns are followed by an adjective with a strong ending, whereas plural pronouns are followed by an adjective with a weak ending. This is shown in (3a) and (4a), respectively (for the full paradigm, see section 2.1.). For comparison, I also provide a corresponding example with a *der*-word in (3b) and (4b):

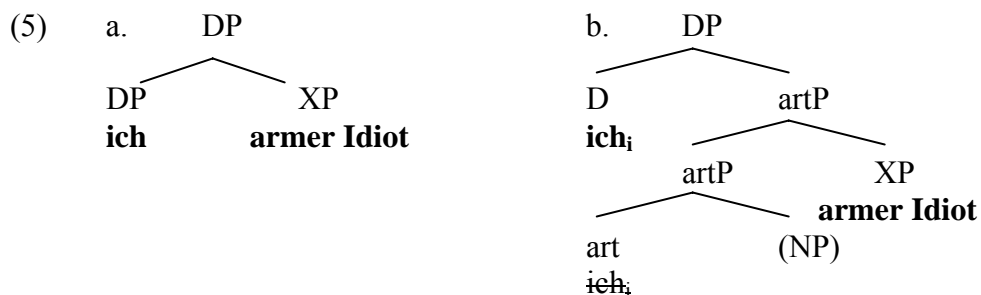
- (3) a. { kein / ich / du } armer dummer Idiot  
       { no / I / you } poor(STRONG) stupid(STRONG) idiot(M)

- b.     der           arme           dumme       Idiot  
           the(STRONG) poor(WEAK) stupid(WEAK) idiot(M)

- (4) a.     { keine / wir / ihr } armen       dummen       Idioten  
           { no     / we / you } poor(WEAK) stupid(WEAK) idiots  
       b.     die           armen           dummen       Idioten  
           the(STRONG) poor(WEAK) stupid(WEAK) idiots

I will call this combination of a personal pronoun and a (modified) head noun a “pronominal construction” or a “pronominal DP”.<sup>1</sup> There are two main competing proposals for this kind of construction.

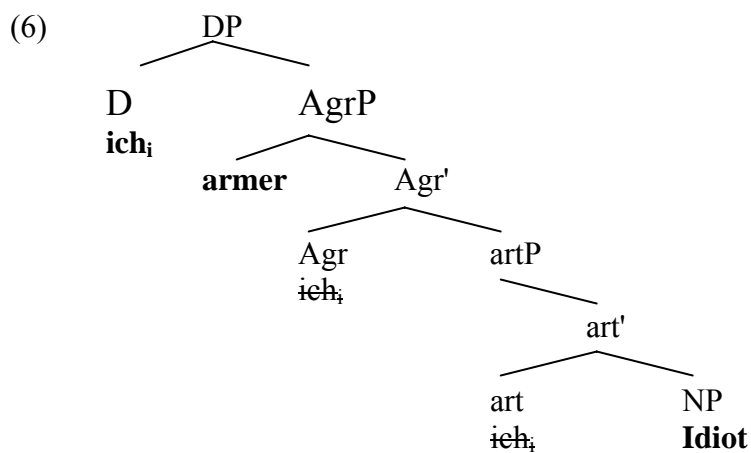
One type of analysis treats the overt part following the pronoun as an appositive, which I assume to be structurally represented by adjunction (e.g., Delorme & Dougherty 1972: pp. 8, Rigter 1980, Vater 1985: 110, Cardinaletti 1994: 203). There are different nodes where adjunction could occur:



<sup>1</sup> Throughout this part, I am using the term “pronominal DP” to mean a pronoun followed by an *overt* noun (see, among many others, Panagiotidis 2002a,b; 2003a,b) and not a pronoun followed by a null/empty element.

In (5a), the second part of the noun phrase is adjoined to DP. In (5b), adjunction is to a lower position with the option of the pronoun having moved from a lower position (cf. Cardinaletti 1994).

The second basic proposal argues that, like determiners, pronouns may also take overt elements as part of their complement. In other words, pronouns are treated as determiners, which under my assumptions, means that the pronoun moves to D:



In Roehrs (2005a), I present some new arguments against apposition in (5) and in favor of complementation in (6).<sup>2</sup> Following others, I conclude there that pronouns are determiners.

This part of chapter 4 is organized as follows: first I revisit one of the arguments in Roehrs (2005a), which deals with the weak/strong alternation of adjectives. Then I add a new argument involving the lack of pronominal DPs in the genitive. After discussing some apparently indeclinable forms that have an influence on inflection, I illustrate and

<sup>2</sup> In Roehrs (2006b), I argue that “indefinite pronoun + adjective” constructions such as *etwas Schönes* ‘something nice’ do involve adjunction.

explain multiple agreement within the DP (concord) by proposing feature “spreading” due to movement of the determiner.

## **2. Two Arguments against an Apposition Analysis**

This section provides two arguments in favor of the complement analysis. They derive from the fact that pronouns take adjectives with a weak ending and that there are no pronominal DPs in the genitive.<sup>3</sup>

### *2.1. Pronouns with a Weak Adjective*

We saw above that determiners move from a lower position and that the time of movement may vary. Furthermore, I have argued that the agreeability of determiners may vary according to the analysis assigned to them by speakers. If pronouns are determiners, then we expect to find the same phenomena with pronouns. I will show in this section that this is indeed the case. To the extent that this is correct, this section extends the above discussion.

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<sup>3</sup> Movement out of the pronominal DP is probably not revealing for the choice between complementation and adjunction. While it is well known that complements, but not adjuncts, may move out of a DP (for discussion, see Huang 1982, Chomsky 1986, Culicover & Rochemont 1992), there are some interfering factors with pronominal DPs. First, these constructions are definite, which usually disallows extraction in general. Second, I showed in part II that split NPs do not involve movement out of the source but the base-generation of two syntactically independent noun phrases. If this is correct, then split pronominal DPs will not reveal anything new about the structure of their lower part. Note though that, for some unclear reason, pronominal DPs do not seem to (easily) form split NPs. A possible example might be the following:

- (i)     Idioten habe ich immer nur euch gesehen.  
      idiots have I always only you seen

To set the stage, typical appositive structures in German are marked by a strong ending on the adjective if the latter is not preceded by an agreeable element. A weak ending is not possible:

- (7) a. Das ist Liebfrauenmilch, sehr süße\*(r) Wein.  
           this is Liebfrauenmilch, very sweet(STRONG) wine
- b. Das sind wir, sehr nette(\*n) hübsche(\*n) Mädchen.  
           that is us, very nice(STRONG) beautiful (STRONG) girls

With this in mind, we might propose that the pronominal constructions in the singular in (3a) are adjoined, accounting for the strong inflection, and the ones in the plural in (4a) are in complement position, explaining the weak ending. In this scenario, both the structures in (5) and (6) would find confirmation. However, there is a morphological argument against this, derived from the inflectional possibilities of the adjective in both the singular and plural.

Although the judgments are sharp in the nominative/accusative singular in (8) and in the dative/accusative plural in (10), Bhatt (1990: 154-5) observes that both a weak *and* a strong ending are possible in the dative singular and the nominative plural in (9). Furthermore, she points out that the pronoun can occur in other morphological cases (see also Darski 1979: pp. 200, Duden 1995: 280). These sets of data are illustrated in the first person singular in (8a-b), (9a-b) and in the plural in (9c), (10a-b):



- (8) a. Ich dummes / \*dumme Schwein habe meinen Job verloren!  
 I stupid(NOM.STRONG) / stupid(WEAK) pig(N) have my job lost  
 ‘I (stupid pig) have lost my job.’
- b. Sie haben mich dummes / \*dumme Schwein erwischt!  
 they have me stupid(ACC.STRONG) / stupid(WEAK) pig(N) caught  
 ‘They have caught me (stupid pig).’
- (9) a. Sie haben mir dummem / %dummen Esel Geld geklaut!  
 they have me stupid(DAT.STRONG) / stupid(WEAK) donkey(M) money stolen  
 ‘They stole money from me (stupid donkey).’
- b. Sie haben mir %dummer / dummen Gans Geld geklaut!  
 they have me stupid(DAT.STRONG) / stupid(WEAK) goose(F) money stolen  
 ‘They stole money from me (stupid goose).’
- c. Wir dumme / dummen Idioten haben unseren Job verloren!  
 we stupid(NOM.STRONG) / stupid(WEAK) idiots have our job lost  
 ‘We (stupid idiots) have lost our job.’
- (10) a. Er hat uns dumme / \*dummen Idioten erwischt!  
 he has us stupid(ACC.STRONG) / stupid(WEAK) idiots caught  
 ‘He has caught us (stupid idiots).’

- b. Sie haben uns dummen Idioten Geld geklaut!  
 they have us stupid(DAT.STRONG/WEAK) idiots money stolen  
 ‘They stole money from us (stupid idiots).’

While the strong and weak endings are equally possible in the nominative plural (9c), there seems to be a preference for the strong ending in the dative masculine and for the weak ending in the dative feminine (9a-b). Pronominal DPs in the genitive do not exist (see section 2.2). Table 1 summarizes the general types of possible adjective endings:

Table 1: Schematic Summary of the Adjective Endings

	singular	plural
nominative	strong	strong/weak
accusative	strong	strong
dative	strong/weak	strong/weak
genitive	-	-

Jespersen (1914: 85) suggested that the pronominal construction involves appositives. However, since appositives only allow a strong ending, the possibility of a weak ending indicates that the second part of the pronominal DP cannot involve an apposition.<sup>4</sup> Rather, following Postal (1966), I argue in Roehrs (2005a) that the pronoun in the pronominal construction is a determiner taking a complement (see also, among many

<sup>4</sup> Lawrenz (1993: 88) and Olsen (1991b: 37) independently recognize the importance of the weak ending. While Lawrenz does not provide an analysis of the full set of data, Olsen opts for apposition.

others, Abney 1987: pp. 281-4; Bhatt 1990: pp. 151; Corver & Delfitto 1999: esp. 802-4; Furuya 2004; Giusti 2002: 75-6; Hudson 1987: 122-3; Jackendoff 1977: 106; Lawrenz 1993: esp. 81-93; Longobardi 1994: 636; Lyons 1999: esp. 26-30, 141-5; Noguchi 1997: 775; Panagiotidis 2002a: 39-40; Pesetsky 1978; Radford 1993: 77, 109, 1997: 154; Sommerstein 1972; Uriagereka 1995: 79-81). I will call this instance of the determiner the “pronominal determiner” or simply the “pronoun” (Olsen 1991a: 58 calls the pronoun a “Pro-DET”). For present purposes, I will revisit one argument here.

As a point of departure, consider again the Rule of Monoinflection from part I:

(11) *Rule of Monoinflection (final version)*

At the point where the DP is merged into the (partially assembled) clause, license the strong morphological inflection on the “closest” overt element (with respect to the clausal predicate) that the head noun can establish an agreement relation with.

There are two subcases: the relevant elements are:

- (i) “agreeable” in general
- (ii) “agreeing”, depending on the analysis assigned by the speaker.

In this formulation, I crucially referred to the “agreeability” of the items, which I take to be a lexical property (see below). Concretely, I argued above that the strong ending on a preceded adjective is the result of either movement of the determiner in PF (*ein*), i.e., after strong morphological case has been licensed on the adjective, or the preceding element is non-agreeable (e.g., adverbs, possessives), rendering the adjective the first *relevant* agreeable element (11i). Furthermore, if a potentially agreeing element (e.g.,

*manch* ‘some’) is analyzed as non-agreeing, the adjective is strong too (11ii). Now, if pronouns are determiners, then basically the same properties are expected with pronouns. Concretely, I suggest that, similar to *ein*, pronouns may move at different times to D; and similar to *manch*, pronouns can be ambiguous with regard to their (potential) agreeability. As such, pronouns have a hybrid character.

I divided the data in (8)-(10) into three groups: nominative/accusative singular, dative singular and nominative plural, and dative/accusative plural. I start with the cases in (9), which exhibit both the strong and the weak inflection on the adjective and illustrate the fact that pronouns can vary in agreeability.

Like the relevant *ein*-words discussed in part I, pronouns in an inherent case and/or in the plural move before the strong inflection is licensed. Consequently, they precede the adjective. If analyzed as agreeing, the pronoun will receive strong case (alternatively “absorb” it) and the adjective will be weak:

- (12) a.    wir            netten        Studenten  
           we(STRONG) nice(WEAK) students
- b.    manche        netten        Studenten  
           some(STRONG) nice(WEAK) students

Although there is no overt reflex of a strong ending on the pronoun, the adjective is still weak (for a more general discussion of this kind of phenomenon, see section 3 below).

If the pronoun is treated as non-agreeing, it does not count as the first overt element. Consequently, the adjective will be the first relevant overt agreeing item and has its strong ending licensed:

- (13) a. wir nette Studenten  
we nice(STRONG) students
- b. manch nette Studenten  
some nice(STRONG) students

The varying judgments in the dative singular hint at the fact that speakers analyze *mir* ‘me’ differently with regard to agreeability in the masculine and feminine. While the final *-r* in *mir* does not coincide with the *-m* of masculine *dem* ‘the’, it does in the feminine with *der* ‘the’. Consequently, speakers seem to prefer the strong ending on the adjective in the masculine but the weak one in the feminine (see Bhatt 1990: 154 fn. 4 for a similar explanation for the masculine cases):

- (14) a. mir { dumme-**m** / %dummen } Esel  
me stupid(DAT.STRONG) / stupid(WEAK) donkey(M)
- b. de-**m** { \*dummem / dummen } Esel  
the(DAT.STRONG) stupid(DAT.STRONG) / stupid(WEAK) donkey(M)
- (15) a. mi-**r** { %dummer / dummen } Gans  
me stupid(DAT.STRONG) / stupid(WEAK) goose(F)

- b.    **de-r**            { \***dummer**            / **dummen** }    Gans  
           **the**(DAT.STRONG) **stupid**(DAT.STRONG) / **stupid**(WEAK) **goose**(F)

I turn to the nominative/accusative singular cases in (8), illustrating the second property of determiners.

Determiners may move to D at different times, that is, before or after the strong ending is licensed. In contrast to the cases above, singular structurally case-marked pronominal determiners are proposed to move into DP after the strong ending is licensed. I claim then that, similar to *ein*, the corresponding personal pronouns move to DP to support D in PF and value the [definite] feature on D in LF. Consequently, at the time the strong ending is licensed, as in (16b), the adjective is the first overt item and gets its strong inflection licensed. The pronoun then moves to the DP in PF, as in (16c):

- (16) a.    **ich armer            Idiot**  
           **I    poor**(STRONG) **idiot**(M)
- b.    [DP D [AgrP **armer** [artP **ich** [NP **Idiot** ]]]]
- c.    [DP **ich**<sub>i</sub>+D [AgrP **armer** [artP ~~ich~~<sub>i</sub> [NP **Idiot** ]]]]

Overt evidence for a lower position of pronouns comes from exclamations such as *lucky you* in English (and other languages).<sup>5</sup> Importantly, as singular structurally case-marked pronouns are always below the adjective when strong case is licensed, the adjective must be strong in these instances and a weak ending is not possible.

If we *were* to assume that singular structurally case-marked pronouns also preceded the adjective at the point where strong morphological inflection is licensed, then these pronouns should, in principle, also be able to get the strong inflection (alternatively, “absorb” it). If this were true, then the adjective would be predicted to be also weak, as with other pronouns, in sharp contrast to actual grammaticality judgments. I turn to the last data group (10).

If plural pronouns move to DP before the strong ending is licensed and, assuming that they can be either agreeing or non-agreeing, the lack of a weak ending with an accusative plural pronoun is surprising. As already noted by Darski (1979: 203), accusative and dative plural are the only instances where the pronouns themselves are not distinguished in their marking, as *wir* ‘we’ and *ihr* ‘you’ in the accusative and dative are invariably *uns* ‘us’ and *euch* ‘you’. The adjective with the possibility of varying inflection is the only candidate to bring about a different marking between the two cases. Concretely, the adjective in the dative plural in (10b) is marked *-en* (which is ambiguous

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<sup>5</sup> This kind of data is not uncontroversial. For instance, Moro (2003: 251) states that the pronoun is in D and the adjective in Spec,DP. However, on the assumption that multiple Specs in DP are not allowed, the possibility of two adjectives preceding a pronoun speaks against Moro’s analysis:

(ii) Poor little you!

(For another interpretation of the exclamations above, see Weerman & Evers-Vermeul 2002: 317-8).

More generally, but varying in the actual details, Cardinaletti (1994), Zwarts (1994), Panagiotidis (1998), and Rauh (2004) argue that certain pronouns are in N and undergo N-to-D raising under certain conditions. However, one can discount this possibility for reasons of parsimony, since pronouns such as *we* would have two lexical entries: one of category N, giving [<sub>DP</sub> we<sub>i</sub> [<sub>NP</sub> t<sub>i</sub> ]], and one of D, giving [<sub>DP</sub> we [<sub>NP</sub> linguists ]] (cf. also Panagiotidis 2002a: 37, Roehrs 2005a). Finally, for cases like *the real me*, I assume without discussion that the pronoun has undergone conversion to a noun.

between a strong or a weak ending) and the adjective in the accusative plural in (10a) is marked *-e* (which is strong only). Compare this to the general inflectional possibilities:

Table 2: General Adjectival Inflections in the Accusative and Dative Plural

	weak	strong
ACC	-en	<b>-e</b>
DAT	<b>-en</b>	<b>-en</b>

Note now that, given the possibility of Scrambling of objects in German, the interpretation of the objects without the presence of the adjectives would be ambiguous:

- (17) a. Sie haben uns netten Jungen euch kluge  
 they have us nice(DAT.STRONG/WEAK) boys you smart(ACC.STRONG)  
 Mädchen vorgestellt.  
 girls introduced  
 ‘They introduced to us (nice boys) you (smart girls).’
- b. Sie haben uns nette Jungen euch klugen  
 they have us nice(ACC.STRONG) boys you smart(DAT.STRONG/WEAK)  
 Mädchen vorgestellt.  
 girls introduced  
 ‘They introduced us (nice boys) to you (smart girls).’



Thus, perhaps as a reflex to avoid ambiguity in the identification of the grammatical function (e.g., direct vs. indirect object), the strong ending in the accusative was grammaticalized.

## 2.2. *Lack of Pronominal DPs in the Genitive*

A second argument for complementation can be derived from the lack of genitive pronominal DPs. Although they have a somewhat archaic flavor, pronouns in the genitive do exist by themselves:

- (18) a. Er erinnerte sich deiner.  
he remembered refl you(GEN)  
'He remembered you.'

However, unlike "regular" DPs (19a), pronominal DPs do not exist (19b). Importantly, either *Gans* 'goose' must be set off by comma intonation (abstracting away from the resulting stylistic clash) or the pronoun must have a possessive reading:

- (19) a. Er erinnerte sich der Gans  
he remembered refl the goose(GEN)  
'He remembered the goose.'

- b. Er erinnerte sich deiner Gans  
 he remembered refl you(r) goose(GEN)
1. #‘He remembered you goose.’
  2. ‘He remembered you, goose.’
  3. ‘He remembered your goose.’

This change in interpretation is surprising. Notice that there are two potential analyses for *deiner Gans* in (19b): either (i) it involves complementation of *Gans*, just as in (19a); or (ii) it involves adjunction of *Gans*, as in appositives. If we make the assumption that, similar to third person pronouns, genitive pronouns also take an obligatory null complement, then we can account for the lack of interpretation above, constructing another argument for complementation and against apposition.

Similar to (20a), the genitive pronoun takes a null complement in (20b). Since the complement position is filled, *Gans* can only be adjoined to the noun phrase (leaving the actual adjunction site open).<sup>6</sup> This is what the hypothesis of apposition claims. However, if this were correct, then we would expect the reading ‘you goose’ to be possible, similar to other cases, in general, but contrary to fact in this case. This lack of reading follows from the ban of adjunction of this sort and complementation of the relevant covert element. While this excludes *Gans* from occurring in the complement in (20b), it does not in (20c), where the possessive pronoun has no restrictions on the complement of D:

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<sup>6</sup> In fact, adjunction is typically less restricted than complementation and does not interfere with selectional relations.

- (20) a. [DP deiner [NP Ø ]]  
           you(GEN)
- b. (\*) [DP deiner [NP Ø ] [ Gans ]]  
           you(GEN)      goose
- c. [DP d+einer [NP Gans ]]  
           your           goose(GEN)

To conclude, I argued that pronouns can be analyzed as either agreeing or non-agreeing. This accounted for the weak and the strong inflection, if the pronoun is agreeing in the first but non-agreeing in the second case. The invariably strong ending on the singular nominative/accusative adjectives followed from the assumption that, similar to *ein*, these pronouns move to D after the strong ending is licensed on the first overt item, the adjective. A functional explanation accounted for the lack of the weak ending on the plural accusative adjective to avoid ambiguity with the dative plural. Finally, I provided a second argument against apposition derived from the lack of genitive pronominal DPs. At a more general level, analyzing personal pronouns as determiners, these morphological alternations are expected in the current system, making the proposal more general.<sup>7</sup> This analysis has some interesting consequences.

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<sup>7</sup> At first glance, licensing of superlatives by pronouns seems to supply another argument that pronouns are determiners:

- (i) a. mit (den) kleinen Kindern  
           with (the) small children  
       b. mit (uns) kleinen Kindern  
           with (us) small children  
       c. mit \*(den) ältesten Kindern  
           with \*(the) oldest children  
       d. mit \*(uns) ältesten Kindern  
           with us oldest children

However, other definite elements such as possessives are also able to license superlatives:

First, in part I, I proposed that the six “exceptional” instances of *ein* move in PF, rather than being (pure) merged “late” in PF. If we treat *ein* and the pronouns in the same way, then the latter option is not possible, as pronouns undoubtedly have semantic features relevant to LF. In other words, the pronoun must be present in the syntax and cannot be treated similar to *do*-support.

As a second consequence, pronouns seem to be hybrid in character: while they have the movement properties of *ein* in that they may move at different times to D, they have the morphological properties of the *der*-word *manch* ‘some’ in that they are open to different analyses with regard to agreeability when they precede the adjective.<sup>8</sup> If pronouns are (definite) determiners, why do they pattern with *ein* with regard to movement?

- 
- (ii) a. mit \*(Peters) ältesten Kindern  
with Peter’s oldest children  
b. mit \*(seinen) ältesten Kindern  
with his oldest children  
c. mit \*(Peter seinen) ältesten Kindern  
with Peter his oldest children

Under my assumptions, I could assume a (deleted) definite determiner in (iia). As for (iib-c), I have argued that the possessive pronoun consists of a possessive head and vacuous *ein*. Consequently it cannot be the determiner itself which licenses the superlative in (iib-c), but rather the definite context provided by the possessive head. This means that the pronoun does not license the superlative as some kind of definite determiner in (iib,d), but rather as a definite element in general (cf. also Roehrs 2005a: 275-6 fn. 4).

<sup>8</sup> If singular structurally case-marked *ein* can move to the DP at different times, then we might expect their corresponding pronouns to do the same, depending on whether the noun phrase is split or not. While split NPs cannot easily be formed with pronouns (footnote 3), assume for the sake of argument that, despite the presence of an adjective, the pronoun moves to the DP before the strong ending is licensed. Under this assumption, we would expect the adjective to be either strong or weak, depending on whether it is analyzed as non-agreeing or agreeing. At first sight, this seems to be possible in the nominative, as weak *Arme* can follow *ich* in (ia). However, here *Arme* must be interpreted with regard to a feminine person. In the accusative in (ib), the endings *-en* and *-e* are ambiguous between strong and weak in the masculine and feminine, respectively:

- (i) a. ich Armer / Arme  
I poor(NOM.M.STRONG) / poor(NOM.F.STRONG/WEAK)  
b. mich Armen / Arme  
me poor(ACC.M.STRONG/WEAK) / poor(ACC.F.STRONG/WEAK)

While (ib) does not allow us to draw any clear conclusions, (ia) suggests that there is some grammaticalization involved to avoid the ambiguity of the weak masculine ending *-e* with that of the feminine. Thus, while singular structurally case-marked pronouns might move to DP in overt syntax, grammaticalization prevents us from identifying an overt reflex of this movement on the adjective.

With the absence of indefinite pronouns in the non-third persons, the pronoun is the only candidate to refer to the speaker and addressee. If appeal to definiteness were the right way to account for the differing movement behavior, then, at first sight, we would expect personal pronouns to pattern with *der*-words, in contrast to the discussion above. However, *der*-words also comprise indefinite pronouns such as *manch* ‘some’, while *ein*-words also comprise definite elements such as the possessive pronoun *mein* ‘my’. In fact, analyzing *mein* as a composite consisting of the possessive head *m-* and vacuous *ein*, definiteness cannot be the right way to cut the pie with regard to movement: this *ein* is vacuous and thus has no relevance for in-/definiteness. I conclude that the matter of when a determiner moves to DP is a lexical property in German and not a matter of a natural semantic grouping.

Before I turn to more general agreement facts inside and outside the pronominal DP, I briefly discuss certain agreeing elements that have an impact on morphology although they themselves are not overtly inflected in any obvious way.

### **3. Brief Excursus on Elements without Overt Inflection**

Above, I suggested that pronouns can vary in their (potential) agreeability. This explained the general possibility of the strong or weak ending in the nominative plural (*wir* ‘we’) and the different preferences in the dative singular (*mir* ‘me’). One might object here that, without overt evidence on the pronoun, this is an *ad hoc* solution. The question then arises of whether there is evidence that these elements vary in their agreeability.

To begin, if these elements are invariable with regard to their own morphological form, then we will not find direct evidence on these elements themselves but we must look elsewhere. For instance, other variable elements co-occurring with them or the licensing of entire constructions may provide *indirect* evidence for the varying agreeability of such elements. Before I turn to two arguments for pronouns, let us consider some other elements that, although without any apparent overt inflection, may influence the inflection of other surrounding items.

The demonstrative *dieser* ‘this’ is declinable. There are two forms in the neuter, where one has an inflection (*dies-es*) and the other does not (*dies*). Crucially, however, both take a weak adjective:

- (21) a.   dieses           schöne       Kleid  
           this(NOM.STRONG) pretty(WEAK) dress(N)  
           ’this pretty dress’
- b.   dies schöne(\*s) Kleid  
           this pretty(WEAK) dress(N)

The stem ending in *-s* in (21b) is still perceived as strong and consequently the adjective is weak. Consider now a case involving a certain type of adjective.

As is well-known, genitives in German cannot involve a bare noun (22a) but must be licensed by a second element, which carries an inflection. With the exception of adjectives in the masculine/neuter genitive (see part I), these endings are taken from the abstract strong paradigm. Compare (22b) and (22c):

- (22) a. \* das Tragen Farben  
 (the) wearing of colors
- b. das Tragen {\*zwei / ??lila / ??Peters} Farben  
 (the) wearing of {two / purple / Peter's} colors
- c. das Tragen {zweier / lilaner / Peter seiner} Farben  
 (the) wearing of {two(INFL) / purple(INFL) / Peter his(INFL)} colors

This is independent of the inflection on the head noun: *\*?die Verarbeitung Holz-es* '(the) processing of wood(GEN)'. Fuhrhop (2003) notices that indeclinable adjectives formed on city names do license the genitive ((23b) is her example from p. 99):

- (23) a. (die) Potsdamer Studenten  
 the Potsdam(INDECL) students
- b. die Demonstration Potsdamer Studenten  
 the demonstration of Potsdam students
- c. der Verkauf Potsdamer Bieres  
 the sale of Potsdam beer(N.GEN)

Note that *-er* in (23c) is not a possible genitive ending for an adjective with a neuter head noun (it would be *-en*). Fuhrhop concludes that these adjectives are treated by speakers as if they were inflected. This then presents a second case where an apparently invariable element is analyzed as agreeing. Now, if pronouns can be agreeing as suggested above, then genitive constructions should be licensed in this context. However, as discussed in

section 2.2., pronominal DPs in the genitive do not exist. Consequently, we cannot extend this discussion of the restriction on genitives to pronouns. Nonetheless, there is some other evidence that pronouns vary in agreeability.

Gallmann (1996: 284, 1998) discusses the German morphological condition “double or nothing”, according to which a suffix on the head noun *Dirigent* ‘conductor’ must be licensed by adjectival agreement on a second element and vice versa (cf. part I):

- (24) a. Orchester ohne [ dies-**en** Dirigent-\*(**en**) ]  
orchestra without this(ACC) conductor
- b. Orchester ohne [ Dirigent-\*(**en**) ]

A pronoun can but does not have to co-occur with an overtly inflected noun in this case:

- (25) a. (?) mich Idiot  
me(ACC) idiot
- b. mich Idiot-**en**

This follows straightforwardly if the pronoun may vary in its morphological agreeability.

Finally, let us repeat some discussion from part II. Discussing split NPs, I demonstrated that strong inflection is not a necessary condition. Consequently, I phrased the condition on  $e_N$  in terms of L-marked positions:



(26) *Licensing of e<sub>N</sub>*

The licenser has to:

- (i) be overt (i.e., must have a phonological matrix to be filled in)
- (ii) c-command e<sub>N</sub> from an L-marked position
- (iii) agree (if possible)

This raised the question of whether there are cases where an overt strong inflection is not a sufficient condition to license a null element. Although I have not come across any straightforward cases of split NPs, unsplit pronominal DPs seem to provide a case in point. With an overt head noun, either a weak or a strong adjective is possible. However, if there is no overt head noun, then the weak adjective is strongly preferred.<sup>9</sup>

- (27) a.     wir {netten / nette}     Studenten  
          we nice(WEAK/STRONG) students
- b.     wir {Netten / \*?Nette} e<sub>N</sub>  
          we nice(WEAK/STRONG)

Earlier, I assumed that *wir* ‘we’ can be analyzed by speakers as either “agreeing” or “non-agreeing”. If agreeing, the adjective is weak, if non-agreeing, then the adjective is strong. This accounted for (27a). The difference in (27b) follows from subcondition (26iii), as a potentially agreeing element must agree (cf. the discussion of *lila* ‘purple’ in part II). Now, if *wir* must agree, then the adjective can only be weak.

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<sup>9</sup> In part II, I assumed that cases like (27b) have a different null noun from the one in split NPs.

In this excursus, I first showed that certain invariable demonstratives and adjectives are analyzed as agreeable elements. Second, I provided two pieces of indirect evidence that pronouns also vary in this respect. In the next section, I turn to more general agreement facts regarding the pronominal DP.

#### **4. Concord – the Facts**

In this section, I deal with agreement inside and outside the pronominal construction. Leaving case out (see part I), here I focus on gender, person, and number. On the face of it, concord *usually* holds for gender and number but *never* for person. These “dis-agreement” facts might suggest that the pronominal construction should not be treated on a par with other noun phrases but involve a different analysis after all. Recall, however, that I provided above two arguments against apposition (see also other work cited there). Assuming that this is on the right track, I will argue that the following cases do not involve disagreement, if we make certain assumptions, and thus do not present a counter argument against pronominal DPs involving complementation.

There is some disagreement in the literature about the location of phi-features inside the noun phrase. For instance, Zwicky (1985: 6) claims that the morpho-syntactic locus of the noun phrase is N. In contrast, Abney (1987: 283) states that determiners and pronouns are the basic sites of phi-features in the noun phrase, that is, gender, person, and number. Now, recall Wurzel’s (1984, 1989) observation from part I that case and gender in German are distinguished by inflections on determiners or adjectives, while number is typically marked on head nouns. Attempting to reconcile these differing views, I claim

that the location where phi-features are overtly marked is not identical with the location where they are lexicalized, that is, which lexical element carries this feature. In keeping with chapter 1, I suggest for German that gender is lexicalized on the noun (but realized on the determiner) and that person is both lexicalized and realized on the determiner or pronoun. Number is a non-inherent feature specified on Num. Finally, as already observed by Vater (1991: 26), adjectives are the only elements without inherent phi-features.

#### 4.1. *Gender*

In order to probe the agreement facts with regard to gender, I will distinguish between “internal” concord within the noun phrase and “external” agreement of the whole noun phrase with its referent (which, in a strict sense, is not grammatical agreement). Starting with internal concord, note that German does not distinguish gender on the pronoun of the first and second person, either in the singular or the plural. In order to treat the pronominal construction as involving internal concord, I assume that the head nouns are marked for gender but the pronouns are not (Panagiotidis 2002a: 25-9, 2002b: 193-6). I further assume that this unspecified feature of the pronoun is “valued” by the head noun in a local relation (see below) but does not receive a different phonological realization. With this in mind, we can state that concord in gender always holds within the noun phrase. I turn now to external agreement of the entire noun phrase with its referent.

Abstracting away from generating comical effects and classical exceptions such as *das Weib* ‘the-N woman’, *das Mädchen* ‘the-N girl’ and *das Kind* ‘the-N child’,

grammatical gender of the noun phrase matches an individual's biological gender, such that (28a) refers to a male person and (28b) to a female one:

- (28) a.    du       Esel  
          you(SGL) donkey(M)  
      b.    du       Gans  
          you(SGL) goose(F)

However, this is only a tendency, as revealed in the use of neuter and feminine nouns for males:

- (29) a.    du       Schwein  
          you(SGL) pig(N)  
      b.    du       Sau  
          you(SGL) sow(F)

Strictly speaking, (29) involves a case of disagreement between the gender of the noun phrase and the sex of the person. Crucially, though, this relation does not involve morpho-syntactic agreement. In conclusion, apart from non-grammatical disagreement, the pronominal construction exhibits concord in gender to the same extent as other noun phrases (for discussion of disagreement in gender in “regular” DPs in the Scandinavian languages, see Hellan 1986). I consider one final consequence of this.

Wurzel (1984, 1989) observed that gender in German is distinguished by inflections on determiners or adjectives. This is in contradiction to the discussion above, where we suggested that the head noun is specified for gender. If we make a distinction between where the feature is lexicalized and where it is realized, then we are not faced with a problem. We can suggest that overt inflection and lexical specification are “mediated” by the agreement relation between the determiner and the head noun (see below).

#### 4.2. *Person*

On the fact of it, the pronominal construction seems to differ from other noun phrases with regard to agreement in person. Both noun phrases in (30) contain a pronoun in the first person singular. However, the verb and anaphor seem to agree with the head noun in (30a) but with the pronoun in (30b):

- (30) a. Mein armer Lehrer ärgert sich.  
my poor teacher is-angry refl.3.sg  
'My poor teacher is angry.'
- b. Ich armer Lehrer ärgere mich.  
I poor teacher am-angry refl.1.sg  
'I poor teacher am angry.'

Neither the adjective nor the (invariable) head noun shows any overt reflex of concord in person. Again, I distinguish internal concord between the pronoun and the rest of the noun phrase from external agreement between the noun phrase as a whole and the verb and anaphor. With regard to internal concord, assume for the sake of argument that head nouns are third person (as in Olsen 1991b: 40 but to be revised below). If so, then both the noun phrase and the pronominal construction in (30) would present instances of disagreement in person, as the two first person pronouns disagree with an apparently third person head noun. As for external agreement, we would have to assume different agreement mechanisms that result in agreement between the head noun and the verb in (30a) and between the pronoun and the verb in (30b). Similar considerations hold for the anaphors.

In more detail, Olsen (1991b: 52) points out that there are actually two types of feature mismatch in (30a): unlike the head noun, the possessive determiner is first person, and furthermore, the possessive determiner marks possession and presumably has a different (abstract) case. To avoid this problem, she assumes two locations of AGR (Spec,DP for the possessive determiner and D for the inflectional affix). The DP then properly agrees with the verb via the head D. Olsen (1991b: 37) only very briefly comments on (30b).

In order to account for the internal and external agreement facts, I claim that it is the determiner, in general, that brings about agreement in person (Panagiotidis 2002a: 18-9). Thus, unlike with gender, the determiner is specified for person but the head noun is not. Note now that my earlier assumption that the possessive pronoun *mein* 'my' consists of a possessive head *m-* and vacuous *ein* allows us to separate the first person feature of

the possessive head from the third person feature of *ein* (for more discussion, see Roehrs 2005b). After movement of the determiner to D, I claim that the determiner has its feature for person percolate to DP:<sup>10</sup>

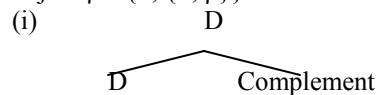
- (31) a.  $[\text{DP}^i \text{ m- } [\text{D}^i \text{ ein}^i [\text{AgrP armer Lehrer } ]]]$
- b.  $[\text{DP}^i [\text{D}^i \text{ ich}^i [\text{AgrP armer Lehrer } ]]]$

In other words, all determiners are uniform in that they have a specification for person.<sup>11</sup> This proposal has the further advantage that, if we take the DP as the element standing in an agreement relation with the verb, then the external agreement mechanisms can be unified such that the determiner and pronoun trigger agreement with the verb via percolation of their person features to DP.

Thus, like gender, person also exhibits agreement both internally and externally. This analysis has an interesting consequence. With person specified on the determiner in general, *ein*, although semantically vacuous in composites, must be morphologically and syntactically active to bring about agreement. In other words, besides the phonological role *ein* plays for the possessive head with regard to the morphology, it must have a

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<sup>10</sup> Superscripts (and subscripts) are not autonomous elements in the Minimalist Program (e.g., Chomsky 1995): they are excluded by the Inclusiveness Condition. I use these devices for illustration purposes only, in order to keep the presentation simple. For instance, rather than percolation of agreement features from D via D' to DP, one could assume the Bare Phrase Structure model (Chomsky 1994), where the head itself is projected, taking along its phi-properties. Simplifying somewhat, if an element  $\alpha$  is merged with an element  $\beta$ , a new object  $\gamma = \{\alpha, \{\alpha, \beta\}\}$  is created. This can be illustrated for the DP-level of (6b) as follows:



Assuming that the raised (pronominal) determiner values the features of D, these features will project to the top node without percolation, that is, the features of a projection are those of the head (Bobaljik & Trainsson 1998: 39).

<sup>11</sup> Alternatively, one could assume that “third person” is not a grammatical category but the default setting.

morpho-syntactic feature matrix.<sup>12</sup> Having discussed inherent features on the pronoun (person) and on the head noun (gender), I briefly turn to number.

#### 4.3. *Number*

Noun phrases, in general, and pronominal constructions, in particular, usually exhibit agreement in number:

- (32) a. {das / du} Schwein / \*Schweine  
the / you(SGL) pig / pigs
- b. {die / ihr} Schweine / \*Schwein  
the / you(PL) pigs / pig

Although number is apparently inherent on the pronoun, this does not seem to be the case for “regular” determiners (which exhibit different inflectional endings). To simplify matters, I assume here that Num is specified for number in all cases (for the discussion of disagreement in morphological number in pronominal DPs, see Roehrs to appear).

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<sup>12</sup> In order to avoid feature disagreement in person between the possessive head and the vacuous determiner, we have to assume that one of these features is not relevant to the morphology (cf. Löbel 1996 for the difference between semantic and syntactic features with regard to person).



## 5. Concord – the Analysis

I argued above that different elements in the noun phrase are specified for different features. In particular, I suggested that the head noun is specified for gender and the determiner for person (and definiteness, see chapter 2). Number and case are non-inherent: number is assumed to be specified on Num, morphological case is licensed by the Rule of Monoinflection, and abstract case is valued on D. Finally, adjectives are typically not specified for any features. These specifications can be summarized for the individual elements in their base order (top down) as follows:

(33)	Adjective	[ Person/Definiteness; Number; Gender]
	Determiner	[ +Person/Definiteness; Number; Gender]
	Number	[ Person/Definiteness; +Number; Gender]
	Noun	[ Person/Definiteness; Number; +Gender]

As already pointed out in chapter 1, although lower in the DP structure, we have arrived at the same hierarchical location of features as in Ritter (1991), Carstens (2000: 328) and Panagiotidis (2002: 29).<sup>13</sup> I turn to the technical execution of concord.

As discussed in chapters 1 and 2, there is evidence that the head noun not only partially raises in the Scandinavian languages (cf. Taraldsen 1990, 1991), but also in German and other languages (cf. Haider 1993: 30):

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<sup>13</sup> Inspired by a comment by Yoshihisa Kitagawa (p.c.), one might take the time and corresponding position of the elements in the noun phase before feature valuation as an indication of their (low) base-position.

- (34) die Wut<sub>k</sub> des Mannes<sub>i</sub> t<sub>k</sub> gegen sich<sub>i</sub>  
 the rage<sub>k</sub> of the man<sub>i</sub> t<sub>k</sub> against himself<sub>i</sub>

With a partially raised head noun (and recalling the low position of determiners), both the noun and the determiner are in a local domain with nothing intervening. Assuming long-distance agreement between the determiner in artP and the head noun in NumP, both elements value their features with regard to gender (from the noun), number (from Num) and person (from the determiner). After the determiner has its unspecified features valued, it moves to D through the head positions of AgrP, the Specifier position of which houses agreeable items such as adjectives.<sup>14</sup> These are then valued for concord.

Morphological case is licensed by the language-specific Rule of Monoinflection and abstract case is valued on D. The latter specifications are “spread” by the determiner due to its identical copies within the DP. Concord within the same lexical category is brought about by the (representational) Chain, instantiated by recursive phrases; for adjectives, this phrase is AgrP (see part I). This discussion leads to a new concept of agreement.

We saw above that gender is determined by the head noun but person is determined by the pronoun. Now, if we were to assume that agreement facts are triggered by the head of the noun phrase, then it would not be clear which of the two is the head of the DP (due to the different loci of the features). Under my assumptions, however, it is neither the head noun nor D that determines agreement. It is actually the determiner, which *moves* from artP to DP to value D. Agreement then is brought about configurationally, namely, when the determiner has moved to D in a stepwise fashion, “spreading” its features.

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<sup>14</sup> Barbiers (1992) proposes that *pro* moves from Spec,NP to Spec,DP to bring about agreement.

## 6. Conclusion

This part of chapter 4 started off with two arguments that pronominal DPs involve complementation (and not apposition). As in work by others, I reached the conclusion that pronouns are determiners. As expected, pronouns showed other properties of determiners. In order to account for the morphological alternations in the pronominal DP, I suggested that pronouns may vary in their (potential) agreeability and may move to D at different times. As such, the proposal from part I was made more general.

Moreover, I discussed concord facts, involving phi-features. I suggested that determiners in general are specified for person and head nouns for gender. Making a distinction between where these features are lexicalized and where they are realized accounts for certain positional mismatches (i.e., determiners show gender). Then, I discussed number agreement. Finally, I argued that concord is brought about configurationally where copies of the moved determiner “spread” their features.

## Chapter 5: Conclusion

The main proposal of this dissertation is that determiners (i.e., demonstratives, definite and indefinite articles) are parallel to auxiliaries in the clause (rather than to English modals). Extending the parallelism from lexical correspondences to syntactic operations, nominal auxiliaries were argued to be base-generated above the theta domain (artP) and to subsequently move to a higher position in the extended projection of the noun (DP). Throughout this work, I employed and argued for the following structure of the DP, here illustrating the successive movement of the determiner across adjectives (in Spec,AgrP) and numerals/quantifiers (in Spec,CardP):



I provided three main arguments for this structure and for this movement. In chapter 2, I discussed the syntactic distribution of the definite article in the Scandinavian languages from a diachronic and synchronic point of view. Chapter 3 dealt with the semantic distribution of the determiner in order to derive the non-/restrictive readings of modifiers in the Scandinavian languages. In chapter 4, I considered some morphological consequences of this proposal for German, in particular, the explanation of the weak/strong alternation of adjective endings. Besides giving evidence for (1), these apparently unrelated linguistic phenomena find a uniform account. I will briefly summarize the main results of each chapter.

Chapter 2 provided a formal account of the rise of the suffixal article in the Early Scandinavian DP. The assumption that determiners are base-generated in a lower phrase and then move to DP (overtly or covertly) offered a straightforward account for the Panchronic Paradox involving the different positions of historically related determiners in Modern Icelandic. After some cross-linguistic discussion, I turned to the explanation of the Scandinavian DP. Interpreting adjectives as interveners for long-distance agreement between artP and DP, I proposed that determiners have to move to DP to value null D. The differences between the individual languages were proposed to follow from the different times determiners move and whether or not some semantic components of the determiner can be split off.

Chapter 3 proposed that determiners are scope-bearing elements. In general terms, it was suggested that, when modifiers are in their scope, they are restrictive in interpretation and when not, they are non-restrictive. Specifically, assuming movement of the determiner from artP to DP, the restrictive interpretation was accounted for by interpreting the determiner in its derived position and the non-restrictive one by interpreting the determiner in its base-position. This account provided a straightforward solution to the “Partee-Chomsky debate”. Making a distinction between syntactic and parenthetical appositives, I argued that non-restrictive modifiers are propositions that are associated with their hosting proposition by conjunction, in a model of multiple semantic spell-out.

Chapter 4 was comprised of three parts. Part I interpreted the Principle of Monoinflection as a language specific rule, according to which the strong morphological inflection is

licensed on the first overt element at the point in the derivation where the DP phase is merged into the clausal one. The weak ending was taken to be a default option in PF. In order to account for apparent exceptions, I proposed that singular structurally case-marked elements are special: the indefinite determiner *ein* moves from artP to DP in PF. As a result, the number of relevant inflectional paradigms was reduced from four to two (abstract ones). Other apparent exceptions were argued to follow from the distinction between external agreement (Rule of Monoinflection) and internal concord.

Part II illustrated three basic kinds of *ein*. Deriving the numeral from the indefinite determiner accounted for their similarities and assuming different positions for the determiner, the numeral, and the adjective explained their differences. Furthermore, highlighting the paradoxical data of split-NPs, I provided a hybrid proposal which involved both the base-generation of two noun phrases in a complex VP, brought about by sideward movement of the verb, and movement of the split-off to the left. Semantic identification and syntactic licensing of a proposed null noun in the source constrained the relevant derivations. The strong/weak alternation of *ein* in unsplit and split noun phrases was accounted for by movement from a lower position, occurring at different times under different conditions.

Part III extended the discussion to pronominal determiners. I argued that they are similar to “regular” determiners in that they take a complement, move from artP to DP at different times, and vary in their ability to agree. Finally, making a distinction between where phi-features are lexically specified and phonologically realized, I argued that concord is brought about configurationally, such that different features on different elements are valued and “spread” by successive movement of the determiner to DP.

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# CURRICULUM VITAE

Dorian Roehrs

## Education

- 2006            Ph.D., Germanic Studies and Linguistics (Indiana University)
- 1999            M.A., German (University of Connecticut)
- 1997            *Zusatzstudium 'Deutsch als Fremd- oder Zweitsprache'*, post-  
undergraduate additional course of study in German as a Foreign or  
Second Language (Universität Potsdam)
- 1996            *I. Staatsexam*, First state-certified exam in English, Physical Education,  
Pedagogy/Psychology (Universität Potsdam)

## Employment

- 2002 – 2003    Visiting Scholar in the Department of Linguistics at the University of  
Connecticut  
Special Payroll Lecturer of German in the Department of Modern and  
Classical Languages at the University of Connecticut

## Publications

### 1. Edited Books

Roehrs, Dorian, Ock-Hwan Kim & Yoshihisa Kitagawa (eds.). (2005). *Syntax and Beyond. Indiana University Working Papers in Linguistics 5*. Bloomington: IULC Publications.

### 2. Articles

Roehrs, Dorian & Rex A. Sprouse. (in preparation). 'The three genitival declensions of proper names in Modern Standard German: Some morphosyntactic nuts.' To be submitted to *Journal of Germanic Linguistics*.

Roehrs, Dorian. (under review). 'Split-NPs as an Instance of Sideward Movement.' *University of Pennsylvania Working Papers in Linguistics* 13 (1).

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Roehrs, Dorian. (2002). 'The Boundary between Morphology and Syntax: Determiners Move Into the Determiner Phrase.' *IULC Working Papers Online 2*: 1-46.

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### **3. Book Reviews**

Roehrs, Dorian. (2003). 'Review of Giorgio Graffi's (2001) "200 Years of Syntax. A critical survey"'. *Studies in the History of the Language Sciences* 98. Amsterdam/Philadelphia: John Benjamins.' *Interdisciplinary Journal of Germanic Linguistics and Semiotic Analysis* 8 (1): 131-139.

### **Academic Grants and Honors**

- 2004 – 2005 *Salaroglio Modern Foreign Language Scholarship & Russell A. Havens Scholarship in Foreign Languages* (College of Arts and Sciences, Indiana University)
- 2003 – 2004 *Oskar Seidlin Fellowship* (Department of Germanic Studies, Indiana University)
- 2002 *E. O. Wooley Award* for excellence in research and teaching (Department of Germanic Studies, Indiana University)