

Adjectives and the Syntax of German(ic) DPs

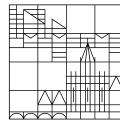
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Abbreviations

A	Adjective
Abs	Absolutive
Act	Active
Adv	Adverb
Aor	Aorist
Asp	Aspect
CA	Close Apposition
Cl	Classifier
DM	Distributed Morphology
Def	Definite
Dim	Diminutive
Du	Dual
EarlNHG	Early New High German
Erg	Ergative
IE	Indo-European
Inf	Infinitive
Ind	Indicative
Indef	Indefinite
Infl	Inflection
HC	Human Construction
LA	Loose Apposition
Med	Medium
Noninfl	Not inflected
NPE	NP ellipsis
MHG	Middle High German
MStG	Modern Standard German
N	Noun
NHG	New High German
OHG	Old High German
Pl	Plural
Pos	Positive

Prs	Present
PRT	Particle
SC	Small Clause
Sg	Singular
StG	Standard German
Str	Strong
Subj	Subject
V	Verb
wk	Weak

1 Introduction

The thesis deals with the familiar problem of Germanic adjectival inflection with its two manifestations (strong and weak). The main issue addressed in the literature is the (syntactic) modeling of the two paradigms (cf. GALLMANN 1996; LEU 2008; OLSEN 1991; ROEHRS 2006). In addition to this well-known fact, an investigation of dialectal data revealed that uninflected attributive adjectives are equally accepted and are in free variation to the inflected forms. This observation adds a challenge to the already existing problem and is thus focused on in this work. I suggest a new analysis of the internal structure of the DP whereby diachronic data are also considered.

Roughly, the picture is as follows: In Indo-European, adjectives as a distinct category did not exist. Adjectives could not be distinguished from nouns on a semantic or morpho-syntactic basis. As a consequence, the means for nominal modification was close apposition. A change in the inflectional behavior of certain nouns triggered a change in the syntax and allowed attributive modification. Adjectival inflection therefore served the particular function of making nouns and adjectives morphologically distinct. I suggest that adjectives are in the specifier of a Mod(ifier)P(hrase) within the functional projection of the DP and that the head of this phrase hosts the relevant inflection.


When adjectives were an established category and clearly distinguished from nouns, the original function of adjectival inflection no longer applied. With the introduction of a full article system, adjectival inflection became superfluous, because the necessary feature marking of number and case was now realized on the articles. This development allows attributive adjectives to appear in free variation to their inflected forms.


The proposal is couched in the framework given by BORER (2005). Her model is well suited to handle the observed variation, because it allows a certain flexibility. BORER assumes lexical elements to be uncategorized roots, which are categorized by the functional projections they are embedded under. A count reading of nouns in this framework is made available in the syntax through the projection of a Classifier Phrase (CIP). I extend and modify BORER'S original analysis of the DP by introducing a Mod(ifier)P(hrase) above CIP. This ModP will be shown to entail the projection of the CIP, because a mass reading of typical count nouns is not available when ModP is projected - a fact that allows the integration of uninflected as well as inflected adjectives in the suggested structure.

Background

German has got two adjectival paradigms (see Table 1) and the syntactic modelling of their distribution has received quite a lot of attention in linguistic research as noted above. The basic observation is that in StG attributive adjectives always inflect and the type of inflection (weak or strong) depends on the inflection of the preceding article. When the article inflects for phi-features and case, the adjective bears the weak paradigm. When there is no article preceding or when the article does not inflect for phi-features and case, the adjective bears strong inflection. This distribution is often called *morpho-syntactic distribution* and is illustrated in Table 1 below. The labels *weak* and *strong* for the two paradigms were introduced by GRIMM (1822) and I will also use these traditional terms in this work, but I will refer to the strong paradigm with the more precise term *pronominal* when necessary. The strong paradigm marks phi-features and case whereas the weak paradigm does not show distinct feature specifications and is realized as *-e* or *-en*.

The Distribution of Adjectival Inflection in German			
Strong Paradigm		Weak Paradigm	
Article-∅	Adjective-φ	Article-φ	Adjective-WK
∅	Adjective-φ		





<i>ein-∅ klein-er</i> <i>Hund</i> a small-NOM.MASC.SG. dog	<i>d-er</i> <i>klein-e Hund</i> the-NOM.MASC.SG. small-WK dog
<i>∅ gut-er</i> <i>Wein ist teuer</i> <i>∅</i> good-NOM.MASC.SG. wine is expensive	<i>Anna spielt mit ein-em klein-en</i> Anna plays with a-DAT.MASC.SG. small-WK <i>Hund</i> dog

Table 1: The morpho-syntactic distribution of the two inflectional paradigms in German

The German variety focused on in the works mentioned above is mostly StG whereas in this thesis I concentrate on dialectal data, because, as BIRLINGER (1868, 158) notes:

“Ein Hauptkennzeichen unserer Alemannen ist der Gebrauch des flexionslosen attributiven Adjektivs.“

A key feature of our Alemanns is the use of the uninflected attributive adjective.

Adjectival inflection can be dropped in almost all contexts as an empirical study across the Alemannic area reveals. This is illustrated in (1) and (2) below.

- (1) *ein gut-*(es) Buch* (Standard German)
(2) *a guat-(s) Buach* (Alemannic (Swabian))
a good book

Regarding this observation, a number of questions arise that are focused on in this work:

- 1) Why do adjectives not always inflect?
 - a. What is the function of adjectival inflection in the diachronic development as well as in current varieties of German?
- 2) Are uninflected adjectives a remnant of an earlier stage of German?
 - a. Is the phenomenon purely dialectal?
- 3) Why do adjectives inflect obligatorily in Standard German?
- 4) Do uninflected adjectives follow a particular distribution?
- 5) What do the answers to the questions above tell us about the structure of the (German) DP?

By answering the questions above, it appears that the situation as we find it in current German dialects with all their variation can only be understood when considering the diachronic development of the adjective and its inflection in some detail. In the following, I give a brief general overview and a summary of the individual chapters of this thesis.

General overview

The thesis can be divided into three main parts: chapter 2 and 3 deal with the diachronic development of adjectives and their inflection, chapter 4 introduces the empirical study and its results whereas chapter 5 provides a syntactic model of the German DP based on the findings from both the diachronic development as well as the empirical part. Chapter 6 concludes the dissertation. In the following, I will briefly summarize the content of all chapters.

Chapter 2: From apposition to attribution

When looking at the diachronic development of adjectival inflection in German there is one statement that I came across rather frequently:

The weak adjectival inflection is a novelty of Germanic.

It was this particular statement that brought me to investigate what the situation had been before the weak paradigm appeared. The first idea one gets is that before the Germanic period adjectives must all have shown strong inflection no matter the context. However, when going through the literature dealing with lexical categories in Indo-European this idea turned out to be misguided. It is a common assumption of many scholars, though by no means all, that adjectives were not a clearly distinguished category of their own in IE but that they could not be distinguished from nouns on morpho-syntactic or on semantic grounds (e.g. ADRADOS et al. 2016; GAMKRELIDZE & IVANOV 1995; VITI 2015; WERNER 1984). It is agreed upon that adjectives were morphologically identical to nouns and followed the nominal declension and that a 'special' adjectival inflection did not exist at the time.

In the second chapter, I investigate the syntactic consequences of this assumption. As noted in the literature cited above, originally all nominals (including the group sometimes referred to as adjectival) shared the same stem formation and the same declension system and there was neither a formal nor a semantic distinction of the two categories. Since all Germanic languages have adjectives as part of their inventory of lexical items, the question is how this category came into being and what the syntactic consequences for nominal modification are.

I assume that the strategy for nominal modification in IE, which is assumed to be a non-configurational language, was most likely close apposition (CA), because in CA:

- both NPs are needed to uniquely identify a referent,
- the ordering of the two nominals is free,
- the contributing elements are always nouns.

If this assumption is correct, the development of nominal modification must be from indirect modification in CA to direct modification with attributive adjectives. Such a development requires the nominals that will later form the group of adjectives to be deprived of their nominal characteristics. The reason for this requirement lies in the fact that

- nominals are often assumed to not directly modify other nouns (unless appearing as part of a compound),
- nouns but not adjectives can appear in argument position,
- nouns but not adjectives can be referential.

Another reason for the above assumption is that adjectives are at some point a lexical class of their own, which means they are not a derived category.

Consequently, the language learner needs a clue that provides the relevant information to treat a particular (semantic) group of nouns different from others. This clue can be found in the morphological properties of those nouns that are at some point identified as adjectives:

- their stem suffixes are reduced and at some point lost,
- the nominal inflection is gradually replaced by the pronominal (=strong) one.

From a syntactic point of view, an adjective is a nominal that does not refer and which can inflect pronominally. The combination of these two properties allows these elements to be merged as attributive modifiers in a DP. An adjective, in this view, is a noun that lost its ability to appear as an argument and thus lacks the DP layer. This alone does not make it an adjective, yet, but in addition it also undergoes the described morphological changes.

In Germanic, adjectival inflection undergoes another important development. The weak inflection is introduced on adjectives. The impact of this second paradigm on nominal modification and the distribution of the two competing paradigms is the topic of chapter 3.

Chapter 3: From Germanic to EarlyNHG - the development of German adjectival inflection

This chapter deals with the further development of adjectival inflection when the weak adjectival paradigm is introduced. In the first part of the chapter, I mainly deal with the (syntactic) consequences of the emergence of the weak adjectival inflection. The reasons for a second adjectival paradigm to appear remain unclear up to this day and I will not touch this topic. I focus on the question of whether the n-ending was a derivational or an inflectional element and I also discuss the assumption of the weak inflection to have marked definiteness. The weak adjectival inflection as a second paradigm competes with the already existing strong inflection for the same position which results in complementary distribution of the two elements. This distribution is based on definiteness and the weak inflection only appears in definite contexts whereas the strong inflection is gradually reduced to indefinite contexts. This is called *semantic distribution*. The question that is often discussed in the literature in connection with this particular distribution is the status of the weak inflection as a marker for definiteness. In this chapter I discuss two theories: The nominalization approach as put forth in OSTHOFF (1876) and the inflection-approach as proposed in RATKUS (2011). In OSTHOFF'S widely accepted theory it is assumed that the weak ending used to nominalize the adjective. OSTHOFF rejects the view that the ending marked definiteness but he assumes that the n-suffix, due to its ability to individuate, mainly occurred in definite contexts. In addition, the

weak nominalized suffix as an attributive modifier could often be found in close apposition to a proper noun and thus in definite contexts. In the further development, this particular construction is assumed to have led to a ‘re-interpretation’ of the nominalized adjective as an attributive modifier and thus as an adjective.

This view is challenged in RATKUS, who claims that the suffix has always been inflectional and has its source in the n-stem nouns of the Germanic period. RATKUS argues that the inflection did mark definiteness but had to be ‘supported’ at some stage by an article due to the increasing syncretism the paradigm is subject to.

Based on the fact that the weak adjective is restricted to appearing in the so called human construction as in (3), I argue that the first part of OSTHOFF’S analysis is probably on the right track.

(3) The rich aren’t any better than the poor.

The weak inflection is nominal but it only combines with the adjective because the construction is elliptical. The adjective itself is not nominalized but the inflection is needed to license ellipsis.

The second part of the chapter deals with the distribution of the two inflectional paradigms, which was based on definiteness, as mentioned above. This distribution changes in the diachronic development. In MHG, it is no longer based on definiteness but it depends on the inflection of the preceding article - an element that did not exist in the Germanic period. This immediately suggests a connection of the marking of (in)definiteness with articles and the re-distribution of the two paradigms. I argue, that only the indefinite but not the definite article had an impact on the re-distribution of the two paradigms. The reason is that in OHG the definite article was already frequently used but the distribution of the two adjectival paradigms was still based on definiteness. Only when the indefinite article was established to some extent, the distribution changed. A possible reason, I argue, is the avoiding of double marking of phi-features and case that occurs when an indefinite article is merged and the strong ending is restricted to indefinite contexts.

(4) *mit éin-emo* *rôt-emo* *tûoche* (Martianus Capella, 56, 15)
with a-DAT.NEUT.SG. red-DAT.NEUT.SG. cloth

Parallel to this re-distribution a second development takes place. From MHG onwards uninflected adjectives can be observed. I also connect this development to the presence of a

fully established article system as all relevant features can now be marked on a functional element in the left-most position in the DP. This development and the fact that the adjective is a fully established category make adjectival inflection a superfluous suffix that can be dropped.

It may still be the case that uninflected adjectives follow a particular distribution. In an empirical study, which is the topic of chapter 4, we investigated the distribution of uninflected adjectives as well as the reasons for StG to differ from the dialects in this respect.

Chapter 4: Adjectival inflection in Alemannic and Standard German

The fourth chapter deals with uninflected adjectives in Alemannic. One of the aims of this chapter is to identify possible factors that might trigger or prohibit their occurrence. Based on morpho-syntactic restrictions that can be observed in Early New High German I tested the factors definiteness, number, case and gender. In addition, I also investigated a possible areal distribution.

In order to test these factors a questionnaire study was undertaken, which was part of the SynALM project. Participants rated sentences with uninflected attributive adjectives on a scale from 1 (natural) to 5 (not possible). The results show, that none of the factors we tested had an impact on uninflected adjectives. This means that none of the factors clearly triggered or prohibited uninflected attributive adjectives and no morpho-syntactic distribution could be identified. We could also not detect a particular areal distribution and in addition, the acceptance of uninflected adjectives is not only restricted to Alemannic but can also be observed in the Palatinate and Franconian area that were part of the study.

In the second part of the chapter, I therefore deal with the question whether uninflected adjectives might be 1) a remnant of Early New High German and 2) might be restricted to Alemannic or dialects in general. The first question can be answered with no, as the results of the study show that the contexts in which uninflected adjectives can occur have spread since EarlNHG. The second question deals with the fact that we only find uninflected adjectives in dialects but not in StG. Since uninflected adjectives are not a peculiarity of Alemannic but can be found in different southern as well as northern dialects (cf. SCHIRMUNSKI 1962) I conclude that it is a general phenomenon of all varieties. StG seems to be the exception. However, when tracing the development of StG and the process of standardization that shaped this variety, it is evident that uninflected adjectives were acknowledged to be part of the grammar. They were eliminated as part of a general attempt to reduce variation. The conclusion

regarding StG therefore is, that the absence of uninflected adjectives is due to normative grammar but that the underlying structure allows them like in any other non-standard variety. There are a number of syntactic theories that model the distribution of the two adjectival paradigms but they do not include the uninflected adjectives in their theories (LEU (2008) being an exception). We therefore need a structure that allows an adjective to inflect but that does not require this inflection to be overt as part of an uninterrupted agreement-chain. This is the topic of Chapter 5.

Chapter 5: The structure of German DPs

Chapter 5 aims at developing a structure for the German DP. The suggested structure is based on BORER (2005), following her in the assumptions that

- all nouns are interpreted as mass by default,
- DP is universally present,
- mass-division is structurally represented in all languages by a CIP above NP,
- quantification is realized by #P above CIP,
- both #P and CIP can be absent from the structure either resulting in a non-quantity or a mass interpretation.

The first point in the list above is based on BORER'S assumption of nouns (and verbs) to be uncategorized roots. Roots are categorized by the functional structure they are embedded under or a derivational suffix they combine with. A count reading of nouns in this theory is only available when a Classifier Phrase (CIP) is projected which is either headed by number morphology or by an article when number morphology is absent. Despite the aspects I adopt from BORER, I also depart from her analysis in some points. I depart from BORER in assuming that

- the indefinite article is not always based in CIP in the absence of number morphology,
- the DP is split into DP and artP,
- the (strong) definite article is composed and realizes DP and AgrDP,
- a split CIP-approach is needed,
- the projection of ModP entails the projection of CIP.

The first assumption acknowledges the fact that German nouns can inflect in singular. In these cases, CIP is occupied by a morphological element and the indefinite article must merge higher in the structure. The same holds for the definite article.

The second point of DP to be split into DP and artP, is based on the fact that German has got two different definite articles, a strong and a weak one. The weak article is restricted in its referentiality and the referent must be uniquely identifiable. This article I assume to be in artP. Such a restriction does not hold for the strong definite article and therefore the strong article is in DP. A second important observation regarding the strong article is that it is composed. This compositionality is captured in the third assumption, which essentially follows WILTSCHKO (1998). The strong article consists of a *d*-part, heading DP and an inflectional part, heading AgrDP. This inflectional element is the same strong ending that can also be found on indefinite pronouns, on adjectives and in isolation, it functions as personal pronoun. The latter point explains why AgrDP alone cannot appear together with an NP. This also explains why the adjective always bears the strong inflection in the absence of an article. It must move to AgrDP because number (and oblique case) must be marked but the inflection must combine with a functional element or an adjective.

I also depart from BORER in following approaches that assume mass-division not to be a binary opposition but to be more fine grained. Following insights from GRIMM (2012) and HACHEM (2015), I argue for a split CIP. This split CIP is of importance when it comes to accommodating uninflected adjectives in the structure. Adjectives in StG normally inflect for phi-features and case. Assuming the articles to be based above ModP and assuming that some element must head the CIP in order to make a count reading available, adjectives seem to be problematic. When there is no number morphology on the noun, an article is assumed to be merged in CIP that then moves to DP. When ModP is projected this article would have to go through Mod^o but this position can be headed by adjectival morphology. Since no element can be in CIP it is not clear where the count reading comes from.

[DP [D ein [ModP [AP klein][Mod er[CIP[Cl [NP [N Hund]]]]]]]]]

I argue, that ModP entails the projection of CIP and therefore it can be empty. This assumption is based on the observation that the examples BORER provides to show that all nouns can receive a mass-interpretation do not work when they are modified by an adjective:

- (5) a. There is dog on the floor.
 b. ??There is big/old/cute dog on the floor.

ModP therefore entails the projection of CIP and it has no influence on the count reading whether adjectival inflection is realized or not. The only exception, as will become evident, are color adjectives. Color adjectives, I argue, are roots because they are the only semantic

class of adjectives that can be nominalized productively. For this reason, a sentence like the one in (6) is possible.

(6) There is black dog on the floor.

After this general proposal regarding the structure of the German DP, I present some more data that were not included in chapter 4. Data on uninflected adjectives with nominal ellipsis, in coordination and compared adjectives will be given a brief analysis in the rest of the chapter.

Chapter 6: Conclusion

The last chapter concludes the dissertation.

2 From Apposition to Attribution

2.1 Introduction

Discussing adjectives and adjectival inflection always involves the - somewhat trivial - assumption that a distinct category of adjectives exists in the languages under consideration. This is certainly not to be disputed for any of the present day Germanic languages. It is a well known fact, though, that there are languages in the world that do not seem to have a distinct category adjective or in which the class of nominals is collapsed with that of adjectives (BHAT 2000; DIXON 1982; RIJKHOFF 2000). Since adjectives are often characterised by their ability to directly modify nouns, these languages must consequently use other means for nominal modification than attribution. This is illustrated with examples from Sanskrit and Manipuri in BHAT (2000) as these languages lack the class of adjectives. In Sanskrit, nouns and adjectives are collapsed and nominal modification is achieved by juxtaposing two nouns. Manipuri is said to only distinguish nouns and verbs. In this language, verbal participles are used in all contexts in which other languages would use adjectives. The examples (7) to (9) reproduced from BHAT (2000, 50f) illustrate the two strategies. Example (10) from German serves as an example for a language with a clearly distinguished category adjective.

- (7) *mRttikam ghatam apaśyat* (Sanskrit)
mud.NEUT.SG.ACC pot.NEUT.SG.ACC saw.3SG
'(He) saw an earthen pot.'
- (8) *cəy ə-saŋ-bə* (Manipuri)
stick PREFIX-long-PRT
'a long stick'
- (9) *cəy saŋ-ŋəm-bə* (Manipuri)
stick long-PERF-PRT
'a stick which had been long'
- (10) *Er hat ein-en lang-en Stock gesehen.* (German)
he has a-MASC.ACC.SG. long-WK stick seen
'He has seen a long stick.'

The above observations are of relevance regarding the diachronic development of adjectives and their inflection in Germanic as there are reasons to assume that in Indo-European (IE)

noun and adjective were not clearly distinguished categories either (e.g. ADRADOS et al. 2016; VITI 2015). ADRADOS et al. (2016, 24) note that

“(…) nouns and adjectives in Indo-European were formally identical and only context differentiated them.”

Pursuing this idea has certain consequences regarding the diachronic development of nominal modification in general and for the development of the adjectival category and the status of its inflection in particular. VITI (2015) assumes that IE might have used apposition rather than attribution as a means of nominal modification similar to Sanskrit. Following this assumption implies that the syntax must have underwent changes affecting the categorial status of a group of nominals in a way that at some point they can no longer be classified as nouns but must be categorized as adjectives.

For the discussion in this chapter it is thus of importance to understand what is meant exactly when talking about adjectives and nouns. There are certain characteristics that are generally listed in the literature (see e.g. BHAT 2000) and which I will mainly follow. Among them are the following (a more detailed discussion of the characteristic properties of nouns and adjectives is given in section 2.3):

Adjectives...

- ...denote a single property.
- ...depend upon a head noun (or the presence of a copula) and do not show gender-number distinctions.
- ...do not refer.

The core characteristic of nouns - which also distinguishes them from adjectives - lies in their ability to refer¹ and to appear in argument position. Adjectives essentially lack this property as the following examples illustrate.

(11) *I met a smart

(12) I met a (smart) woman

It should be noted at this point that this chapter does not aim at providing new insights w.r.t. IE or its reconstruction. The goal is to take the assumption of IE as belonging to the group of

¹ Nouns are not always referential, of course, but unlike adjectives, they **can** refer when appearing in argument position. Nouns in predicative position are not referential. The two examples below illustrate this opposition. In a. the noun is referential but in b. it is not.

- (1) a. The teacher left the classroom.
b. My neighbor is a teacher.

The issue of the referentiality of nouns is also related to the assumption of a universally present DP-layer (LONGBARDI 1994) because it is assumed that bare nouns (NPs) are predicates but only DPs can be arguments.

languages lacking a distinct class of adjectives serious and think the (syntactic) consequences of this assumption through. This diachronic perspective will help to get a better understanding of the category adjective in general, but also of language specific properties like e.g. the peculiarities of German adjectival inflection in particular.

2.2 Indo-European - a language without adjectives?

As already mentioned in the introduction, there seem to be reasons to assume that IE might not have distinguished adjectives as a separate lexical class. This idea is not new and is e.g. pursued quite recently in ADRADOS et al. (2016, 43) and VITI (2015) but is also mentioned in TÖRNQVIST (1974) or OSTHOFF (1876, 36). TÖRNQVIST (1974, 324) for example notes:

„Es ist gewiss kein Zufall, dass die klassischen Grammatiker (...) das Adjektiv nicht als einen selbständigen Redeteil, sondern nur als eine besondere Gebrauchsweise des Nomens betrachteten.“

It is surely no coincidence, that the classical grammarians (...) did not view the adjective as an independent part of speech but only as a special usage of the noun.

The interesting aspect following this observation is the fact that the Germanic languages, which have developed from IE, all have a clearly distinct class of adjectives in their inventory of lexical elements.

The common assumption in the above quoted literature is, that there was no clear cut formal or semantic distinction between nouns and adjectives and therefore nominal modification must have been appositive rather than attributive. It is important, that the term appositive here must not be confused with the distinction of appositive (non-restrictive) and restrictive adjectives as this is a different notion. Appositive adjectives are not part of the extended projection of the noun they modify but they are an instance of indirect modification. In German, appositive adjectives follow the noun they modify and they never inflect. This suggests that they are best analysed as a reduced relative clause but not as an attributive adjective.

(13) a. *Der Wind, kühl und erfrischend, blies die ganze Nacht.*

The wind, cool and refreshing, blew all night.

b. *Die Äpfel, rot und glänzend, sahen lecker aus.*

The apples, red and shiny, looked delicious.

When I speak of appositive modification or apposition, I am therefore **not** talking about non-restrictive adjectives but about indirect modification of the type in (15) below.

If it was indeed the case that modification was appositive, the adjectival class that is at some stage clearly distinguished from nouns must have developed out of the group of nominals, hence a referring category. A structure like in (14) with an attributive adjective directly modifying a noun could therefore not have existed in the same way in IE. Nouns were modified by other nominals and the structure was probably closer to the appositive one in (15). It is of course questionable whether apposition in IE really worked the same way as it does for example in English or German today, but this issue will be addressed in more detail in section 2.6.3.

(14) The famous painter

(15) van Gogh the painter (not the critic) (example adapted from KOLLIAKOU (2004, 275))

Besides the consequences for nominal modification, the above assumption necessarily requires some fundamental changes regarding a particular subgroup of nominals, which had an impact on their categorial status. On the one hand, they lose their nominal properties and on the other hand, they must acquire the typical characteristics of adjectives. The identification of the core characteristic of nouns and adjectives is thus essential in order to make any assumptions regarding these changes.

2.3 Nouns and what makes them distinct from Adjectives

In order to identify the syntactic change that might have taken place in the development of adjectives in IE, identifying the core properties of the two lexical categories - noun and adjective - is essential to make any predictions on that matter. It will become evident throughout this section that a (formal) characterisation seems to be somewhat easier for nouns than it is for adjectives. I will therefore start with briefly highlighting the essential properties of nouns and in the second part of the section, I will compare three attempts of giving a formal description of the core properties of adjectives.

As has been noted in the introduction, the main characteristic of nouns is their ability to refer (BAKER 2003), a property adjectives essentially lack. In example (16) an adjective is placed in argument position in sentence a. The fact that adjectives cannot refer and that argument positions require a referential category leads to the ungrammaticality of the sentence. The

example in sentence b. with an elliptic construction is only possible when the referent is recoverable from the context. The sentences in c. are perfectly grammatical as the argument positions are filled with nominals. The sentences in (17) are both grammatical. Both nouns and adjectives can appear in predicative position. In this case, the noun does not refer. Placing a verb in argument position also leads to ungrammaticality as illustrated in example (18) in sentence a. and b.

- (16) a. *There is a nice over there.
b. #There is a nice one over there. (Possible when the referent has been introduced previously or if the antecedent is recoverable through pragmatic means)
c. There is a (green) car over there.
My neighbour bought a green car.
- (17) a. My neighbour is tall.
b. My neighbour is a teacher.
- (18) a. *There is a hear in the house.
b. *The teach helps my friend.
c. There is a noise in the house.
d. The teacher helps my friend.

The above examples illustrate that nouns do not always refer but they seem to be the only lexical category that has the ability to do so. There may be a lot more said on nouns and their properties but for the discussion in this chapter this property is the essential one that will be taken to distinguish nouns from verbs and adjectives.

In light of the above description of nouns, it is evident that losing the ability to refer and consequently also the ability to appear in argument position, is essential for nominals in order to change their categorial status permanently. Lacking this typical nominal property results in a ban from appearing in argument position but it allows this group of lexical elements to appear in a position in which they are otherwise ungrammatical (19), namely, in a direct modification relation with other nominals (20).

- (19) *The beauty horse
(20) The beautiful horse

One part of the development from noun to adjective is thus to ‘lose’ the core characteristics of nominals but another part is to acquire the characteristics of adjectives. In the following I will therefore try and define the main properties of adjectives.

2.3.1 The categorial properties of adjectives - three different approaches

Looking for ways to (formally) describe adjectives, the definitions vary to quite an extent in the literature. Following CHOMSKY (1970) the main lexical categories are often described with two binary features, namely [N] and [V]:

nouns	adjectives	verbs
+N -V	+N +V	+V -N

The above description of nouns, verbs and adjectives reflects that adjectives have both nominal and verbal properties. This observation might fit the idea of adjectives having developed from nominals, but other than that such a feature based approach does not provide the relevant insights for the present discussion.

BAKER (2003) uses the very same features to illustrate that, according to his analysis, adjectives are not characterised by a particular property, but that they are [-N -V]. In other words, in BAKER’S analysis adjectives are underspecified lexical elements. They are “neither nouns nor verbs” and are characterised by what they are **not** rather than by what they are. They do not bear a referential index and hence cannot appear in argument position. Consequently, BAKER argues, adjectives appear in positions in which the other elements cannot appear due to their specific properties. He uses the three structures given below to illustrate this point (BAKER 2003, 195).

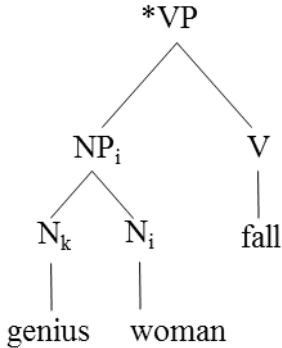


Figure 1: N as modifier

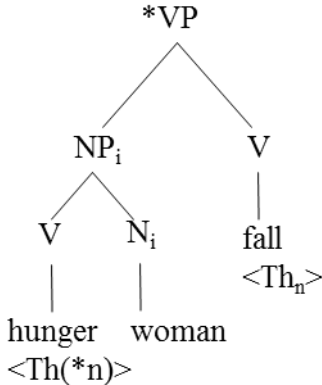


Figure 2: V as modifier

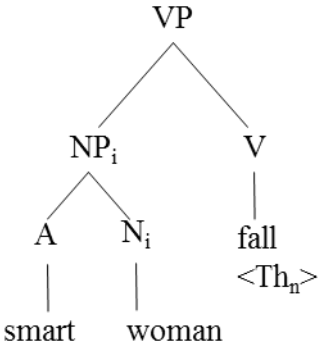


Figure 3: A as modifier

The example in Figure 1 is ungrammatical because in BAKER'S theory nouns are 'inherently argumental' and bear a referential index. As can be seen in the structure, the referential index of the two nouns is different and the NP would consequently have to refer to two different referents at the same time, which leads to the observed ungrammaticality. This argument works in BAKER'S framework but it cannot rule out an appositive relation between the two nominals in which they would indeed bear the same referential index. In this case the structure should be grammatical. In example (21) both the DP containing the proper noun as well as the DP *the painter* refer to the same person and must bear the same referential index.

(21) I will talk about [NP_k [N_k van Gogh] [N_k the painter]], not the critic.

In addition, the reasoning relies on the assumption that all nouns always bear a referential index (even when they occur in predicative position) and are, as mentioned above, inherently argumental. This particular assumption may be rejected following the analysis in LONGOBARDI (1994) of bare nouns being predicates requiring the presence of the DP-layer that turns them into arguments. It must be possible to rule out the example above on different grounds. If the structure in Figure 1 does not correspond to an appositional structure and if we do not follow BAKER'S analysis, bare nouns do not bear a referential index. An alternative answer to account for the ungrammaticality of the construction is provided in RICHARDS (2010) who observes that within a phase two elements that have to be linearized must be distinct. The order of modifier and head noun within a DP is, at least in configurational languages, not arbitrary and thus subject to linearization. From this it follows, that the example in Figure 1 violates distinction. The following examples further illustrate this point and are taken from RICHARDS (2010, 9 and 38).

- (22) a. they destroy the city
 b. *the destruction the city
 c. the destruction of the city
- (23) a. *the singing of songs of the children
 b. the singing of songs by the children

Verbs, as exemplified in Figure 2, are also ruled out as direct modifiers of nouns. The reason - as is also indicated in the structure above - lies in the fact that verbs discharge a theta-role. If a verb would modify a noun directly it would fail to assign its theta-role if the noun is not assumed to be a maximal projection as theta-roles can only be assigned to maximal

projections², BAKER points out. Assuming the noun to head an NP, the verb would be able to discharge its theta role but the structure would nevertheless be ruled out. In this case, the derivation would crash, because the noun would be assigned two theta-roles, one by the NP-internal verb and one by the verb heading the VP. This is ruled out by the theta-criterion.

The example represented in Figure 3, in which the noun is modified by an adjective, is grammatical. One of the characteristics of adjectives is often seen in their ability to directly modify nouns. BAKER argues against this view as in his analysis the fact that adjectives are grammatical in a direct modification relation is a mere “side effect” of their underspecification. The example in Figure 3 is grammatical in his theory because there is no particular characteristic that would prevent an adjective from appearing in that position. It does neither bear a referential index nor does it discharge a theta-role. In RICHARDS (2010) approach it would be grammatical as no distinctness violation arises and noun and adjective can be linearized.

In a third analysis of lexical categories, BORER (2013) argues for categorially unspecified roots which may combine with what she calls C-functors. These C-functors spell out as affixes leading to derived word forms as exemplified in (24).

(24) *form* → *form-ation*

When no suffix attaches to *form*, it can be interpreted either as a verb or as a noun, an observation that has already been made in CLARK and CLARK (1979), however, they did not analyse these elements as roots. As BORER argues, roots may also be defined contextually by appearing as part of a particular extended projection. If e.g. the roots *coast* or *form* are part of an extended projection also containing *the*, *a* or a numeral, they will necessarily be interpreted as nominal without the presence of a C-functor as in *formation* (BORER 2013, 329).

² An exception may be synthetic compounds. Such compounds can consist of a de-verbal head and a noun. The noun is normally regarded to be the argument of the verbal derivation. The elements in such a compound could be phrasal and the noun may be argued to have a theta-role.

- (1) *Weintrinker*
 wine drink er
 noun verb derivational suffix
 ‘a person drinking wine’

However, these particular compounds can receive different readings, as is pointed out in OLSEN (1986) and which is evident from the following example taken from OLSEN (1986, 70)

- (2) *Alkoholfahrer*
 alcohol drive *er*
 ‘a person transporting alcohol/ a person driving under the influence of alcohol’

The example above shows that the compound can have two different readings dependent on the context in which it is used. Therefore, the difference is not syntactically but contextually determined.

- (25) a. form → the form
 b. coast → a coast, two coasts

The main point for either case is that roots are never specified for a category but that it is the context they appear in that ‘categorizes’ them. The examples listed below are taken to illustrate this point. BORER notes that the verb *form* and the noun *form* as well as *formation* all include the same uncategorized root. She observes that in English verbs and nouns can very often occur as either category, but for already derived forms like *formation* this is more restricted. The following examples are a (shortened) list reproduced from BORER (2013, 325f) to illustrate this observation.

the salute	to salute
the form	to form
the lamp	to lamp
the dance	to dance
the floor	to floor
a salutation	*to salutation
an arrival	*to arrival
the kindness	*to kindness
*an instantiate	to instantiate
*an acidify	to acidify
*an enlighten	to enlighten

The property of uncategorized roots to either appear as noun or verb does not extend to adjectives. Unlike verbs and nouns, adjectives cannot appear as a nominal or verbal category. Trying to find similar examples fails as the following (also shortened) list reproduced from BORER (2013, 372) shows:

a dance	to dance	*too dance
a jump	the jump	*too jump
a walk	the walk	*too walk
a table	to table	*too table
*a mean	*to mean	too mean
*a green	*to green	too green
*a fat	*to fat	too fat
*a tall	*to tall	too tall

This restriction distinguishes adjectives from the uncategorized roots that may appear as either noun or verb. BORER concludes that adjectives “are born as such” in the lexicon³. BAKER’S and BORER’S analyses seem to be diametrically opposed approaches. In BAKERS analysis adjectives are the least specified of the lexical categories – in BORER’S they are the only a priori specified category.

2.3.2 Nouns as modifiers of nouns - the issue of nominal compounds

An issue that has not been addressed in the previous section, is the seemingly direct modification of nouns by other nominals in compounds.

(26) *Das Türschloss ist kaputt.*

The door lock is broken.

Nouns in a nominal compound behave quite differently from adjectival modifiers though. Stacked adjectives all - individually - modify the head noun. In nominal compounds the N-heads can build a compound that as a whole modifies the head of the structure as in the example below. *House* modifies *door* and *house-door* (front door) modifies *lock*. In example (28) both *strong* and *hot* modify coffee but *strong* does not modify *hot*. For example (28), there is of course an alternative reading available in which *strong* modifies *hot coffee*. This ambiguity is discussed in ZIFONUN et al. (1997) as well as readings with a comma intonation (*the strong, hot coffe*) which are equivalent to a coordinated structure (*the strong and hot coffee*). The question is whether these distinctions are represented in the structure or whether the different readings are distinguished prosodically.

(27) *Haustürschloss*

house door lock

‘front door lock’

(28) the strong hot coffee

³ There are some German examples that may be regarded as counter examples to the list provided above. German has some adjectives that can function as verbs. The adjective ‘green’ for example can be used as a verb and means ‘to flourish’. However, in most cases such verbal uses of adjectives involve some type of explicit derivation, also in German.

(1) *In unserem Garten grünt wieder alles.*
in our garden greens again all
‘Everything flourishes again in our garden.’

Furthermore, the individual parts of a compound cannot be themselves modified whereas adjectives can.

- (29) *Rotweinglas*
red wine glass
'glass for red wine'
- (30) **das sehr Rotweinglas*
the very [red wine glass]
- (31) *das sehr rote Weinglass*
the [very red] [wine glass]
- (32) *der heiÙe sehr starke Kaffee*
'the hot very strong coffee'

For these reasons, I assume adjectives to be phrases whereas the individual elements that combine to a (nominal) compound are heads (setting aside phrasal compounds here of course). Those heads then form an NP that can be modified by an adjective but this NP cannot be modified by another noun.

For the discussion in this chapter I will therefore assume the following properties to hold for adjectives:

- unlike verbs and nouns adjectives can directly modify nouns,
- adjectives cannot refer and do not appear in argument position,
- adjectives can combine with degree modifiers,
- adjectives can be compared.

For nouns the following basic characteristics as already stated above shall suffice:

- nouns **can** refer,
- nouns **can** appear in argument position,
- nouns cannot directly modify another noun (unless combining in a compound).

At the end of this chapter, I will return to the analyses presented in the previous section and suggest that, even though they do not seem to have much in common, BORER'S and BAKER'S approach are both correct in light of the diachronic development that will be outlined in this chapter.

Returning to the issue of nominal modification in IE, in order to understand how it was possible for IE nominals to undergo a development that led to losing the properties that define

them, a closer look at the morpho-syntactic characteristics IE nouns are generally ascribed in the literature might provide the answer. It should be clear though that, since any aspect of IE grammar is reconstructed, the properties listed must of course be regarded as speculative and should not be mistaken as established facts.

2.4 Nominals in Indo-European

The categories *adjective* and *substantive* are sometimes subsumed under the term *noun/nominal* for IE (OSTHOFF 1876; TICHY 2009) due to their formal and also semantic identity. Most nominals consisted of a lexical root, a stem building suffix and the nominal declension. Nouns are assumed to have shared these stem-suffixes as well as the declension with adjectives (ADRADOS et al. 2016; OSTHOFF 1876; TICHY 2009; WERNER 1984).

(33) root - stem building suffix - nominal declension

(34) dhogh^w - o - m (day) (example from WERNER (1984, 188))

The hypernym *noun/nominal* for both categories reflects the tight connection between the two. BAMESBERGER (1990, 11), for example, points out in a footnote that in Proto-Germanic noun and adjective already followed different declension systems but a distinction on purely semantic and functional grounds would probably have hardly been possible due to the fact that adjectives could easily be nominalized. This is also pointed out in TICHY (2009, 44) who says that even in the syntax the distinction between noun and adjective was not sharp due to the ability of adjectives to be nominalized and hence to be used as a referential category in argument position. Nominalization of a category, however, implies that some word-formation process must have taken place. Adjectives must have been nominalized either through derivation or conversion. The question remaining open is, how this nominalization used to work exactly since in many/most cases nouns and adjectives were morphologically identical.

2.4.1 Pros and Cons of adjectives as a distinct class in IE

Regarding the question whether adjectives as a distinct category were present or not in IE, there is no consensus. TICHY (2009) notes, that the term *nominal* might be misleading, as it does not necessarily mean a non-distinction of noun and adjective in many cases. TICHY (2009) and MEIER-BRÜGGER (2000) for example both mention a distinct category adjective for IE and LÜHR (2003) also assumes a clear distinction of the main parts of speech for the old Indo-European languages, which includes adjectives. There are both arguments for and against a distinct class of adjectives in IE.

The main argument in favour of adjectives as part of the inventory of lexical categories in IE is based on gender. Gender is a lexical feature on nouns but a grammatical feature on adjectives. Therefore, gender specification on an adjective is dependent on the noun it modifies:

- (35) a. *ein neu-er Tag*
a new-NOM.MASC.SG day.MASC.
b. *ein neu-es Haus*
a new-NOM.NEUT.SG house.NEUT.

This argument - being the main one - seems to be rather weak though. IE probably showed characteristics of a non-configurational language in which case it may be assumed that word order was rather free, which does not mean that it was arbitrary (HEWSON & BUBENIK 2006; VITI 2015). It may have been the case, though, that a nominal modifier was not necessarily adjacent to the noun it modified. If gender is indeed the only morphological feature that distinguished nouns from adjectives and if it is also the case that adjectives could easily be nominalized and were thus rather ‘transparent’ in their categorial status, gender might not have provided an adequate means to distinguish the two categories. Regarding the gender argument as not sufficient for the assumption of adjectives to have existed as a lexical class in IE, arguments are needed that may point towards the contrary. In addition, up to OHG nouns often varied regarding their gender specification as gender used to be a means for distinguishing mass, count and collective nouns (cf. HACHEM 2015; LEHMANN 1958; LEISS 2000).

GAMKRELIDZE and IVANOV (1995, 236ff) mention the development of nominals into adjectives. They describe a division of IE nouns into active and inactive with the markers *om and *os. The distinction into active and inactive corresponds to the well-known dichotomy into animate and inanimate nouns. The difference to the latter classification lies in the fact that active nouns include plants and thus everything that has a “life-cycle”, as GAMKRELIDZE (1994, 27) points out. All other objects belong to the group of ‘inactive’ nouns, he notes. According to GAMKRELIDZE and IVANOV (1995, 241f), the suffixes marking the active-inactive distinction also marked “attributive syntactic constructions” that could have attributive or possessive function. These constructions are analysed as the source of the genitive and

“(…) also gave rise to a separate syntactic class of nominal formations which subsequently acquired the formal status of adjectives. These were modifying nouns which took the ending **-[o]s* or **-[o]m* depending on the animacy and hence activity of the modified word. Thus the later adjectival endings **-[o]s* and **-[o]m* reflect the functions that these endings had in the original constructions. (….) The binary division of adjectival formations in the Indo-European dialects clearly reflects the binary classification of nouns into active and inactive which was transformed into a gender classification in the historical dialects.” (GAMKRELIDZE & IVANOV 1995, 242f)

Unfortunately, there is no example that illustrates what the type of nominal formation that is described above might have looked like and it is not clarified further what is meant by acquiring the “formal status” of an adjective. It can certainly not have been the case that the whole construction acquired adjectival status but probably the nominal in the construction that is viewed as the modifier. It is also not specified if all nouns could be used as ‘modifying nouns’ or if only a particular group had this property. Despite these open questions, the above statement already provides a short description of the development of nouns into adjectives which implicitly also means that at some stage the two categories were not distinguished.

From a typological point of view, it is not exceptional for a language to lack a distinct class of adjectives (CHAFE 2012; DIXON 1982; RIJKHOFF 2000) even though the universal presence of adjectives is also argued for by some authors (BAKER 2003; CROFT 2000). Following the former assumption though, some further arguments against a distinct class of adjectives in IE will be reviewed.

The issue is taken up by VITI (2015) and she explicitly argues against a distinction of noun and adjective in IE. At the same time she provides arguments in favour of an appositive rather than an attributive structure for nominal modification. VITI also starts with the observation that in the old Indo-Germanic languages adjectives could easily be nominalized and were able to refer. To illustrate this, she uses two Vedic examples, reproduced below in (36) and (37) (VITI 2015, 54).

- (36) *pávamāna rtám* *bṛhác* *chukráṃ*
Pavmāna law(NEUT)ACC.SG. high.ACC.NEUT.SG. bright.ACC.NEUT.SG.
jyótir *ajījanat*
light(NEUT)ACC.SG. created.AOR.IND3SG
‘Pavmāna has created the high law, the bright light.’

of definiteness nor does it affect the categorial status of the adjective. The following Norwegian examples reproduced from FAARLUND (2009, 619) illustrate the pattern.

- (38) *hest-en*
the horse
- (39) *den gamle hest-en*
the old horse

Furthermore, the appearance of a (definite) article might be argued to be the phonetic realization of an otherwise silent operator which is always interpreted in the highest projection of the NP/DP irrespective of where it is realized in the structure of the DP (GIUSTI 2015; LEKAKOU & SZENDRŐI 2012). To mark definiteness on an adjective or on a noun is then reduced to a PF-phenomenon and does not help in identifying the categorial status of the lexical element it combines with.

VITI (2015, 60) continues with the observation that in those languages in which noun and adjective are formally quite similar, more appositive structures have been kept, from which she concludes a connection between syntactic categories and syntactic hierarchy. The term hierarchy is used in differentiating between configurational and non-configurational languages. IE can be assumed to have shown certain characteristic of non-configurational languages as has been already mentioned. Non-configurational languages are sometimes assumed to have a ‘flat’ structure as opposed to configurational languages (HALE 1982, 1983). They are characterized by a rather free word order whereas configurational languages display a rather rigid one, as it is e.g. the case in English. Warlpiri belongs to the group of non-configurational languages and VITI (2015, 251) uses the example reproduced in (40) to illustrate word order peculiarities in this type of language. In the sentence below the modifier *small* is realized at the end of the sentence whereas the noun it modifies is realized as the first word in the sentence.

- (40) *kurdu-yarra-rlu ka-pala yalumpu maliki wajili-pinyi wita-jarra-rlu*
child-DU-ERG PRS-3DU.SUBJ that.ABS dog.ABS chase-NPAST small-DU-ERG
‘The two small children are chasing that dog.’

The assumption of a ‘flat’ structure for non-configurational languages will not be followed in this chapter though. I will follow MIYAGAWA (2003) and SAITO (1985) who show that non-configurational and configurational languages are structurally the same.

I will still use the terms configurational and non-configurational but only regarding the fact that the latter allows word order variation to a much greater extent. In this respect, IE may be said to belong to the group of non-configurational languages. For the modification relation of two nominals in an apposition this means that they do probably not follow a particular order and that they may not have to be adjacent, similar to Sanskrit. In order to see what nominal modification might have looked like, I will have a closer look at BHAT'S (2000) analysis of Sanskrit in the next section.

2.5 Nominal modification in languages without adjectives

Since any assumption on IE grammar or morphology is reconstructed as there are no language data, it is important to look at other languages that are said to lack adjectives in order to identify possible alternative strategies of nominal modification. As CHAFE (2012) or BHAT (2000) point out, they do not all share the same alternative strategies of modification. It is also important to note that the (non-)distinction of the three major lexical categories - noun, verb, and adjective - has many intermediate stages BHAT (2000, 48). This means that there are languages which really seem to have no adjectives at all whereas others have a rather clear cut distinction of the lexical categories under discussion. But there are also a lot of languages 'in between' these two extremes and there is some amount of variation regarding the way noun, adjective and verb are distinguished in the languages of the world (BHAT 2000; CHAFE 2012). BHAT (2000) approaches the issue of variation w.r.t. categorial distinctness by assuming three idealized languages forming the extremes regarding this point. The first one would be a language in which nouns (N) and adjectives (A) are indistinguishable. The second type would be a language in which verbs (V) and As cannot be distinguished and in the third type of language N, V and A are clearly distinguished. He then picks out three languages that come close to these three idealized types. Of main interest for the issue under investigation in this chapter, is of course the first type of language, which does not distinguish N and A. This is, according to BHAT (2000), the case in Sanskrit, which does not have a distinct class of adjectives and the strategy for nominal modification is the juxtaposition of two (or more) referring words. These nominals can be freely ordered, which is possible because the relatedness between them is marked through agreement in gender number and case, as BHAT notes. Examples (41) to (44) illustrating nominal modification in Sanskrit are taken from BHAT (2000, 50). The translation does of course include adjectives. The identification of whether or not a language has or does not have adjectives is rather complex and I will not

address this issue. CHAFE (2012) provides a good example with an Iroquian variety and analyses in much detail the arguments against the presence of adjectives in this language. The lexical elements translated with an adjective are, he claims, verbs or verbal roots in that language⁴. Similarly, the translation of the lexical elements with adjectives does not mean that they are also adjectives in Sanskrit. The examples below illustrate the agreement pattern as well as the freedom of ordering in Sanskrit.

- (41) *kRSNam* *sarpam* *apaśyat*
black.MASC.SG.ACC snake.MASC.SG.ACC saw.3SG
‘(He) saw a black snake.’
- (42) *mRttikam* *ghatam* *apaśyat*
mud.NEUT.SG.ACC pot.NEUT.SG.ACC saw.3SG
‘(He) saw an earthen pot.’
- (43) *sarpam* *kRSNam* *apaśyat*
snake. MASC.SG.ACC black. MASC.SG.ACC saw.3SG
‘(He) saw a black snake.’
- (44) *mRttikam* *apaśyat* *ghatam*
mud. NEUT.SG.ACC saw. 3SG pot. NEUT.SG.ACC
‘He saw an earthen pot.’

Since BHAT assumes nouns to be modified by other nouns in Sanskrit this means that the relation must be appositive rather than attributive (and this is what VITI (2015) also assumes for IE). It must have been appositive because the observations w.r.t. to nominal modification as discussed in section 2.3 are assumed to also hold for Sanskrit and IE. In other words, the lack of adjectives as a distinct class requires an alternative syntactic strategy in order to allow nominal modification.

2.5.1 The absence of adjectives and the consequences for nominal modification

BHAT (2000) pursues a functional explanation of the data in the previous section, which means that the presence or absence of the N-A distinction is assumed to have direct

⁴ It would have to be clarified though what the underlying structure would look like as it has been argued above that verbs cannot directly modify nominals as this would lead to a violation of the theta-criterion. The examples given do very much look like a direct modification of a noun by a verb. The issue might be resolved by assuming that verbal roots, as CHAFE (2012, 11) describes the modifying verbs, do not discharge a theta role or assign case unlike their derived counterparts forming the main verb of a clause. This is very speculative and not a very satisfying approach but the issue must remain unsolved for the moment.

consequences for the syntactic structure of the (Sanskrit) DP. In other words, the presence or absence of the category adjective determines whether a language uses an attributive or, in the case of Sanskrit, an appositional relation for nominal modification. BHAT (2000, 47) even goes one step further and says that languages do not have adjectives as they have other means for nominal modification and as a consequence do not need them. This may indeed be deduced from the Sanskrit data he provides but it is under the present discussion - namely the development of adjectives at some stage - quite problematic. If it is the case that the inventory of lexical items directly affects the syntax, how would it ever be possible for a new category to develop? One could now argue that it is the development of the category adjective that is the unlikely scenario. However, this is not a unique development in the languages of the world, because CHAFE (2012) argues, that Cherokee probably also underwent a similar development. Cherokee, he assumes, did not include adjectives in its inventory of lexical elements but at some point they are attested.

Contra BHAT I assume that it is the syntax that affects the interpretation of lexical elements and that changes in the (morpho-)syntactic structure may also affect the development of a (new) lexical category. This assumption is along the lines of BORER (2013) who also assumes the syntax to determine whether a lexical root is interpreted as verbal or nominal, as was discussed in section 2.3. In her framework this happens either through derivation (e.g. affixation as in *form* vs *formation*) or by placing the element in a particular extended projection that e.g. also contains an article. In this case it is necessarily interpreted as a noun.

form → the form, a form

form → to form

A similar line of argumentation is followed in RIJKHOFF (2000). In his paper he mentions a language that is said to have no “a priori” categorial distinction at all. This is the case in Samoan according to MOSEL and HOVDHAUGEN (1992) as quoted in RIJKHOFF (2000). In this language the function of a lexical element is determined by the environment it occurs in. Therefore, RIJKHOFF (2000, 219) notes, Samoan only has a single class of lexemes and their function is indicated by non-lexical elements. These non-lexical elements reflect the syntactic structure as in other languages morphological features do. If it were the lexical categories that determine the syntax the syntactic structure of Samoan might be hard to determine. I therefore take RIJKHOFF’S observations in support of a syntactic account.

Furthermore, BHAT (2000) must assume what he calls *de-* or *re-categorization* (p. 53) in cases in which lexical elements do not seem to show their proto-typical characteristics. BHAT argues

that in these cases the lexical elements take on the characteristic of other word classes. This is e.g. the case when nouns appear in predicative position. The characteristic of nouns is their ability to refer but when appearing in predicative position they are not (necessarily) referential. This has also been observed by BAKER (2003, 99f) and HENGEVELD (1992, 49ff), who argue that e.g. in predicative position it is rather difficult to (syntactically) distinguish between N and A. Nevertheless, BAKER (2003) provides data that show that even in predicative position N and A maintain (some of) their characteristics. The following data are reproduced from BAKER (2003, 163). He observes that nouns in predicative position can be accompanied by an article whereas adjectives cannot. He also observes that nouns in predicative position show number agreement with the verb whereas adjectives do not. The latter point can only serve as an argument for English though. In Alemannic even predicative adjectives can show number agreement in certain varieties as was extensively studied by FLEISCHER (2007). Example (47) stems from WAIBEL (1985) and is reproduced from FLEISCHER (2007, 213)

- (45) a. Rover is a dog.
 b. Rover and Fido are dogs.
 c. Rover is (*a) black.
 d. Rover and Fido are black(*s).
- (46) *Meine zwei Nichten sind schön.* (StG)
 ‚My two nieces are beautiful.‘
- (47) *ùn tö hetsch anfa chrankch(-Ø) chùò ùnd siich-i.* (Alemannic)
 and there has-she began sick become and infirm-FEM.SG.
 ‘and she began to become sick and infirm’

There is another argument that reveals the nominal properties of nouns in predicative position much better. It has been said above, that nouns in predicative position are not referential. This is not entirely correct as even in predicative position they can introduce a new discourse referent. This is illustrated in the following examples also quoted from BAKER (2003, 163). The reference of the noun in predicative position is picked up by a pronoun in the following sentence. This is not possible with adjectives.

- (48) a. In the winter, Merlin is a wolf. It has a brown coat and sharp teeth. In the summer, he is a nightingale. It has wings and a beautiful song.
 b. We are a committee. It meets every Friday to discuss plans for next year.

c. We are industrious. #It (industriousness) also helped John succeed.

Based on these observations I will therefore assume that the characteristics of the lexical elements N, V and A are not ‘flexible’ in BHAT’S sense. Lexical categories do not take on the characteristics of other word classes but they may not always show their core characteristics depending on the syntactic environment they appear in, an observation on which the exo-skeletal model outlined in BORER (2005) relies and which will be briefly introduced in chapter 5.

Returning to the issue of nominal modification in IE, it has been mentioned a few times that in IE as well as in Sanskrit nominal modification was appositive rather than attributive. It has been argued that this is due to the fact that there might not have been a distinct class of adjectives at the time. The relation between the head noun and the modifying nominal was therefore most likely that of Close Apposition (CA). In the next section I will therefore take a closer look at the syntax of these relations and try and identify a possible scenario that allows the development of attributive nominal modification at some point.

2.6 From Apposition to Attribution

In the previous section it was argued, following BHAT (2000), that one of the strategies of nominal modification in languages lacking the class of adjectives is the juxtaposition of two or more nominals that are in an appositive rather than an attributive relation. This is also assumed to have been the case in IE as has been mentioned previously. The aim of this section is therefore to highlight the properties of appositive constructions in order to determine the possible syntactic changes that might have taken place in order to allow attributive modification at some point. The assumption that such a development has taken place relies on the fact that all Germanic languages have adjectives in their inventory of lexical items and belong to the group of IE languages.

2.6.1 Some general properties of (Close) Apposition

Nominal apposition in present day varieties of languages like German or English is a rather restricted type of nominal modification as will become clear in this section. In the following the properties of nominal (close) apposition will be described in some detail in order to find a possible syntactic structure that might have formed the ‘starting point’ of the development from apposition to attribution in IE.

The formations that often fall under the term apposition are a rather heterogenic group and there is no consensus in their classification as IMO (2015) observes. This section will therefore not provide an overview of apposition in general but only of the subgroup that is of interest for the present discussion. In this section so called Close Apposition (CA) will be focused on. For a detailed description of the various types of nominal apposition see ACUÑA-FARIÑA (1999, 2009); BURTON-ROBERTS (1975); KEIZER (2005a); or MEYER (1992) among others. An apposition, as ACUÑA-FARIÑA (1999, 70) notes, “is more than just reference to the same object/person/concept” and also more than “semantic equivalence”. This statement is true for apposition in general. The type of apposition that will be in the centre of the discussion is nominal apposition of the type in (49). The example is taken from KOLLIAKOU (2004, 275).

Tonight I will speak of the Van Gogh brothers, the painter and the critic.

(49) a. Van Gogh the painter...

b. #Van Gogh, the painter...

Constructions such as the one above have certain properties that distinguish them from other appositional constructions. KEIZER (2005b, 447) identifies the following properties, listed in i. to iv. which I will adopt for the discussion in this chapter and which all hold for the example above.

- i. CA contain two nominal elements;
- ii. these elements form one intonation unit;
- iii. there is no linking element between the elements (as opposed to constructions as *the city of Rome, the name of Algernon*);
- iv. one element is a proper noun or uniquely defining element, the other a count noun

A fifth factor also mentioned in (KEIZER 2005a, 2005b) as well as LEKAKOU and SZENDROI (2007) is the fact that in CA both DPs contribute to the reference of the construction as a whole. This means that each partaking DP can serve as the argument of the sentence but neither of the two is able to pick out the referent by itself. Example (49) nicely illustrates this point. Leaving out the proper name would not be sufficient in order to pick out a unique referent. Leaving out the second DP would also lead to ambiguity w.r.t. to which of the two brothers is talked about. The contribution of both DPs to the referentiality of the construction

is therefore a very important property also because it distinguishes CA from the second large group of appositional relations, so called Lose Apposition (LA) as in (50).

(50) Goethe, the author of Faust, was born in Frankfurt.

In LA the first DP picks out the referent alone and the second one provides additional information. In example (50) the referent can be picked out regardless of the presence of the second part of the construction.

2.6.2 Syntactic aspects of Close Apposition

The (syntactic) analyses of CA differ to quite an extent despite the general properties listed above. One of the main issues is the identification of the head of the construction. There are basically three types of analyses regarding this point. There are approaches that identify the second DP as the head (BURTON-ROBERTS 1975), there are accounts arguing for the first DP as the head of the construction (KEIZER 2005a) and there are approaches in which a 'symmetric' relationship of the two partaking DPs is argued for. This means that neither one is the head (HOCKETT 1955; LEKAKOU & SZENDROI 2007). ACUÑA-FARIÑA (2009) does not commit himself to one of the approaches mentioned, but he notes that none of them, symmetrical or hierarchical, captures the range of constructions that fall under CA. He points out, that arguments can be found in favour of any of the approaches mentioned above.

It is indeed the case that the two units forming CA cannot always be freely ordered – a restriction a symmetric approach would fail to account for, because assuming a symmetric approach implies free ordering of the elements which form CA. However, the restriction on ordering might not be syntactic but rather pragmatic in nature as the example below, quoted from KEIZER (2005a, 393) illustrates. There is no syntactic opposition against the reversal of the order but only a pragmatic one.

Imagine the following inscription on a commemorative plaque

(51) The poet Robert Burns lived here from 1786 to 1788.

(52) ??Robert Burns the poet lived here from 1786 to 1788.

I will not discuss the arguments in favour of or against the various approaches mentioned but I will pursue a symmetric analysis and provide the arguments in favour of this approach in the following.

There are three relevant points that speak in favour of a symmetric approach and they are listed in i. to iii.

- i. Both DPs contribute to the reference of the whole construction so none can be picked out as the head on syntactic grounds.
- ii. The order of the two units is probably restricted mainly on semantic/pragmatic grounds not syntactic ones.
- iii. An NP can normally not occur as the complement of an N-head (HOEKSTRA 1984; VAN RIEMSDIJK 1988) but this would have to be the case in an asymmetric approach as there are two referential DPs forming one argument.

Despite these three general arguments in favour of a symmetric approach, another reason for adopting a symmetric account is the fact that IE is assumed to belong to the group of non-configurational languages. An ordering restriction did probably not exist, similar to the Sanskrit examples quoted in section 2.5. and the data are thus best captured in a symmetric account to CA.

The symmetric approach I will adopt in this section is the one suggested in LEKAKOU and SZENDROI (2007) for Greek. They also go into the details of the properties of CA in general by contrasting them with LA. It has already been mentioned that LA has quite different properties compared to CA and the differences between the two will only be mentioned briefly here and are also taken from LEKAKOU and SZENDROI (2007). As the term ‘loose’ already implies, the (syntactic) relation between the two components is not very tight. Furthermore, the type of elements that can form LA are not restricted, whereas in CA only DPs can occur. When comparing nominal LA to CA LEKAKOU and SZENDROI (2007) observe that in LA it is the first part which picks out the referent alone whereas the second part only provides additional information and is not referential. In CA both parts contribute to the referentiality of the whole construction, which is illustrated with the example reproduced in (53) (LEKAKOU & SZENDROI 2007, 19).

- (53) Tonight I will speak of a great French artist.
 Guillem, the dancer...
 #Guillem the dance...

The example above is then contrasted with the one taken from KOLLIAKOU (2004, 275) that was already given in (49) repeated here as (54):

Tonight I will speak of the Van Gogh brothers, the painter and the critic.

(54) a. Van Gogh the painter...

b. #Van Gogh, the painter...

The point here is that in (53) the proper name picks out a unique referent whereas this is not the case in (54). In (54) *the painter* is restrictive as there are two *van Goghs* - therefore a unique referent cannot be picked out with the first DP alone. For the very same reason a CA is impossible in (53). The first part of the LA already picks out the referent, therefore the second cannot take part in the referentiality of the construction but only provides additional information. This observation is taken in support of the claim that in LA the second part is a predicate but not in CA. The restrictive component in CA is related to the fact that one of the DPs has to be a proper subset of the other as LEKAKOU and SZENDROI (2007, 19) observe. They define this property in their *Proper Subset Constraint*:

“In a close appositive, the denotation of one of the DPs must be a proper subset of the denotation of the other DP.” (LEKAKOU & SZENDROI 2007, 19)

The syntactic structure that is suggested for CA is reproduced in Figure 4 below. The operation that allows such a structure is termed “complex argument formation” by LEKAKOU and SZENDROI (2007), based on complex predicate formation following assumptions in NEELEMAN and VAN DE KOOT (2002) and BAKER and STEWART (1999). In the structure below the referential and the theta roles of the two DPs are conflated at the topmost DP-projection indicated by numbers. This is possible, LEKAKOU and SZENDROI (2007) argue, as the two units are of the same type. Both units are DPs and they also share the same features. The construction as a whole can therefore appear as a single argument or predicate.

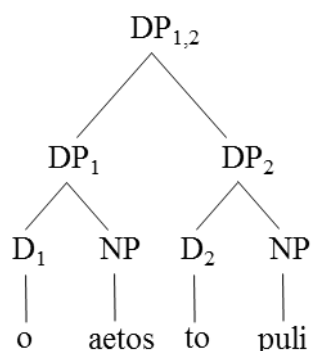


Figure 4: CA in Greek (LEKAKOU & SZENDROI 2007, 7)

(55) o aetos to puli

the eagle the bird

There is one opposition that can be posed to the above structure, despite accepting the symmetrical account. The analysis follows LONGOBARDI (1994) in that a DP projection must be present in order for a noun to appear in argument position. Bare nouns are predicates and cannot do so. However, the above structure does not capture the fact that an article, definite or indefinite, can appear in CA but demonstratives cannot as has been noted in BURTON-ROBERTS (1975). Appositional constructions in which demonstratives appear are LA and not CA as is exemplified in (57). In sentence a. there is a pause between the two noun phrases, indicated by the comma. In sentence b., not containing a pause, the two nouns form a compound.

(56) a. van Gogh the painter

b. *van Gogh this painter

(57) a. *Ich habe gestern mit dieser Schauspielerin, der Tussi gesprochen.*

I have yesterday with that actress, the chick spoke

‘I spoke to that actress, the chick, yesterday.’

b. *Ich habe gestern mit dieser Schauspielertussi gesprochen.*

I have yesterday with that actress-chick spoken.

‘I spoke to that actress-chick, yesterday.’

The issue of the presence of one or more definite articles and the actual interpretation of definiteness is accounted for in LEKAKOU and SZENDRŐI (2012), in which they propose a split DP account with an empty DefP above the DP-layer. This DefP is phonetically empty and the locus of the iota-operator which is associated with referentiality. In the DP below this projection the realization of the inert definite article is proposed (LEKAKOU & SZENDRŐI 2012, 116f). In CA the topmost DP would then have a DefP above it. The structure from LEKAKOU and SZENDRŐI (2012, 117) is reproduced in Figure 5.

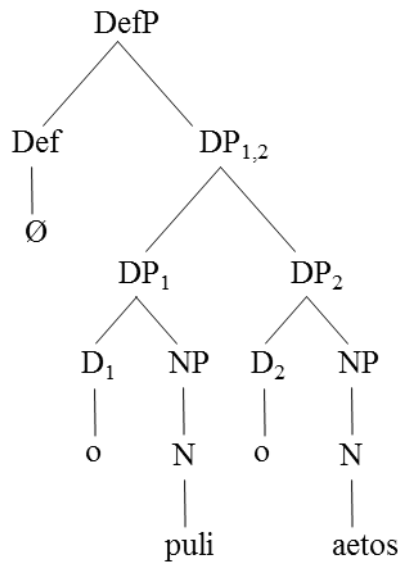


Figure 5: CA in Greek (LEKAKOU & SZENDRÓI 2012, 117)

The empirical ground this proposal rests on is the co-occurrence of proper names with the definite article in Greek that is also found in Southern German dialects as in (58). As proper names are taken to be rigid designators, it is concluded that they cannot combine with the definite article and if they do, the article is proven to be inert and evidence for the splitting up in a DefP, the locus of the iota-operator, and DP headed by the definite article. However, the presence of DefP as the highest functional projection and its correspondence to the iota-operator suggests that DefP is also the locus of demonstratives. So if a DefP is present as the highest projection in CA, it should in principle possible to be headed by an indexical and I will therefore pursue an alternative approach.

(58) *Der Hans kommt später.*

The Hans comes later.

Untying the appearance of an article and referentiality is also suggested in REHN (2016) but unlike in the scenario above the structural position the article appears in is related to the way it is interpreted rather than assuming it to be generally inert and proposing an independently present iota-operator. It is proposed that demonstratives can only appear in the DP but the definite article can also occupy positions below this layer. I will thus suggest an alternative solution, in which the partaking noun phrases are artPs, reflecting their reduced referential power. The details of the analysis will be given in chapter 5 and at this point it will only be mentioned briefly.

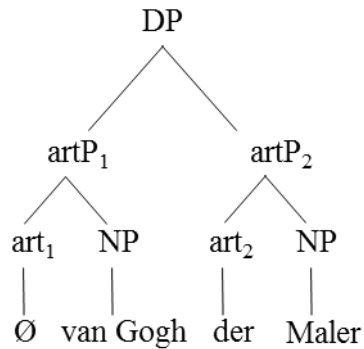


Figure 6: CA adapted from LEKAKOU and SZENDROI (2007)

Based on the distribution of the definite article in Alemannic and Irish English it is shown that its appearance is independent of a definiteness interpretation and that the way the definite article is interpreted is determined by the functional position it occupies. In this analysis the D-position is limited to deictic reference whereas the artP⁵, a functional position lower than DP⁶, can also host the definite article but only in contexts which are non-deictic. Evidence for this analysis comes from the dialect of Alemannic, which has two types of definite articles, a strong and a weak one.

- (59) a. *dr Mo* (the man)
 b. *dear Mo* (the/this man)
 c. *S'Wasser kocht bei 100 Grad.*
 The water boils at 100 degrees.
 d. *#des Wasser kocht bei 100 Grad.*
 The/this water boils at 100 degrees.

The different properties of the two types of definite article have been extensively studied in SCHWARZ (2009). Following the analysis of weak/non-deictic articles as based in artP, the two parts of CA are then best analysed as consisting of two artPs with a DP-layer on top of them. It could of course be argued that the non-occurrence of demonstratives in CA follows from the fact that neither of the two DPs can pick out the referent alone but only the construction as a whole. This is of course true from the semantic point of view but with the analysis above this can also be captured syntactically. The entire construction must however be a DP as the

⁵ The label is taken from ROEHRS (2006) but essentially differs from his artP in its properties.

⁶ In chapter 5 I will argue that artP is not a position lower than DP but a layer of the DP. This is of minor relevance here though.

CA in the example from KOLLIAKOU (2004) is anaphoric. This DP is the highest projection and cannot be headed by an indexical as it is already headed by the two partaking artPs.

2.6.3 Apposition in IE

Returning now to nominal modification in IE, it has been noted that in the literature IE is assumed to have lacked a distinct class of adjectives. For this reason, nominal modification can be assumed to have been appositional rather than attributive. One of the arguments put forth w.r.t. to this assumption is the fact that Sanskrit as one of the old Indian languages is also argued to lack adjectives in its inventory of lexical items (BHAT 2000). Furthermore, the morpho-syntactic make up of nouns and adjectives is generally argued to have been the same. The pattern in (60), repeated from section 2.4, illustrates the possible structure of IE nominals

- (60) root - stem building suffix - nominal declension
dhogh^w - o - m (day) (example from WERNER (1984, 188))

In section 2.2, the arguments in favor of as well as against the existence of adjectives in IE have been reviewed and the conclusion was that the arguments against a lexical class of adjectives are more convincing. The aim of this section is, as stated in the introduction, to think the assumption through and discuss possible consequences for the diachronic development with special focus on the syntax.

At this point, the main question is, whether the above observations regarding nominal apposition can be ‘transferred’ to IE in order to come up with a possible analysis. The properties identified regarding CA in general listed in the previous section can certainly not hold in the same way for IE. The following properties from KEIZER (2005a) were given in the previous section and are repeated here for ease of reference:

- i. CA contain two nominal elements;
- ii. these elements form one intonation unit;
- iii. there is no linking element between the elements (as opposed to constructions as *the city of Rome, the name of Algernon*);
- iv. one element is a proper noun or uniquely defining element, the other a count noun
- v. the two units of CA contribute to the reference of the construction as a whole

The first property can certainly be applied to IE appositional constructions as the basis of the whole chapter relies on the assumption that in IE nouns were modified by other nouns in an

appositional construction. The second property does most likely not hold for IE, because IE belongs to the group of non-configurational languages and the DPs forming CA might not be adjacent, so they cannot form an intonation unit. The third property is likely to hold but of course we do not have any evidence so this point must remain unclarified. Regarding the fourth property, such a restriction cannot hold for IE either, because apposition is assumed to have been the main if not only strategy for nominal modification. Therefore, it could not have been restricted to proper nouns or uniquely defining elements. The last property given in the list above can be assumed to hold for IE as the nominals that form CA restrict the set of possible referents and thus contribute to the reference of the entire construction. The following reduced list of properties may thus be said to apply to nominal modification in IE:

- i. the appositional construction contains two or more nominal elements,
- ii. there is probably no linking element between them,
- iii. the units of CA contribute to the reference of the construction as a whole.

The next issue to address is whether it is feasible to assume a symmetric account of CA in IE. In other words, is it feasible to say that in an appositional construction in IE none of the nominal elements could be picked out as the head of the construction? As has been said above there are arguments in favour of picking out either the first or the second unit in CA as the head but there are also good arguments for a symmetrical approach. It may be argued, that the very restricted use of CA in present day English, German or Greek may allow a symmetric analysis but that in a language that only uses CA for nominal modification the head must be identified. As has been mentioned in the previous section, in a symmetric approach the two units forming CA are arbitrarily ordered. If this was not the case the construction would not be ‘symmetric’. It has also been shown, though, that this is not always the case. The examples from KEIZER (2005a, 393) reproduced from the previous section in (61) and (62) illustrate such an ordering restriction:

(61) The poet Robert Burns lived here from 1786 to 1788.

(62) ??Robert Burns the poet lived here from 1786 to 1788.

The above examples show that the two DPs cannot be freely ordered but, as KEIZER notes, the ordering restriction is not syntactic in nature but merely pragmatic. It may therefore be the case that there is no syntactic head in CA in IE but that the ‘head’ of the construction may be identified on pragmatic or semantic grounds. This is also argued for in HACKSTEIN (2010, 8) who investigates a particular subgroup of CA in which one nominal is generic and the other specific as in *the god Mars*. He claims that “there is indeed an internal dependency structure

which is purely semantic.” An example that might serve to illustrate this point is the one in (44) reproduced here as (63). There are two nominals but *mud* is analysed as modifying *pot* which is evident from the translation of the construction. This is naturally the case as a pot can be made of mud but mud cannot be made of pot.

(63) *mRttikam* *ghatam* *apaśyat*
 mud.NEUT.SG.ACC pot.NEUT.SG.ACC saw.3SG
 ‘(He) saw an earthen pot.’

Based on these observations, I will assume a symmetric account to also hold for IE and I will also assume the following properties to hold for IE CA:

- There was probably rather free word order,
- all nominals that are part of the appositional relation can also refer on their own,
- identifying one of the elements as the head might have been a pragmatic or semantic rather than a syntactic issue.

2.6.4 From apposition to attribution - syntactic aspects of the development

At the beginning of this section I will shortly recapitulate what has been said about nouns in general and IE nominals in particular. It has been argued that IE did most likely not distinguish adjectives as a separate lexical class following ADRADOS et al. (2016); TÖRNQVIST (1974) and VITI (2015). This means that nominals were modified by other nominals in an appositional rather than an attributive construction. In section 2.3, which discussed the distinction of nouns and adjectives w.r.t. to their characteristic properties in general, it was shown that nouns cannot be directly modified by nouns. The appositive relation which is a form of indirect modification is hence a likely structure for IE. It was then argued that the structure of CA is symmetric as neither of the partaking nouns can be identified as the head.

Before returning to nominal modification in CA, a short view on the internal structure of IE nominals should be taken. The internal make up of nominals is assumed to be the one in (33) and (34) above and repeated here as (64) and (65). The noun consists of a lexical stem, a stem suffix (in most cases) which is then followed by the nominal declension.

(64) root - stem building suffix - nominal declension

(65) *dhogh^w* - o - m (day) (example from WERNER (1984, 188))

The stem suffixes were shared by all nominals (including those that at some stage are identified as adjectives). The root first merges with the stem suffix and then it merges with the functional projection headed by the nominal declension. This projection will be assumed to be responsible for the nominal status of the whole construction and is thus labeled nP. At this point, there is nothing in the discussion of IE nominals from which it necessarily follows that stem-suffixes should head their own projection. The reason, why I assume that they do is two-fold. On the one hand, stem suffixes are at some point elements that are very productive in word-formation and have the status of a derivational element. On the other hand, it is assumed that stem-suffixes have their origin in deictic elements, e.g. pronouns or article words that attached as enclitic elements to the lexical root (e.g. KOTIN 2012, 97; SPECHT 1947).

In chapter 5, nominal inflection in StG is based in CIP as it specifies number. I did not include a CIP in the projections below but that does not mean it did not exist. Inflected nominals have probably also denoted mass-nouns. As has been mentioned above and as will be discussed in more detail in section 5.2.3.1, the function of mass-division was realized through gender, of which remnants can be found up to OHG.

The reason to assume the nP projection to be (at least partially) responsible for the nominal status of a root lies in the fact that the lexical part can also be interpreted as an adjective at some stage. In this case, it differs in its inflectional endings as there are influences from the pronominal paradigm. Since this inflectional difference is the first morphological distinction of noun and adjective, I assume that it heads a functional projection that is related to the categorial status of the construction as a whole. This is not to be mistaken with the assumption that the nominal declension is the ‘referential part’ of the nominal. Along the lines of LONGOBARDI (1994) the DP layer is assumed to turn a bare noun into an argument. An artP is not present as IE did most likely not have articles but it probably did have demonstratives, as demonstratives are assumed to be a universal category (DIXON 2003). The stem-suffix appears in its own projection due to the fact that it is at this point not ‘tied’ to nouns (adjectives also have stem-suffixes) and are thus not responsible for the categorial status, at least not at that time.

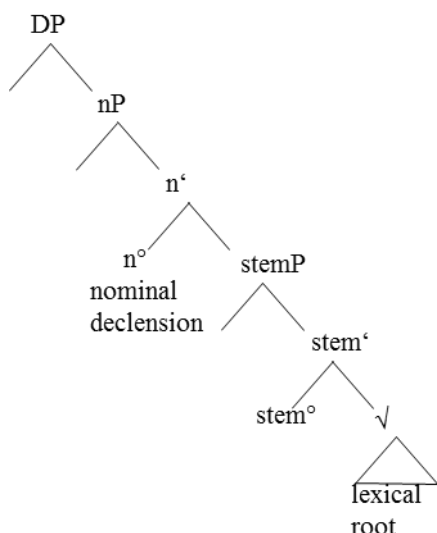


Figure 7: Possible structure for an IE DP

Taking the above structure together with the symmetric approach to CA we may have arrived at something like in Figure 8. For space reasons I reduced the nP structure but it is of course assumed to be the same as in Figure 7 with the stem-suffix heading its own projection.

The structure is a slight modification of the one from section 2.6.1 that essentially follows the suggestion in LEKAKOU and SZENDROI (2007) and is modified according to the assumptions that led to the structure displayed in Figure 7.

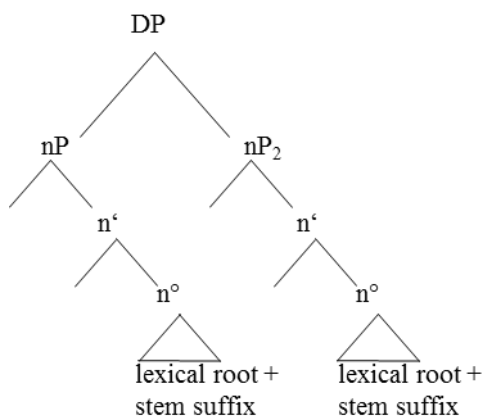


Figure 8: Possible structure for CA in IE, adapted from LEKAKOU and SZENDROI (2007)

The next step is to identify how it was possible to arrive from the appositional construction in Figure 8 at an attributive modification relation. The structure in Figure 7 shows that the nominal n-head selects a lexical root and the whole construction is interpreted as a noun. Following this assumption, one scenario could be that the n-head that selects the root must undergo a change because it is assumed to determine the categorial status of the whole phrase. This is a problematic view because only a (semantic) subgroup of nominals acquires adjectival status at some point. Assuming a change on the n-head would lead to the undesired

result that all lexical roots undergo this development. The semantic reason behind the partition was briefly mentioned above by illustrating that of two nominals like *mud* and *pot* the former is of course interpreted as modifying the latter as a pot can be made of mud but not the other way round. A similar example is *height* and *house*. A house can have a certain height but *height* cannot in any way be house-like.

Another option is that there is another (functional) projection present which at some stage takes certain nominal roots in its specifier resulting in the interpretation of a modifier. The inflectional paradigm provides evidence for this assumption. Only those lexical elements that were ‘re-categorized’, borrowing BHAT’S expression, as adjectives showed an influence of the inflectional paradigm of the demonstrative (BAMMESBERGER 1990, 223). This development does not affect the whole paradigm in Proto-Germanic as BAMMESBERGER points out, but it is nevertheless a first morphological distinction of noun and adjective. If this observation is correct, the lexical elements that show influences of the demonstrative in their inflection must be interpreted adjectival rather than nominal, because nouns never inflect pronominally. This inflectional difference can then be said to have provided the relevant clue for the language learner to interpret those lexical elements showing pronominal influence as attributive modifiers instead of nominals in CA. The reconstructed paradigms, reproduced from BAMMESBERGER, are given in Table 2 to Table 4. Table 2 shows the reconstructed pronominally influenced paradigm of Proto-Germanic **gōda-*. The relevant elements reflecting pronominal influence are bold faced. The reconstructed nominal paradigm is given in Table 3 and the paradigm of the demonstrative is displayed in Table 4.

		Masc	Fem	Neut
Sg.	Nom	*gōdaz	*gōdō	*gōda ⁿ , -at(-)
	Gen	*gōdas(a)	*gōdaizōz	*gōdas(a)
	Dat	*gōdazmai	*gōdai	*gōdazmai
	Acc	*gōdanōⁿ	*gōdō ⁿ	*gōda ⁿ , -at(a)
Pl.	Nom	*gōdai	*gōdōz	*gōdō
	Gen		*gōdaizōⁿ	
	Dat		*gōdaimiz	
	Acc	*gōdanz	*gōdōz	*gōdō

Table 2: The adjectival paradigm influenced by the pronominal inflection

	Sg.	Pl.
Nom. m.	*dagaz	*dagōzez, -ōsez
Nom n.	*wurda ⁿ	*wurdō
Vok	*dage	=Nom.
Gen	*dagas(a)	*dagō ⁿ ō
Dat	*dagai	*dagamzaz
Acc	*daga ⁿ	*daganz

Table 3: The reconstructed nominal paradigm (BAMMESBERGER 1990, 39)

		Masc	Fem	Neut
Sg.	Nom	*sa	*sō	*Pat(-)
	Gen	*Pesa	*Pezōs	*Pesa
	Dat	*Pazmai	*Pezai	*Pazmai
	Acc	*Panō ⁿ	*Pō ⁿ	*Pat(-)
	Inst	*Pē		
Pl.	Nom	*Pai	*Pōz	*Pō
	Gen	*Pezō ⁿ	*Pezō ⁿ	*Pezō ⁿ
	Dat	*Paimiz	*Paimiz	*Paimiz
	Acc	*Pananz	*Pōz	*Pō

Table 4: The Proto-Germanic demonstrative (BAMMESBERGER 1990, 224)

The yet open question is the nature of the projection that the pronominal inflection is assumed to head. It cannot have appeared out of nowhere. The diachronic development of adjectival inflection provides the necessary insights that are needed to identify the origin of the projection and will be investigated in detail in the next section.

2.6.5 Diachronic aspects of the development

The pronominal inflection that appears on adjectives is called *pronominal* as it is influenced by the inflection of the demonstrative. BAMMESBERGER (1990) notes that this ending probably spread from indefinite pronouns - to which it also attached - onto adjectives. If it is the same inflectional ending that may appear with different functional elements and which at some

stage also appears on a lexical element, we may conclude that it is always the very same item. This seemingly flexible ending may thus host a functional projection that is either selected by a functional head, for example D° , or - in the case of adjectives - at some stage allows a lexical root in its specifier.

Independent evidence for this approach can be found in WILTSCHKO (1998). She convincingly argues for the decomposition of d-pronouns in German into D° and AgrD° . AgrD° is headed by the pronominal inflection. The structure below is reproduced from WILTSCHKO (1998, 149). Her analysis of the pronominal inflection heading AgrDP is based on the observation that it can also appear as a free morpheme in the function of a personal pronoun in German.

The structure of DPs: $[\text{DP } d\text{-}[\text{AgrD } \text{er } [\text{NP } \text{Mann}/\emptyset]]]$

Additional support for this analysis can be found in data from OHG. BRAUNE (2004) shows that the definite article could appear without inflection and he provides the following example:

(66) *dërda = die ërda* (BRAUNE 2004, 248f)
the earth

We may now apply this observation to IE and assume a similar structure. In order to do so, I will use BMMESBERGER'S (1990, 224) reconstruction of the Proto-Germanic demonstrative which was already given above and is reproduced here in Table 5. The table reveals that except for the Nominative singular, the demonstrative has the same initial element $*\bar{p}$ -. This is similar to the pattern of present day German in which the initial element of the definite article and the demonstrative is always *d-* (*d-er, d-ie, d-as, d-en, d-em*). It is thus feasible to assume that the demonstrative is and was composed, namely consisting of the $*\bar{p}$ - or *d*-part and the pronominal inflection. It is also feasible to assume that the projection the pronominal inflection heads was always the same and corresponds to WILTSCHKO'S AgrDP . I thus propose the structure in Figure 11 to hold for IE noun phrases with a demonstrative.

		Masc	Fem	Neut
Sg.	Nom	*sa	*sō	*Pat(-)
	Gen	*Pesa	*Pezōs	*Pesa
	Dat	*Pazmai	*Pezai	*Pazmai
	Acc	*Panō ⁿ	*Pō ⁿ	*Pat(-)
	Inst.	*Pē		

Pl.	Nom	*Pai	*Pōz	*Pō
	Gen	*Pezō ⁿ	*Pezō ⁿ	*Pezō ⁿ
	Dat	*Paimiz	*Paimiz	*Paimiz
	Acc	*Panz	*Pōz	*Pō

Table 5: The Proto-Germanic demonstrative (BAMMESBERGER 1990, 224)

Returning to the issue of adjectives it is evident that they cannot appear in the functional head D° .

At this point, we should briefly recall that an adjective at this stage is a nominal that must somehow lose its referential power in order to be able to merge as part of a DP that already contains a noun. Referentiality is tied to the ability to be argumental and the argument status of a noun is connected to the presence of the DP. If an adjective is a pronominally inflected nominal, it is essentially a noun that combines with a stem suffix, but that does not combine with the nominal declension. It thus lacks an nP-projection. The fact that the element is not referential is not due to the lack of nP but due to the lack of the DP-layer. Since only potentially referential elements can merge with DP, adjectives seem to be nouns that have ‘stripped’ of their n and their D-layer. However, there must be a remaining AgrDP headed by the pronominal inflection. It would of course be desirable to know what led to this development and how such a ‘stripping off’ of a functional layer is possible. I cannot give a thorough answer to this but I can only deduce this development from the properties of nouns and adjectives as given in the previous sections.

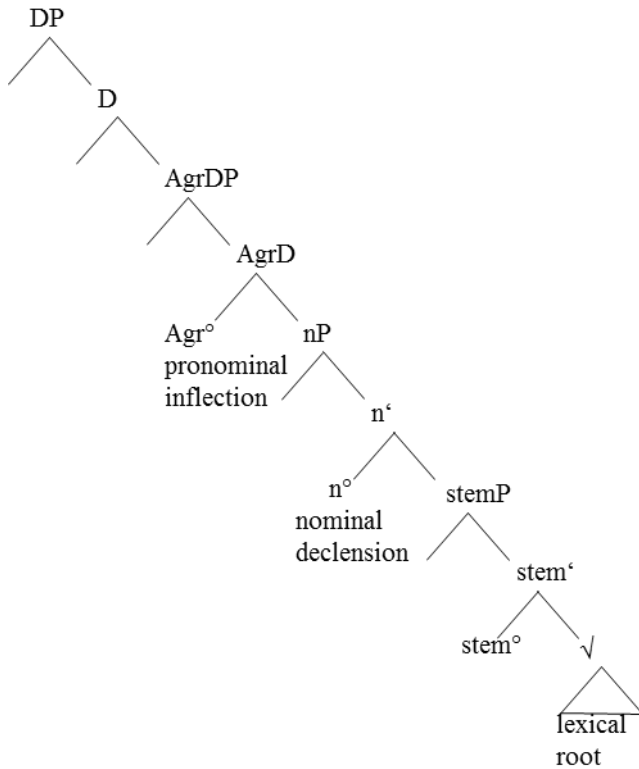


Figure 9: DP in IE

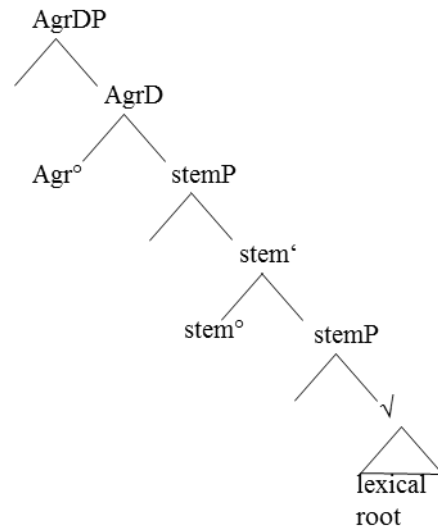


Figure 10: An adjective in IE

It is argued in WILTSCHKO (1998) that AgrDP alone can only appear in the absence of an NP. In this case it functions as the personal pronoun. When an NP is merged, the D-layer is required, otherwise the structure is illicit (for a more detailed description of this analysis see section 5.2.2.1). The basic structure would thus look like the one in Figure 11. What does that mean for the structure above? The *root + stemm suffix* moves to SpecAgrDP resulting in a non-referential agreeing lexical element, which due to its properties cannot ‘survive’ on its own as a noun. It must therefore merge as part of a full DP (or as part of a VP as a predicative element) and functions as an attributive modifier. This is exemplified in Figure 12.

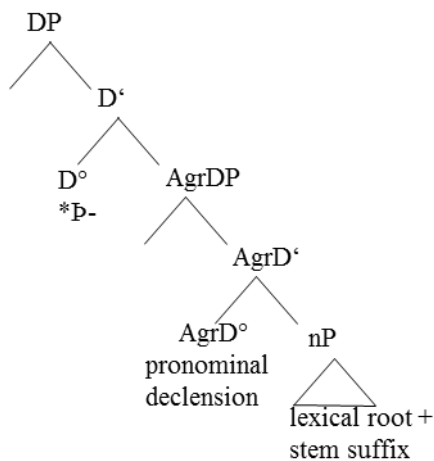


Figure 11: DP with a demonstrative (*P + pronominal declension)

The advantage of the analysis is the fact that no new projection must be stipulated but it is an already existing one that ‘expands’ its function and results in what appears as a new inflectional ending on adjectives. The first step to distinguishing nouns and adjectives is therefore for certain lexical roots to appear in SpecAgrP and to be able to inflect pronominally.

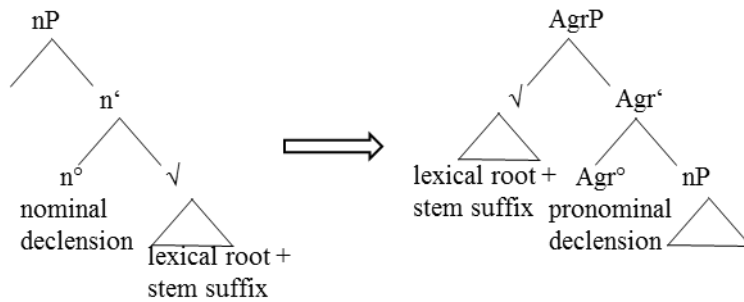


Figure 12: From nominal to attributive modifier

A more elaborate version of the suggested structure is given in Figure 13. In this structure it is evident that AgrP can obviously be iterated. This iteration is a likely scenario for two reasons: Adjectives can be stacked and, at least in German, when they are stacked they all bear the same ending. This is illustrated in example (67).

- (67) *Ein schön-er neu-er Tag*
 a lovely-NOM.MASC.SG. new-NOM.MASC.SG. day

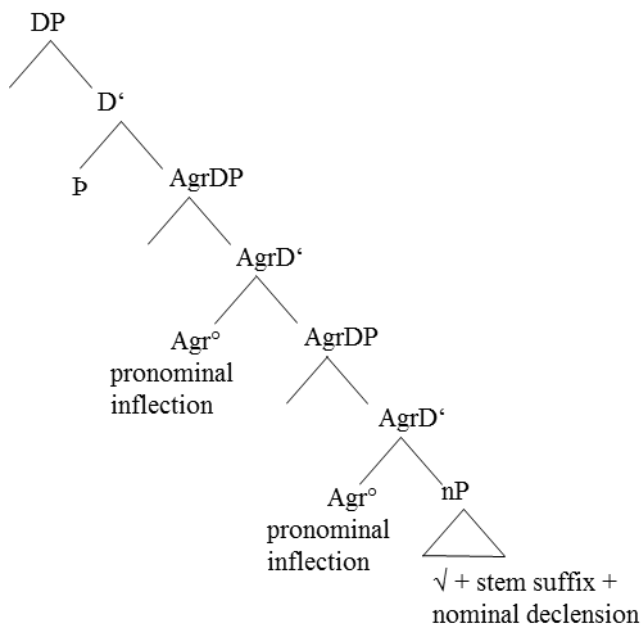


Figure 13: Possible structure for a modified DP

The assumptions put forth above illustrate a possible scenario for the development of attributive nominal modification in IE. This was certainly a long process but it seems to be a plausible starting point of the development of the category adjective. First of all the language learner needs a clue that indicates that certain nominal roots are interpreted differently at some point and do not merge with nP. This clue is given with the pronominal inflection, as was already argued above. It must be noted though that this does not mean that these lexical roots were no longer able to bear the nominal declension. It has already been shown that in the beginning the adjectival paradigm only showed partial influence of the demonstrative. Furthermore, it was certainly the case that the lexical roots could either merge with nP or appear in SpecAgrDP for a very long time. This may have led to the appearance of adjectives as being ‘easily nominalized’ or as being ‘transparent’ regarding their categorial status, as was mentioned previously. Following the outlined approach it is the other way round though: A group of nominals, most likely singled out on semantic grounds, was flexible in that the lexical root that used to merge with nP could at some point appear in SpecAgrDP and was interpreted as an attributive modifier. This development progressed further and at some point the lexical roots were indeed divided into two groups - those that only appeared in SpecAgrDP and those that only merged with nP.

2.6.6 The further development of attributive adjectives in Germanic

The above scenario is of course only the start of the permanent division of nouns into nominals and adjectives resulting in the possibility of attributive modification. The further progress of this development may be deduced from differences regarding the stem suffixes that attached to both noun and adjective. As BAMESBERGER (1990); WERNER (1984) or OSTHOFF (1876) note, the stem suffixes that were shared by adjectives and nouns were reduced in number on adjectives whereas on nouns they were “dissolved” into various declension classes (WERNER 1984, 187ff). WERNER points out that the stem suffixes fused at a rather early stage with the nominal inflection and were thus ‘included’ in it (p. 191f). The former tripartition is hence reduced to a binary division (p. 193) illustrated in (68). WERNER highlights that this is too general and simple because the old tripartition does not disappear completely and the process was long and had a great amount of variation in its intermediate stages.

(68) *idg. Wurzel - stb. Suffix - Flexiv* → *ahd. Wurzel - Flexiv*

indogerm. root - stem suffix - inflection → OHG root - inflection

The situation was different for adjectives, as WERNER mentions, because they did not undergo the development of splitting into various declension classes but the stem suffixes were either ‘used grammatically’ (e.g. to distinguish gender) or given up completely (p. 204). This different development w.r.t. the stem suffixes may be regarded as a further manifestation of the division of the roots that formed nouns and those that occurred as modifiers. The reduction or re-interpretation of the stem suffixes is of great relevance as it further manifests the division of the lexical group that appears as adjectives. It is of high importance as adjectives can still bear nominal inflection. This is somewhat problematic regarding the assumption that the nominal declension heads nP and is the suffix that makes the nominal status of a lexical element overt. I will return to this issue in section 2.7.

Another development took place that is a novelty of Germanic. The nominal n-declension combines as an inflectional ending with adjectives but essentially differs in its behavior compared to its appearance on nouns. The n-declension is very productive in nominal word-formation in Germanic (WESSÉN 1914) and is one of the declension classes mentioned above. When it appears on an adjective, it shows the peculiarity of almost solely occurring in DPs that were interpreted as definite (KOVARI 1984). The following examples from Gothic, again taken from BAMESBERGER (1990), illustrate the so called weak adjectival inflection in Gothic.

The weak adjective in Gothic			
	Masc	Fem	Neut
Sg. Nom	blinda	blindo	blindo
Gen	blindins	blindons	blindins
Dat	blindin	blindon	blindin
Acc	blindan	blindon	blindo
Pl. Nom	blindans	blindons	blindona
Gen	blindane	blindono	blindane
Dat	blindam	blindom	blindam
Acc	blindans	blindons	blindona

Table 6: Weak adjectival inflection in Gothic

Because of the distributional peculiarity mentioned, the weak ending as an adjectival inflection is often said to have marked definiteness, a function that was lost when definiteness was frequently marked with articles. Whether or not this is correct, it is a well known fact that the weak and the pronominal ending on adjectives were distributed dependent on definiteness, whereas such a definiteness effect is not observed with nouns that follow the n-declension. This difference can be taken as evidence for the (further) manifestation of adjectives as a clearly distinguished category which clearly differed at this point from nouns in its properties.

2.7 A note on adjectival inflection in Germanic

In the previous sections, the possible beginning of attributive modification has been described. In Proto-Germanic the development was probably advanced but not completed, yet, as adjectives were distinguished in their declension from nouns but could obviously still merge with nP - hence the impression of their transparency regarding their categorial status. It was noted that the stem suffixes that seemingly reduced earlier and faster on adjectives provide another step towards the manifestation of a subclass of nouns as adjectives.

Besides the reduction of the stem suffixes adjectival inflection was influenced by the pronominal paradigm. In Germanic, in addition to the pronominal inflection the n-declension appears as an inflectional suffix on adjectives. For the structure that was suggested above this means that we have to assume that AgrDP can now also be headed by the n-declension. This is quite problematic because if the above structure holds it would suggest that the demonstrative could also combine with the n-declension - but this is not the case.

Regarding the postulated ‘manifestation’ of some nouns as adjectives this rather implies that the functional projection AgrDP - that allows attributive modification - is either not the same AgrDP that merges with D° or it must have undergone some specialization regarding its function of introducing a nominal modifier into the DP.

There is only indirect evidence but I will assume the latter scenario to be the likelier case. AgrDP is a projection that bears an element that appears as a suffix on a head it merges with. In the case of adjectives, the element also appears as a suffix on the surface but not because of merging AgrDP with a head but by taking the lexical part in its specifier. In this latter function of introducing nominal modifiers into the DP it also plays a crucial role in the division of nominals into nouns and adjectives. Once adjectives appear as a lexical class of their own they must always appear in SpecAgrDP which may have led to a further

grammaticalization of the projection itself. In the course of this development it can be headed by different (agreeing) elements, namely the pronominal and the weak inflection. There is a third type of inflectional element, that occurs with adjectives and that is the nominal declension. Once adjectives appear as a distinct lexical class, the nominal inflection is regarded as a variant of strong adjectival inflection. The term strong is introduced by GRIMM (1822) and includes the pronominal and the nominal paradigm on adjectives. The two variants of strong adjectival inflection exist up to Old High German (OHG) (BRAUNE 2004). If we look at this ‘flexibility’ of the AgrDP its main purpose is not to bear some agreeing element but in the case of adjectives, its main purpose is the introduction of a nominal modifier. I will therefore re-label AgrDP as Mod(ifier)P(hrase). This label reflects the process of adjectives having become a distinct lexical category on the one hand and the fact that it combines with different inflectional elements on the other.

2.7.1 From AgrDP to ModP

In the previous section the reasons for relabeling AgrDP as ModP were already mentioned. Some further aspects of this assumed grammaticalization process are briefly stated here. Figure 14 illustrates the assumed changes. The structure shows that the lexical part in SpecModP is now an adjective phrase and no longer $\sqrt{+ stem suffix}$. Instead of AgrDP it is in the Spec of the grammaticalized version ModP. This indicates that adjectives are a lexical class distinct from nouns. The structure also illustrates that, unlike AgrDP, the pronominal as well as the *n*- (or weak) declension can head ModP.

The fact that both the weak and the pronominal inflection head ModP means that two elements ‘compete’ for one position. The expected result is that either one of the paradigms disappears or that they end up in complementary distribution. In the case of the pronominal and the weak ending, they indeed appear in complementary distribution at some point. The weak ending only occurs in DPs that are interpreted as definite whereas the pronominal ending was gradually reduced to DPs that were interpreted as indefinite (BAMMESBERGER 1990; KOVARI 1984). Instead of using the term pronominal it would at this stage be better to say strong inflection as the complementary distribution is between strong and weak inflection and not only between pronominal and weak one.

strong inflection → indefinite		weak inflection → definite
pronominal	nominal	n-declension

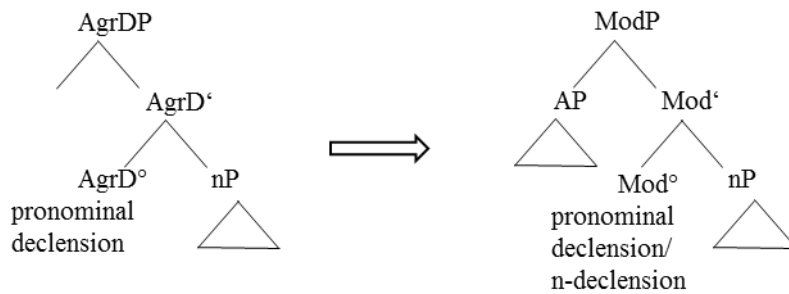


Figure 14: From AgrDP to ModP

Because of the distribution based on the definiteness status of the DP, the weak ending is sometimes said to have marked definiteness. KOVARI (1984) mentions that the weak ending almost solely appeared in DPs that were interpreted as definite from the very beginning. The strong paradigm was gradually reduced to indefinite contexts. This particular distribution is traditionally called *semantic distribution*.

The issue of whether or not the weak ending did indeed mark definiteness and what possibly triggered the change from this semantic distribution to the morpho-syntactic distribution that can be observed from MHG onwards is the topic of the next chapter and will thus not be discussed any further here.

What should be given is some additional evidence that supports the existence of adjectives as a distinct category at some point, based on the criteria that are said to characterise adjectives as a category. It is of course not possible to name a particular date or time when the distinction was real as data cannot confirm the assumptions. One indicator that can be found for the change from $\checkmark + stem$ to AP as in Figure 14 is comparison. Comparison has been mentioned as one of the characteristics of adjectives that distinguishes them from nouns. BAMESBERGER (1990, 231) points out that in IE there was most likely no comparative or superlative form which supports the assumption of IE to have lacked the class of adjectives. For Germanic he assumes the presence of inflectional suffixes that correspond to the comparative and superlative form of adjectives. BAMESBERGER presents a list of possible Germanic reconstructions. One of his examples is given in (69) (BAMESBERGER 1990, 234)

- (69) a. *spēduma- > got. (superlativische Weiterbildung) spedumists (latest)
 *spēduma- > gothic (superlative continuation) spedumists (latest)
 b. *spēd-iz-an- (>got. spedizei (...)) (reconstructed comparative form)

With this last piece of evidence for the distinction of adjectives as a separate lexical class, I will briefly return to the issue of the formal distinction between nouns and adjectives.

2.8 Nouns and what makes them distinct from adjectives - the diachronic perspective

In section 2.3, an overview of the characteristic properties of nouns and adjectives as well as a formal distinction of the two categories was given, mainly based on BAKER (2003) and BORER (2013). This section revealed that it is rather difficult to define the category adjective, which is also reflected in the fact that the two approaches seem to have very different conclusions regarding this part of speech. BAKER analyses adjectives as an underspecified category whereas BORER concludes that adjectives are the only category a priori determined in the lexicon.

In BAKER'S theory, adjectives can directly modify nouns because they do not have any property that would exclude them from doing so. They are neither referential nor do they discharge a theta-role. He therefore analyses adjectives as being [-N][-V] - they are neither nouns nor verbs.

In BORER'S framework, the interpretation of a lexical root as either nominal or verbal has two sources. Either it combines with a suffix in which case the root is a derived element (*form* → *formation*) or the root occurs in a particular extended projection that automatically leads to an interpretation as nominal (*form* → *the form*) or verb (*form* → *to form*). The roots themselves are not categorized and therefore they can either appear as noun or verb - dependent on the syntactic context they appear in. This observation, as BORER notes, does not extend to adjectives. Adjectives behave as if they were already derived. They can neither appear as nouns nor verbs and do not show the characteristics of roots (*hot* → *too hot* **the hot*, **to hot*; *walk* → *the walk*, *to walk*, **too walk*). BORER concludes that adjectives are already specified in the lexicon.

Looking at these two approaches with the assumptions in mind put forth in the previous sections, both theories seem to be correct. BAKER'S approach is correct in that adjectives are indeed [-N] in the sense that they cannot refer. They cannot refer because they no longer merge with nP - the root and stem suffix alone do not form a noun - and thus cannot merge with DP. The two elements can appear in SpecAgrDP in the extended projection of the noun and directly modify it. This means that in the course of the diachronic development a group of lexical roots became indeed underspecified. The loss of nominal properties by failing to merge with nP allows these lexical elements to directly modify nouns which perfectly fits BAKER'S analysis.

In order to achieve this development, it was necessary though, that a subgroup of nominals was singled out (probably on semantic grounds) that underwent the above described changes. The group of lexical elements must at some point be specified as adjectives in the lexicon to make the division between adjectives and nouns a permanent one. The manifestation of the division of noun and adjective may result in what appears in BORER'S theory as the property of adjectives as being categorially specified in the lexicon.

Regarding BORER'S assumption w.r.t. verbs and nouns as uncategorized roots, it would be interesting to have a closer look at the diachronic development of these two categories. Singling out a subgroup of lexical roots that receives a fixed interpretation as adjective does not necessarily involve that in the course of the same development those that are not able to appear as nominal modifiers are also determined categorially. I will leave this issue unresolved, as a detailed investigation of the diachronic development as well as the synchronic situation would be needed in order to address this point sufficiently.

2.9 Summary

This chapter has taken a statement serious that is often found in literature on IE, namely that noun and adjective were not distinguished at the time and that the strategy for nominal modification was probably appositional rather than attributive.

Taking this assumption 'literal' and, along the lines of BHAT (2000), creating an 'idealized' scenario, this means that in IE the lexical class of adjectives did not exist. This assumption has a lot of consequences not only for nominal modification in IE but also for the diachronic development of nominal modification in general. The reason is that all Germanic languages belong to the group of IE languages and they all distinguish adjectives as a lexical class. One of the consequences therefore is that at some stage adjectives must have 'developed' in some way.

In the previous sections, I assumed that nominal modification in IE was achieved by CA and that the underlying structure was most likely symmetric, following the approach in LEKAKOU and SZENDROI (2007). It was then argued that a particular semantic subgroup of nouns underwent a change that led to their being realized in the specifier of a functional projection instead of merging with nP to form a nominal. The indicator for this development lies in the inflectional paradigm that only on the later developed group of adjectives shows influences of the demonstrative paradigm. The same influence can not be found on nominals. This is assumed to be a first morphological distinction of noun and adjective. This morphological

distinction also provided the relevant clue for the language learner to distinguish attributive modification from CA.

The distinction of adjectives is further manifested in the diachronic development by the reduction of stem suffixes that appeared with adjectives and the fact that the stem suffixes on nouns developed into various declension classes, a process that is not observed with adjectives. This means, that the two categories were indeed distinct as they clearly differed in their morphological behavior.

The fact that from Germanic onwards the weak adjectival inflection was introduced was taken in support of the assumption that AgrDP has grammaticalized further and is able to be headed by different elements and it was therefore re-labeled as ModP.

3 From Germanic to EarlNHG - the development of German adjectival inflection

It is a well known fact that Modern Standard German (MStG) has got two adjectival paradigms, traditionally called strong and weak after GRIMM (1822). The strong paradigm is also called pronominal due to the fact that the same inflection can be found on the demonstrative, the definite article and other pronouns.

(70) d-er ein-er gut-er
 the.-NOM.MASC.SG. one-NOM.MASC.SG. good-NOM.MASC.SG.

The distribution of the two paradigms in MStG is generally assumed to be morpho-syntactically driven. This means that the inflection on the preceding article determines whether the adjective bears strong or weak inflection. If the preceding article bears strong inflection, the adjective inflects weak if there is no preceding article or if the article is uninflected, the strong inflection appears on the adjective. Table 7 illustrates the pattern.

Pronominal inflection (ϕ-features + case)	Weak inflection
Ein groß- er Tisch A big-NOM.MASC.SG. table	D-er groß- e Tisch the-NOM.MASC.SG. big-WK table
Ein Korb mit gut- em Wein A basket with good-DAT.MASC.SG. wine	Ein-em groß- en Tisch A-DAT.MASC.SG. big-WK table
Der Geschmack frisch- er Milch the taste fresh-GEN.FEM.SG. milk	D-er schön- en Frau the-DAT.FEM.SG. beautiful-WK woman

Table 7: The morpho-syntactic distribution of adjectival inflection in MStG

However, the distribution of the two adjectival paradigms did not always follow the pattern sketched above. Up to Old High German (OHG) the distribution is generally assumed to have been driven by definiteness, a fact that has been briefly addressed in the previous chapter. In DPs interpreted as definite the adjective bears weak inflection and in DPs interpreted as indefinite the adjective inflects pronominally (DEMSKE 2001; KLEIN 2007; RATKUS 2011). This is known as the semantic distribution which is preserved e.g. in Danish or Icelandic (HABERLAND & HELTOFT 2008; PFAFF 2015).

Pronominal inflection	Weak inflection
mit éinemo rôtemo with a-DAT.NEUT.SG. red-DAT.NEUT.SG. tûoche cloth	zi desemo itmal- en dage to this festive-WK day-DAT.SG.
éines scônîs a-GEN.NEUT.SG. pretty-GEN.NEUT.SG. chîndes child-GEN.SG.	thero gorég- un wórolti this poor-WK world

Table 8: The semantic distribution in OHG (data from the Referenzkorpus Altdeutsch)

It is evident that throughout the diachronic development considerable changes must have taken place that resulted in the restructuring of the distribution of adjectival inflection. The goal in the subsequent paragraphs is to give a descriptive account of the development of adjectival inflection and its distribution from Germanic up to EarlyNHG to close the (time) gap between the previous and the subsequent chapters as the latter will focus on present day varieties of German. In order to do so, I will draw on previous studies and their results and interpret them in the light of the insights from chapter 2 as well as from a generative perspective. I will not provide much new data but I will mainly rely on the data presented in the literature.

In the following sections, I will first focus on the nature of weak adjectival inflection, its morphological status as an inflectional or derivational morpheme and the possible origin of the semantic distribution. The challenge is to account for the definiteness effect the n-declension seemed to have brought with it when appearing on adjectives. The assumption that is generally followed is that the n-declension nominalized adjectives and that these nominalized adjectives were reinterpreted as attributive ones at some stage. This approach is put forth in OSTHOFF (1876) and is followed e.g. by KOVARI (1984) or HEINRICHS (1954) but is challenged in RATKUS (2011). I will briefly review both approaches as well as the syntactic consequences they bring with them.

After discussing weak adjectival inflection I focus on the change from the semantic to the morpho-syntactic distribution and I will argue for marking (in)definiteness with articles to be the most likely trigger for this change rather than unclear language input in EarlNHG as is assumed in DEMSKE (2001).

3.1 The n-declension on adjectives in Germanic – a case of nominalization?

The question that must be addressed regarding the semantic distribution as illustrated in Table 8 is the following: Is there anything in the semantics of the two adjectival paradigms - especially the weak one - that may have led to this particular arrangement of the inflectional endings. There is a consensus that there is a connection between weak adjectival inflection and the definite article. In Germanic, definiteness was not marked with an article, but in Gothic definiteness-marking with an article can already be observed to some extent, as is extensively studied in KOVARI (1984). The definite article mainly appears preceding weak adjectives. The nature of this connection is a matter of debate, however. The weak adjective, its origin and the particular constructions in which it first appeared would certainly make a topic of its own and I will not be able to sufficiently discuss it but I will limit myself to those aspects of the development that are of relevance for the discussion in this chapter. I will not discuss possible reasons for the weak declension to appear on adjectives because, as BAMMESBERGER notes:

“das Aufkommen dieser Flexionsweise und ihre syntaktische Verwendung [gehören] zu den umstrittensten Problemen der germanistischen Sprachwissenschaft.” (BAMMESBERGER 1990, 230)

The emergence of this inflectional type and its syntactic use belong to the most controversial problems of Germanic linguistic.

In the discussion on the nature of the weak adjectival inflection in its earliest stages there are two competing accounts, which are of importance for the discussion in this chapter. On the one hand, there is OSTHOFF'S (1876) analysis in which weak inflection is assumed to have nominalized adjectives. This is regarded as a consequence of the nominal origin of the n-suffix. OSTHOFF assumes that the n-declension is not of Germanic origin but much older. It was an old stem suffix and used to be productive in nominal word formation. Consequently, the n-declension first appears as a derivational morpheme on adjectives and turns them into nouns. In the process of the re-interpretation of these nominalizations as attributive modifiers, the n-declension must have grammaticalized from a derivational into an inflectional suffix. This view is widely accepted in the literature.

On the other hand, there is a more recent account that challenges OSTHOFF'S approach. RATKUS (2011) assumes the weak paradigm on adjectives to have its source in the n-declension of Germanic nouns. This assumption has two implications: 1) The n-declension is not of IE origin but much 'younger' and 2) the element was always inflectional.

In the following, I will briefly discuss both approaches as well as their syntactic consequences for nominal modification in general.

3.1.1 The weak adjectival paradigm in Germanic - derivational or inflectional?

In this section, I will discuss the two different approaches that were mentioned at the end of the previous paragraph. The adoption of one approach or the other has an impact on nominal modification in Germanic in general. First, I will introduce OSTHOFF'S (1876) analysis, who assumes the n-declension to have nominalized adjectives. I will then continue with RATKUS' (2011) analysis who assumes that the n-ending on adjectives was always inflectional.

As mentioned in the previous paragraph, I will not speculate on the possible reasons for the n-declension to appear on adjectives at some point since this is a question that will probably never be answered as the quote from BMMESBERGER (1990) in the previous paragraph suggests. Therefore, I will focus on the consequences of this particular development but I will remain silent on possible reasons for it.

The n-declension as a nominalizing suffix on adjectives

Let us first focus on some aspects of the n-declension that seem to be agreed upon in the literature. OSTHOFF (1876) investigates in very much detail the origin of the n-declension itself and its impact on nominal formations in Germanic as well as the broader group of Indo-Germanic languages. The n-declension is assumed to be rather old. It used to be very productive in the formation of nominals, especially so called *nomina agentis* (OSTHOFF 1876). This was so productive that the *-an*-suffix was at some stage no longer restricted to building *nomina agentis* but was extended to the building of living beings and individuals, OSTHOFF (1876) argues. Many of these derivations were deverbal as is also discussed in a detailed study by WESSÉN (1914). The examples from OSTHOFF (1876, 102) given in Table 9 illustrate this type of formation. All examples are given in nominative singular (therefore, the characteristic *n* of the n-declension is not present but see Table 10 for a full paradigm):

	n-declension	translation
OHG	bot-o/pot-o	enunciator, messenger
Old-Saxon	bod-o	
Anglo-Saxon	bod-a	
Old Norse	boð-i	
MHG/NHG	bot-e	
Old-Saxon	ban-o	killer, murderer
Anglo-Saxon	ban-a/ bon-a	
Old Norse	ban-i	
Old-Saxon	skað-o	injurer, robber
Anglo-Saxon	sceað-a	
Old Frisian	vit-a	confidant, witness
OHG	ga-wizz-o	
Old Saxon	ge-wit-o	
Anglo Saxon	ge-vit-a	

Table 9: Nominal formations with the n-declension

Paradigm of a Gothic n-stem noun (masculine)			Proto-Germanic reconstruction of the paradigm
cock			
Sg.	Nom	hana	*hanō
	Gen	hanins	*han-(e)n-az
	Dat	hanin	*han-en-i
	Acc	hanan	*han-an-u ⁿ
Pl.	Nom	hanans	*han-an-ez
	Gen	hanane	*han-(a)n-ō ⁿ
	Dat	hanam	*han-(u)n-miz
	Acc	hanans	*han-an-unz

Table 10: The Gothic and the Proto-Germanic paradigm of an n-stem nominal (BAMMESBERGER 1990, 164f)

It is the ability of the n-suffix to form nominals OSTHOFF focusses on, when explaining the nature of this ending on adjectives. OSTHOFF assumes that the nominal origin and the productive building of individuals had a particular impact when the ending was combined with adjectives - namely their nominalization. In other words, in OSTHOFF'S analysis, weak adjectives were nominal and could then combine with other nouns in an appositional relation. It is important to understand 'appositional' here not in the sense of an appositive adjective but as CA (see also chapter 2) in which one DP modifies another:

- (71) *Ludowīg ther snello* (OHG, Otfred)
Ludwig the.NOM.MASC.SG. brave

W.r.t. the definiteness effect that is observed in connection with the weak adjective, OSTHOFF follows SCHERER (1868) who analyses the connection between the demonstrative/definite article and the weak adjective to lie in the nominal origin of the weak declension. The definite

article is not assumed to appear together with the weak adjective because the weak inflection marked definiteness, but the article first combined with those nominal formations that were built with the n-declension. The definiteness effect in this scenario is attributed to the ability of the n-suffix to individuate.

KOVARI (1984, 54) confirms this view because he notes that those lexical elements combine with the article in Gothic that are able to bear the weak inflection - therefore there must be a connection between the article and this particular suffix. Since much more adjectives bear the weak inflection than nouns, it can mostly be found preceding adjectives.

It must be noted that KOVARI only follows OSTHOFF in the assumption that the n-suffix nominalized adjectives. He rejects the view that it does not bring definiteness with it. On the contrary, KOVARI follows the assumption that the weak ending marked definiteness but that the suffix lost this function. Therefore, an additional element was needed that took over the definiteness-marking, which was the article.

KOVARI also makes an important note, why the article and not the n-declension was at some point used for marking definiteness. He points out that the article as a free morpheme is a more flexible element than a suffix:

“Der Artikel konnte nunmehr vor jedem Wort stehen, ein großer Vorteil für die Bestimmtheitsanzeige, weil der Artikel mobiler als ein Suffix ist und vielfältige Konstruktionsmöglichkeiten zulässt.“(KOVARI 1984, 56)

The article could now precede any word, a big advantage for definiteness marking, because the article is more mobile than a suffix and it allows many constructions.

DELBRÜCK (1909) also attempts to explain the definiteness effect of the weak adjective as mentioned in KOVARI (1984). Since the weak adjective is assumed to be nominalized, it can only appear with other nouns in an apposition as mentioned above. Regarding this particular aspect of the theory, KOVARI, following DELBRÜCK (1909), notes that the apposition containing a nominalized adjective describes a property and contains a noun determined by this property. The definiteness effect, according to DELBRÜCK, results from the fact that the nominalized adjectives used to denote living beings and these expressions generally combined with names. The example below is taken from KOVARI (1984, 21):

(72) *Sigfried*

(73) *Sigfried, der Jüngling*⁷

Sigfried, the youth

It is evident from the various analyses of the definiteness effect the n-declension is attributed that there is no consensus and the question of this particular property must remain unresolved to some extent. I will not pursue this issue any further here but I will briefly return to it when discussing the approach of RATKUS (2011) and I will discuss it again in section 3.2.

So far, it was only discussed that the n-declension may have nominalized adjectives - it was not yet mentioned when and how these nominalizations were re-interpreted as adjectives. KOVARI (1984) provides a list of those verses of the Wulfila-Bible that contain weak nominalized adjectives and he notes that they could be re-interpreted as attributive adjectives when accompanying another noun in apposition. The following examples (KOVARI 1984, 17) illustrate this point.

(74) Nominalization: *der Blinde*
the blind

(75) Apposition: *Mann, der Blinde*
man, the blind

(76) Attributive interpretation: *der blinde Mann*
the blind man

Conventional usage is assumed to have led to the reinterpretation of the nominalized adjectives as adjectival - a process that seems to be somewhat questionable. It is questionable because it basically involves the assumption that the weak adjective is first nominalized and then “de-nominalized” to become an adjective again. It might also be questioned why nominalized adjectives appear in addition to the existing attributive ones to also fulfill the function of an attributive modifier. If the relation was indeed appositionive and the n-declension led to a definiteness interpretation it may have well been the case that such an appositional relation did not involve a nominalized adjective but an adjective and an elided noun. This point will be taken up in more detail in section 3.1.2 and 3.1.2.1.

⁷ *Jüngling* is a nominalization of *jung* (young) and is meant to represent a nominalized adjective. Since the example is given in NHG the nominalization contains the derivational suffix *-ling*. It would have been closer to the original n-derivation though if the example was translated as *Sigfried, der Junge* in which the adjective inflects for the weak paradigm.

The n-suffix as an inflectional element on weak adjectives in Germanic

OSTHOFF'S nominalization-theory is the most widely accepted in the literature as is noted in RATKUS (2011, 230). RATKUS offers an alternative approach and assumes the weak n-declension to be of Germanic origin. This means that he does not relate the n-declension on Germanic adjectives to the n-stem adjectives/nominals of IE (RATKUS 2011, 233). According to RATKUS, it is much likelier that the source of the weak adjectival inflection are the Germanic n-stem nouns because they are not restricted w.r.t. gender unlike other declension classes of the time. This flexibility of the n-declension is important, because adjectives agree in gender and number with the noun they modify and this option is given with the n-declension. The n-declension was thus a suitable candidate to combine with adjectives for two reasons: 1) It was unrestricted w.r.t. gender as said above and 2) it shared the categorial properties of the strong declension because in addition to gender, it also specified number and case. To illustrate this point the paradigm that was already given in chapter 2 is reproduced here as Table 11 for ease of reference.

The weak adjective in Gothic				
		Masc	Fem	Neut
Sg.	Nom	blinda	blindo	blindo
	Gen	blindins	blindons	blindins
	Dat	blindin	blindon	blindin
	Acc	blindan	blindon	blindo
Pl.	Nom	blindans	blindons	blindona
	Gen	blindane	blindono	blindane
	Dat	blindam	blindom	blindam
	Acc	blindans	blindons	blindona

Table 11: Weak adjectival inflection in Gothic

A very important consequence of this proposal is that the weak adjectival paradigm is assumed to have always been purely inflectional.

The reason for the definiteness effect is regarded as being part of the development of weak adjectives. The basic idea is that due to the “necessity for definiteness exponence” (RATKUS 2011, 234) the weak ending was a good candidate due to its being unrestricted w.r.t gender by at the same time marking number and case, as mentioned above. The frequent co-occurrence with the demonstrative/definite determiner is attributed to the fact that the weak paradigm was

affected by syncretism that required an alternative strategy to mark the relevant features at some point.

Regarding the syntactic structure of weak adjectives and nominal modification in Germanic, it has immediate consequences for the syntax whether one follows OSTHOFF'S or RATKUS' theory, which is the topic of the next section.

3.1.2 Syntactic consequences of the two approaches

In this section, I discuss the syntactic consequences of the two approaches that were introduced in the previous paragraph. The weak adjective did not only appear accompanying and modifying a noun but also in argument position, which points to its status as a nominal. This seems to lend support to OSTHOFF'S theory, because adjectives (unless nominalized) do not refer and cannot appear in argument position (see chapter 2, section 2.3). A nominalization approach does not run into problems here but when following RATKUS' analysis we would have to assume nominal ellipsis to account for the data. The question is thus an empirical one: Are the relevant examples instances of nominalized adjectives or are they instances of nominal ellipsis?

In order to decide which approach should be followed, relevant data have to be considered. KOVARI (1984) presents a detailed empirical account of the development of the Gothic article and also discusses the weak adjective. He essentially follows OSTHOFF'S nominalization approach and provides lists with examples in which the adjective appears modifying a noun or without accompanying a noun. The latter examples are relevant to the discussion as they can help to decide whether the adjective is nominalized or not.

In OSTHOFF'S discussion, the ability of the n-declension to individuate is stressed. In connection to this, KOVARI (1984, 19) makes an important note on the term individuation especially in connection with the weak (nominalized) adjective and the semantic restriction it used to be subject to:

“Zum Begriff Individualisierung muss noch angemerkt werden, daß es sich - in diesem Zusammenhang - nicht um ein bestimmtes, also nur einmal auf der Welt vorkommendes Individuum handeln kann. Lat. *silō*, *silōnis* „Plattnasiger“ oder got. *staua*, *stauins* „Richter“ bezeichnen nicht ein Individuum (i.e. „der bestimmte Richter“, z.B. eines Dorfes) sondern eine Klasse von Individuen oder Personen. (...) Um Ungenauigkeiten und falsche Folgerungen zu vermeiden, wäre es besser von einer „Personalisierung“ durch das n-Suffix zu sprechen (...)“

Regarding the term individuation, it has to be noted that - in this connection - it cannot refer to a certain living being that only exists once in the world. Lat. *silō*, *silōnis* „flat-nosed one“ or got. *staua*, *stauins* “judge” do not denote an individual (i.e. “the particular judge” e.g. of a village) but a class of individuals or people. (...) To avoid inaccuracies and wrong conclusions, it would be better to speak of a “Personalisation” through the n-suffix (...)”

The point KOVARI makes here is directly related to the particular type of construction weak adjectives mainly appear in when **not** accompanying a noun and which are assumed to be nominalizations. This is the so called human construction (HC) (the term stems from KESTER (1996)) as in (77). Weak adjectives are subject to a semantic restriction when they are nominalized with the n-declension as they only denote individuals that are *+human*. This particular construction termed HC is characterized by the following properties: It is *+human*, *+definite*, *+generic*. A Gothic example that corresponds to the HC, listed in KOVARI (1984, 69) with the information given in (78), is reproduced in Table 12. The source of the example is the annotated version of the Wulfila Bible in the PROIEL-corpus.

(77) The rich are not any better than the poor.

(78) Mat, VIII, 22

let	þans	daupans	gafilhan	seinans	daupans
verb	demonstrative	adjective	verb	poss. refl. pron.	adjective
let.IMP.PRS.A CT.2SG.	the.ACC.PL. MASC.	dead.POS.ACC. PL.MASC.WK	bury.INF.PRS. ACT.	their.ACC.3PL. MASC.	dead.POS.ACC. PL.MASC.WK
<i>let the dead bury their own dead</i>					

Table 12: Example from the Wulfila Bible taken from the PROIEL-corpus

The question that arises is: Are these examples instances of nominalized weak adjectives? This question is actually not a simple one. An interesting fact about the HC is that it seems to have both adjectival and nominal properties. The construction is adjectival as it can be compared and it can also be combined with a degree modifier:

(79) The very poor

(80) The poorest

The construction is nominal as it appears in argument position which is evident in example (77) in which the DP *the rich* is the subject of the sentence.

Because of its ambivalent categorial status, the HC receives different analyses in the literature. I will focus on two approaches, which are based on data from contemporary

German, English and Dutch. The first one I will discuss is an ellipsis approach to the HC put forth in OLSEN (1987) and KESTER (1996). In both analyses the HC is assumed to be a special case of ellipsis. The second approach, put forth in SLEEMAN (2013), rejects the ellipsis account and argues for a hybrid approach w.r.t. the categorial properties. This means that even though the ellipsis-approach is rejected a purely nominalization account is not pursued either.

The Human Construction

OLSEN (1987) analyses examples that are termed HC as well as other similar examples with adjectives as elliptical DPs headed by *pro*. The two main arguments in favour of an ellipsis approach rather than nominalization are i) syntactic function and ii) internal structure. OLSEN argues that the HC must be a full DP because it appears in argument position and it has all the properties of a full DP (it can contain modifiers, quantifiers, complements etc). The following examples are from OLSEN (1987, 1). The adjectives are given in bold print as the translations do not necessarily reveal the fact that the German word is an adjective.

- (81) *Dort waren viele **Schaulustig-e** aufmarschiert.*
 There were many bystanders-NOM.PL. mustered
 ‘Many bystanders gathered there.’
- (82) *Inzwischen haben wir uns eines **Besser-en** besonnen.*
 Meanwhile have we us a.GEN.NEUT.SG. better-WK reflected
 ‘Meanwhile we have changed our mind.’
- (83) (...) *auf die entsprechende Frage des psychiatrischen **Sachverständig-en**.*
 on the related question the.GEN.MASC.SG. psychiatric-WK expert-WK
 ‘on the related question of the psychiatric expert’
- (84) (...) *ihr seid die **Richtig-en**.*
 you are the.PL. right-wk
 ‘You are the right ones.’

However, despite these properties, the adjective in the construction cannot be nominalized, because i) it is not restricted w.r.t. gender ii) it bears adjectival inflection. Therefore, OLSEN concludes, the HC must be a case of nominal ellipsis. The construction behaves like a full DP and the adjective shows adjectival properties not nominal ones. A nearly identical analysis can be found in KESTER (1996) based on contemporary Dutch and English. She also analyses the HC as a case of ellipsis and hence argues against the status of the adjective as nominal.

The arguments in KESTER, based on Dutch examples, are the following (all examples from KESTER (1996, 63ff)):

- Prenominal adjectives are preceded by their complements and this is also the case in the HC so it must be adjectival,

(85) *de hiervan (volkomen) afhankelijke vluchtelingen*
the here-on completely dependent refugees

(86) **de (volkomen) afhankelijke hiervan vluchtelingen*
the completely dependent here-on refugees

(87) *de hiervan (volkomen) afhankelijken pro*
the here-on completely dependent

(88) **de (volkomen) afhankelijken hiervan pro*
the completely dependent here-on

- unlike true nominalizations the HC cannot take a diminutive suffix,

(89) **een blindetje*⁸
a blind-DIM

- the HC has an irregular plural which is *-n* instead of *-s* and which separates it from true nominalizations,
- the plural appears only once in the HC when adjectives are stacked (on the last one),
- in DPs characterized as +neuter, +singular, -definite no inflection appears on the adjective but inflection is obligatory in elliptical NPs (see example (90) from KESTER (1996, 68)).

For these reasons, it is assumed that the obligatory inflectional element on the adjective in the Dutch HC is not a derivational but an inflectional element that plays a role in the licensing of non-referential *pro*.

(90) a. *de besproken_ person*
the talked-about person
'the person talked about'

⁸ In German there are nominalizations which can be combined with a diminutive:

Das/Die Dumm-er-chen
The.Sg./The.Pl. stupid-DIM

These formations do not correspond to the HC though. The formation does not show adjectival inflection but *-er* is inserted between the diminutive and the stem. This *-er* is neither adjectival inflection nor a derivational suffix as the constructin is ungrammatical without the diminutive (**das Dumm-er*). The HC in German cannot be combined with a diminutive:

Die **Dummen-chen*
The.Pl stupid-DIM

- b. *de besprokene pro*
 the talked-about
 'the person talked about

Based on the German data given in (81) to (84) OLSEN also provides arguments in favour of a *pro*-approach. She notes that German behaves like a *pro*-drop language and therefore the element heading the DP must be *pro*. German verbs do not show morphology that is 'rich enough' to allow subject *pro* as in Romance languages. However, in the DPs listed above the relevant features (phi-features and case) are realized either on the determiner or on the adjective. OLSEN (1987, 14) therefore concludes:

“In diesen Fällen können die spezifizierten Merkmalmengen von Det (...) bzw. von A (...) mit AGR in pro-Drop-Sprachen gleichesetzt werden: Alle drei sind pronominale Bündel, die die gleiche Funktion übernehmen, nämlich die Determination von *pro*.“

In these cases, the specific features of the determiner or the adjective are equivalent to AGR in *pro*-drop-languages: All three are pronominal bundles, which have the same function, namely the determination of *pro*.

A possible structure along the lines of the two analyses presented above would thus look like the one in Figure 15. The structure is adapted from OLSEN (1987, 14) and represented in a more modern fashion but essentially captures the original proposal and structural representation as suggested in her proposal.

[_{DP} [_D die_i Case + φ [_{ModP} [_{AP} Richtig] [_{Mod} en [_{NP} [_N pro_i Case + φ]]]]]]

Figure 15: The HC and other elliptical DPs with adjectival remnants in Olsen

SLEEMAN (2013) argues for Dutch examples like the ones in (85) to (90), that the suffix KESTER claims to be inflectional is in fact a derivational morpheme. Her arguments against the assumption for the suffix *-e* on the Dutch adjective as being inflectional are the following (all examples from SLEEMAN (2013, 170):

- The human nouns that could be elided are neuter (*mens* (human) or *persoon* (person)) and they do not require an inflected adjective but the adjective bears *-e* in the human construction

(91) *een ziek persoon* - *een ziek-e*
 a sick person.NEUT - a sick person

- Participles in attributive position do not inflect, but they do in the human construction

(92) *de verlaten (*e) echtente* - *de verlaten-e*
 the abandoned spouse - the abandoned person

- Plural indefinite quantifiers bear the suffix *-e* in elliptical NPs but in the human construction an *-n* can be added

(93) a. *Ik heb veel boeken. Sommige heb ik gelezen.*

I have many books. Some have I read

‘I have many books, some of which I have read.’

b. *Ik heb veel vrienden. Sommige zie ik bijna nooit.*

I have many friends. Some see I almost never

‘I have many friends, some of whom I almost never see.’

(94) *Ik heb veel vrienden. Sommigen zie ik bijna nooit.*

I have many friends. Some see I almost never

‘I have many friends, some of whom I almost never see.’

Based on this observation she argues against an ellipsis approach but does not assume the construction to simply be a nominalized adjective either. SLEEMAN argues for a mixed approach in which she accounts for the adjectival as well as nominal properties of the human construction. Her analysis is couched within Distributed Morphology (DM). In DM all lexical elements are roots, that are categorized by merging with a categorizing projection (aP, nP, vP). In the case of the HC this means that the root first merges with aP. This accounts for the fact that it can have all the properties that are normally ascribed to adjectives, like comparison or the modification with a degree modifier. In the case of the HC, this aP merges with another categorizing projection headed by a derivational suffix, namely nP. This accounts for the nominal properties of the HC. The structure suggested in SLEEMAN (2013, 173) is given in Figure 16.

[DP [FP [NumP [ClassP[+count] [nP [DegP[aP[root]]]]]]]]]]

Figure 16: Sleeman’s structure for the HC

The question is whether the insights provide some relevant clue regarding the weak adjective in Germanic/Gothic and its categorial status. There is one main point of relevance to the analysis of the weak adjective: The status of the suffix as being inflectional or derivational.

The Gothic example in (78) above is the type of HC KESTER (1996) and SLEEMAN (2013) refer to and which also has the properties *+human*, *+generic*, *+definite*. The adjective bears weak inflection and is regarded as a case of nominalization in KOVARI (1984). However, as is evident from the discussions in KESTER and SLEEMAN, a pure nominalization analysis does not capture the combination of nominal and adjectival properties the HC has. In the list of

KOVARI'S examples we also find compared weak adjectives and comparison clearly points to the adjectival status of the lexical element:

- (95) *unte sa minnista wisands* (Luk, IX, 48)
whoever is least

Combining the insights from KESTER and SLEEMAN with OSTHOFF'S approach, it is evident that a purely nominalization approach fails to capture the adjectival properties of the HC. The HC in Gothic shows the adjectival properties named above, because it can be compared as in (95). The question that comes up here is whether the properties of the HC as described above are reason enough to reject a nominalization approach.

In RATKUS (2011) the weak paradigm is an inflectional element from the very beginning. If this is the case, then the HC must be regarded as being part of an elliptical construction and cannot be analysed as an instance of nominalization - this means that OLSEN'S and KESTER'S analyses would provide a good tool for analysing the data.

It may also be helpful to look for additional support for one or the other approach before continuing with the syntactic consequences. The appositional constructions mentioned above can be assumed to contain an adjective with an elided noun rather than a truly nominalized adjective. This can be taken in support of an ellipsis-approach to the data. The reason for assuming nominal ellipsis here is that the article and the adjective agree in gender and number with the noun they are in appositional relation with. It may not be possible to undoubtedly tell whether the adjective is nominalized or not but if we consider the facts about CA that were given in chapter 2, the DPs that are part of a CA are able to also be referential on their own. It is not entirely clear whether 'ther snello' in (96) can be referential without a lexical antecedent when not appearing as part of CA. This points towards nominal ellipsis rather than nominalization for the examples below.

- (96) *Lúdowig ther snello* (OHG, Otfrid)
Ludwig the.NOM.MASC.SG. brave
- (97) *Ahma sa veiha* (Gothic, Wulfila Bible)
ghost the holy

Furthermore, the definiteness-effect that can be observed with the weak adjectival paradigm may also receive an explanation in an ellipsis approach. The weak adjective also appeared in CA as in (96) and (97). CA constructions are always definite and therefore weak adjectives in these constructions are necessarily interpreted as definite. Other examples from KOVARI'S list

that look like the HC are actually elliptical DPs with an aforementioned antecedent (cf. example (98) given in Table 13 below) and these constructions are also definite. In the example in (98) ‘the poor’ was introduced two verses before in Luk, XVI, 20 as *a poor man with the name Lazarus*.

(98) Luk, XVI, 22

þan	gaswiltan	þamma	unledin
adverb	verb	demonstrative	adjective
then.NONINFL.	die.INF.PRS.ACT.	the.DAT.SG.MASC.	poor.POS.DAT.SG. MASC. WK
<i>the poor one died</i>			

Table 13: Example from the Wulfila Bible taken from the PROIEL-corpus

We may tentatively conclude that it is the characteristic of the particular constructions the weak adjective first appeared in that is responsible for the definiteness interpretation and these constructions involve ellipsis. Therefore, the definiteness effect that can be observed with the weak declension may result from both the fact that the n-suffix individuates and the particular constructions the weak adjective appears in (HC, CA). The constructions can thus be analysed as instances of nominal ellipsis and I will discuss this point in more detail in the next section.⁹

3.1.2.1 The syntax of the weak adjective in the human construction - a tentative analysis

From a syntactic point of view, the developments as discussed in the previous sections provide some challenge. The reason is that we need to account for the adjectival as well as the nominal properties. There are basically three options available when sticking to the framework this dissertation is couched in, namely BORER (2005) (a brief introduction to the framework is given in chapter 5).

The first option would be to simply follow SLEEMAN’S approach and assume a lexical root to first merge with aP by which it is categorized as an adjective. This accounts for the adjectival properties like the ability for comparison or combining with a degree modifier. This aP then merges with nP headed by a derivational suffix which accounts for the nominal properties of the construction (Figure 17) and its ability to appear in argument position. A problem with

⁹ An issue I have not addressed is the case of elliptical constructions or some that also look like cases of the HC but in which the pronominal inflection is realized. These examples differ w.r.t. the ones with a weak ending in that they are never preceded by a determiner as KOVARI (1984) shows. When the determiner is absent the adjective can bear weak or strong inflection. In the presence of a determiner it always bears weak inflection. This may reflect the not yet fully completed semantic distribution that was introduced at the beginning of the chapter. However, for a satisfactory analysis a full corpus study would be needed, which I am not able to provide here.

this approach is that it does not clearly distinguish the HC from examples like (99) which do not allow for comparison or modification but may also be regarded as an aP being merged with an nP because the root combines with two derivational suffixes:

- (99) a. Freund-lich-keit
- b. friend-ly-ness
- c. *very friendliness
- d. *friendlynesser

A theory-dependent issue is the fact that in BORER'S framework zero-categorizers like aP are rejected, which is of minor relevance here.

A second option would be to assume a PF-deletion approach as an alternative to KESTER'S (1996) *pro*-approach. The elided noun in the Gothic examples could be *manna* (man). The basic idea is, that the lexical root is not pronounced and the weak declension attaches to the adjective as it can be regarded as a stranded affix along the lines of SAAB and LIPTÁK (2016) (a more detailed discussion of their account is given in 5.4.1). This is sketched in Figure 18. The problem with this assumption is that *manna* shows the mixed declension and does not follow the weak paradigm in all cases. The advantage would of course be that both the nominal and the adjectival properties could be accounted for as there is a noun involved in the construction. What would also be accounted for is the fact that the HC always refers to humans.

A third option would be to analyse the construction along the lines of OLSEN or KESTER and assume *pro* to head NP as in Figure 19. The n-declension could then be assumed to license *pro*. In order to license *pro* it must be an inflectional element or it must have already been grammaticalized to some extent at this point. An advantage of an analysis assuming non-referential *pro* to head NP lies in the fact that we do not have to assume a noun following the n-declension to be subject to PF-deletion in this position. This assumption is perfectly compatible with RATKUS (2011), but it does not seem to be compatible with OSTHOFF (1876). Making the following tentative assumptions, it may be possible to combine the two approaches: The n-declension in Germanic has both derivational and inflectional properties and it marks number and case. It therefore starts out in in CIP (mass-division, see 5.1.1 and 5.2.3.1 for a discussion). In the absence of a lexical root in nP it licenses *pro* and remerges in Mod^o where it appears as an inflectional affix on the adjective. The motivation for the n-suffix to head CIP lies in its ability to individuate - one of the functions of CIP as will become evident in chapter 5.

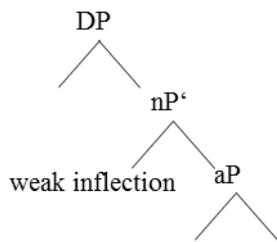


Figure 17: DM-approach

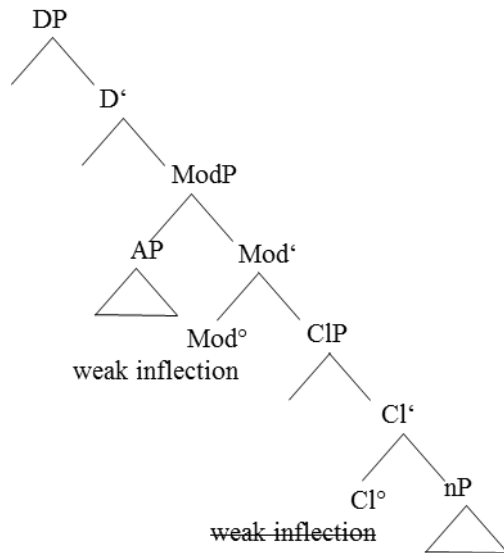


Figure 18: PF-deletion approach

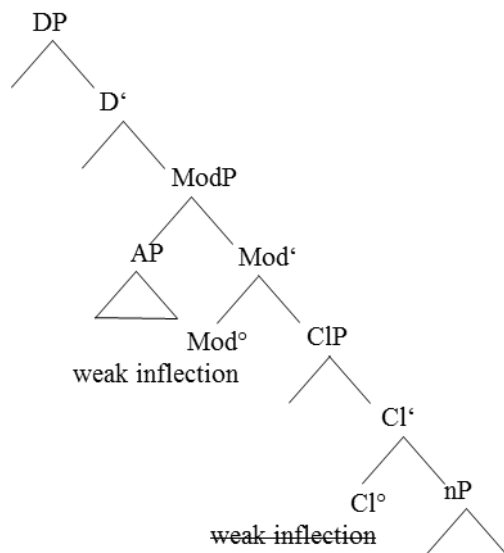


Figure 19: *pro*-approach

All three options have advantages and disadvantages. At this point I prefer the third of the three options because it seems to face less problems than the other two. Unlike in a PF-deletion approach, we do not have to stipulate the presence of an unpronounced noun with the additional complication that this nominal would have to follow the n-declension, as has been noted above. SLEEMAN'S (2013) DM-approach has the advantage of accounting for the

nominal and the adjectival properties of the HC. However, the approach forces us to analyse the weak ending as a derivational suffix (an unresolved issue) and furthermore, it faces the problem that there is nothing in the suggested structure that prevents combinations of adjectives with other derivational suffixes which either result in non-HC constructions or which might even be ungrammatical. For these reasons, I prefer the third one of the three suggestions in which nP is headed by *pro*. In this approach the adjective always has adjectival status but the approach is still compatible with both RATKUS (2011) and OSTHOFF'S (1876) analysis. Assuming the n-suffix to start out in CIP is feasible as it is assumed to individuate nominals and CIP is characterized by its function of mass division. Since the HC has generic reference but it is not mass, CIP must be projected - a fact that is explained in detail in chapter 5. Furthermore, as will also become evident in chapter 5 (section 5.4.1), data from the German dialect Alemannic support the *pro*-approach to nominal ellipsis rather than a PF-deletion approach¹⁰.

At this point, I will conclude the discussion of the weak adjective with a brief summary of the main points of the previous sections before continuing with the issue of the distribution of the strong and the weak paradigm. I focused on two approaches to the weak adjective in Germanic, namely OSTHOFF (1876) and RATKUS (2011). The discussion of the two approaches shows, that the n-suffix on Germanic adjectives does not receive a unified analysis.

The main points of OSTHOFF'S approach are the following:

- The n-declension is connected to old n-stem-suffixes and is nominal in nature.
- The n-declension nominalizes adjectives.
- Nominalized adjectives modify nouns in an appositional relation.

¹⁰ It may be objected that pronouns cannot be modified in German and that the *pro*-approach is thus not a feasible solution. This point has of course also been noticed by OLSEN. She attributes the ungrammaticality of examples like (1) a. and b. below to the principle *Avoid Pronoun* (CHOMSKY 1981, 65). However, the explanation might also lie in the fact that *pro* is assumed to be non-referential *pro* in LOBECK'S (1995) analysis of ellipsis phenomena and thus differs in its properties from referential overt and non-overt pronouns.

- (1) a. **Die schöne sie*
 The beautiful she
 b. **Armer er*
 Poor he
 c. *Wir dummen*
 We stupid ones

- The apposition of nouns and nominalized adjectives is assumed to be the construction that led to the re-interpretation of the weak adjective as adjectival.
- The nominalization approach implies that the n-suffix is a derivational morpheme.
- The definiteness effect in this approach is assumed to result from the frequent occurrence of nominalized adjectives in apposition to proper nouns.
- The weak declension on adjectives is not assumed to have been a marker of definiteness in this approach.

RATKUS provides an alternative analysis:

- The n-suffix is not connected to old stem-suffixes.
- The weak paradigm is much 'younger' and its source are those nouns that follow the n-declension in Germanic.
- The weak paradigm is inflectional and not derivational when first appearing on adjectives.
- The definite article that combines with the weak adjective is assumed to 'compensate' for the syncretism of the weak paradigm.
- The n-suffix is thus assumed to have marked definiteness.

Regarding the particular construction the weak adjective appears in when not preceding a noun was analysed as the so called Human Construction:

- The Human Construction receives different analyses in the literature as it combines adjectival and nominal properties.
- An analysis involving nominal ellipsis with the NP headed by *pro* was argued for as it faces less problems than competing approaches assuming PF-deletion or an aP merging with an nP in a DM-approach.

In the next section I will discuss the issue of definiteness marking of the weak adjective because it is assumed to be connected to the semantic distribution of the two inflectional paradigms that can be observed up to OHG, the topic of section 3.3.

3.2 Syntactic consequences of the n-declension as a definiteness marker

It is acknowledged that up to OHG the distribution of the strong and the weak adjectival paradigm was driven by the definiteness status of the whole DP. This may be regarded as (additional) evidence for the n-declension to have marked definiteness and this would provide a simple answer to the particular distribution that can be observed after the weak adjectival

inflection came up: The weak inflection on the adjective used to mark definiteness and this triggered the particular complementary distribution that can be observed with it.

However, this is too simple. First, it is not entirely clear whether the weak adjective did indeed mark definiteness or whether it was associated with a definite reading due to the function of the *n*-suffix to individuate. Second, if we assume that the weak declension did mark definiteness we must assume that definiteness marking was inside the AP¹¹ - a consequence that would have to be empirically proven. Furthermore, it is not the case that the concept of definiteness is absent in the absence of an article, as there are many languages that do not have articles but (in)definiteness can nevertheless be expressed. The controversial approaches to the weak adjectival inflection in Germanic reveal that it is not clear whether it did mark definiteness or not.

The only aspect that can be proven is that the distribution of the two paradigms is indeed based on definiteness - but at this point, it cannot be clearly proven that this is due to the semantics of the inflectional endings. A reason that speaks against it is the fact that the demonstrative is composed of the pronominal paradigm and the *d*-part (see chapter 2 for a brief discussion). It is also widely accepted that the definite article has its source in the demonstrative. It is then hard to explain why it is the weak and not the pronominally inflected adjective that appears in definite contexts. From what has been said in the previous sections, the most convincing arguments seem to be that the *n*-suffix individuates and only individuated nominals can be definite because they are count-nouns.

This corresponds to BORER'S (2005) assumption that all nouns receive a mass interpretation by default. In order to make a mass noun countable the mass must be portioned out (= individuated). In BORER'S approach this is structurally represented by a *Cl*(assifier)*P*(hrase) above the NP (see chapter 5 for a detailed discussion). The connection to definiteness is that the definite article does not appear with mass nouns as the examples in (100) show and that it can start out in *CIP* and remerge in *DP*.

- (100) a. This is too much table for this small room.
b. *This is too much the table for this small room.
c. There is wine on the carpet.
d. *There is the wine on the carpet. (mass reading intended)

¹¹ LEU (2008) actually claims that the definite article (unlike the indefinite one) is based inside the extended projection of the adjective and his data as well as the idea of the weak inflection as a definiteness marker may be taken in support of this analysis. In chapter 4 it will become clear though that the empirical data presented in support of an AP-internal definite article are not convincing and there seems to be no empirical evidence (at least from German) that the definite article is actually inside the AP.

Since the n-declension is assumed to individuate and since it frequently appeared on adjectives, weak adjectives appeared with count-nouns (=individuated nouns). This aspect, together with the restriction on appearing in the HC first (which is definite), may have triggered the complementary distribution of the two paradigms to be based on definiteness. As a result, the definite article first appeared with those elements that showed the weak declension and these were mostly adjectives. The ability of the n-declension to individuate together with the restriction to the HC, an elliptical construction, can thus be tentatively concluded to have led to the definiteness effect - so I do not assume the weak-paradigm to have been a marker of definiteness. This assumption does not exclude other factors to have also played a role, of course.

From a purely syntactic point of view, once the weak paradigm is established as an inflectional element on adjectives, the strong and the weak ending must end up in complementary distribution. The reason is that they compete for one position, namely Mod^o.

In the subsequent sections, I will focus on the time and reason for the re-distribution of the two inflectional paradigms. It will be argued that the marking of (in)definiteness with an article had an impact on the distribution of adjectival inflection since the distribution of the two paradigms is no longer based on definiteness when the definite and indefinite article are fully established. In the following, I will present data from Middle High German (MHG) and Early New High German (EarlNHG) from the literature and from a small corpus study to illustrate this development.

3.3 The distribution of adjectival inflection from OHG to EarlNHG

It has been noted that the strong and the weak inflection were distributed based on the definiteness of the whole DP up to OHG - the so called semantic distribution. The examples from the introduction are reproduced here to illustrate this pattern:

(101) a. *zi desemo itmal-en dage*

to this festive-WK day

b. *thero gorég-un wórolti*

this poor-WK world

(102) a. *mit éinemo rôtemo tûoche*

with a-DAT.NEUT.SG. red-DAT.NEUT.SG. cloth

b. *eines scônis chíndes*

a-GEN.NEUT.SG. pretty-GEN.NEUT.SG. child-GEN.SG.

It is a well known fact though, that MStG does not show this semantic distribution but adjectives inflect dependent on the inflection of the preceding article, which is generally termed morpho-syntactic distribution. This is illustrated in (103) to (105). In (103) the indefinite article is uninflected and therefore the adjective bears the strong (pronominal) inflection. In (104) the indefinite article bears the strong inflectional ending and the adjective shows weak inflection despite the fact that the DP is indefinite. When a definite article precedes an adjective as in (105) the adjective shows weak inflection because the definite article always inflects pronominally.

(103) *ein klein-es Haus*

a-Ø small-NOM.NEUT.SG.

(104) *ein-em klein-en Hund*

a-DAT.MASC.SG. small-WK dog

(105) *d-em klein-en Hund*

the-DAT.MASC.SG. small-WK dog

Considerable changes must have taken place that triggered the change from the semantic to the morpho-syntactic distribution - a topic which is not new in linguistic research and which is e.g. studied in some detail in DEMSKE (2001) or KLEIN (2007). The reasons and the time at which the change from the semantic to the morpho-syntactic distribution have been completed are analysed quite differently in the two approaches. I will briefly summarize the results of the two studies.

DEMSKE proposes that the time of transition from the semantic to the morpho-syntactic distribution is EarlNHG. The reason for this assumption lies in the fact that in EarlNHG, as DEMSKE claims, the distribution of the two paradigms does not follow a particular pattern but is rather 'chaotic'. Therefore, the language learner can no longer identify definiteness as the driving factor for the distribution of the strong and the weak paradigm. As a consequence the language learner comes up with a new rule which results in the morpho-syntactic distribution as described above. The approach sounds quite appealing but there are also some problems with it.

First of all, the situation in EarlNHG is much clearer than DEMSKE assumes, which is also stated in the overview in SOLMS and WEGERA (1991) who give a very detailed description on the matter based on the *Bonner Frühneuhochdeutschkorpus*. The weak and the strong paradigm follow the morpho-syntactic pattern and in addition, adjectives can also appear

uninflected in many contexts. This is evident from a small corpus study¹², which is also based on the *Bonner Frühneuhochdeutschkorpus*. In this study we extracted adjectives directly preceded by a determiner (definite and indefinite, singular and plural) from the whole corpus. This means that we did not distinguish the different dialectal areas or the different years the texts are from. In total, we got 3238 data; 434 plural DPs, 1685 definite singular ones and 1119 indefinite DPs. These were then grouped according to the following variables: Type of adjectival inflection (weak or strong), inflected or uninflected determiner, singular or plural. The results are summarized in Table 14 to Table 16 and correspond to the examples given in (106) to (116).

- (106) *den erlichen hertzog* (Text 115, p. 3, verse 6) regular
the.ACC.MASC.SG. honest-WK duke
- (107) *der gantzer gemeinde* (Text 153, p. 1, verse 18) double strong
the.NOM.MASC.SG. whole-NOM.MASC.SG. parish
- (108) *der gegenwürtigem zeit* irregular
the.Dat.Fem.Sg. current-Dat.Masc.Sg. time
- (109) *der vnsauber geist* (Text 135, p. 7, verse 37) zero
the.NOM.MASC.SG. unclean-Ø mind

Definite DPs (singular)			
<i>strong</i> (=double strong)	<i>weak</i> ¹³	<i>zero</i>	<i>irregular</i> (=strong but mismatch in gender/case)
2,02 %	81,78%	15,72% (total) (0,77% Oblique = 4,90% of the uninflected adjectives)	0,41%

Table 14: EarlNHG adjectival inflection in singular definite DPs

¹²Many thanks to Christin Schätzle for her help with the corpus-search!

¹³This includes adjectives that inflect for -e or -en as both variants also occur in NHG but EarlNHG still shows the -en inflection in some cases in which it is absent in NHG:

die heilig-e Krone (NHG)
die heilig-en kron (EarlNHG, Text 113, p. 11, verse 39)
the holy-WK crown

- (110) *ainem klainen Dorfflein* (Text 113, p. 15, verse 7)
a-DAT.NEUT.SG. small-WK village
- (111) *ain schöner Gartē* (Text 125, p. 25, verse 17)
a-Ø beautiful.NOM.MASC.SG.garden
- (112) *ein schön geschlecht* (Text 125, p. 3, verse 15)
a-Ø beautiful species

Indefinite DPs (article uninflected and inflected)				
article type	strong	weak	zero	irregular
uninflected (774) = Nom, Acc	71,67%	0,00%	28,33%	0,00%
inflected (345) = Acc, Gen, Dat	0,29%	99,13%	0,57%	0,00%

Table 15: EarlNHG adjectival inflection in indefinite DPs

- (113) *der armen sūnder* (Text 135, p. 20, verse 12)
the.GEN.PL. poor-WK sinners *regular*
- (114) *die arme Teuffel* (Text 237, p. 15, verse 25)
the.NOM.PL. poor-E devils *-e instead of -en*
- (115) *die vry kunste* (Text 153, p. 19, verse 47)
the.PL. liberal-Ø arts *zero*
- (116) *der hilliger kyrchen* (Text 153, p. 4, verse 10)
the.GEN.PL. holy-GEN.FEM. churches *strong*

Plural DPs			
<i>regular</i> (=NHD)	<i>-e¹⁴ instead of</i>	<i>zero</i>	<i>irregular</i>
(434)	<i>-en</i>		
82,49%	13,82%	2,07%	1,61%

Table 16: EarlNHG adjectival inflection in plural DPs (definite)

The insights in SOLMS and WEGERA (1991) as well as from the small corpus study reveal that in EarlNHG the morpho-syntactic distribution was more or less completed. Differences w.r.t. NHG are the occurrence of double strong inflection in definite DPs as well as the occurrence of uninflected adjectives in both definite and indefinite DPs. There are indeed some irregularities but they are only marginal. In definite singular DPs they make 0,41% of the data and in the case of the indefinite DPs there are no irregularities w.r.t. the inflectional endings. In plural DPs, 1,61% of the data can be analysed as being irregular, because the adjective bears the pronominal ending and thus there is a number mismatch as the adjective is marked for singular whereas the noun is in the plural. However, due to the very small number of irregularities in the data, I conclude that the pattern itself is regular and the irregularities may be analysed as writing errors.

It is interesting to see that the distribution of zero-inflection seems to follow a particular pattern in indefinite DPs: It only appears after the uninflected article but not after the inflected one. This may be assumed to correspond to a restriction on nominative and accusative case as

¹⁴The ending -e (and phonological variants) instead of -en can also be found in current German varieties, e.g. Swabian or Franconian. A similar phenomenon can also be observed with other elements ending in -en.

- (2) a. Dia kloī-n-e Kinder (Swabian)
- b. Däj klann-a Kinder (Franconian)
- c. Die klein-**en** Kinder (StG)
- The small-pl children
- d. Dia groaß-e Kinder
- e. Däj grouß-n Kinder
- f. Die groß-en Kinder
- The tall-pl kids
- (3) a. D´ Stroß-**a** sen nass
- b. Die Straße-**n** sind nass
- The streets are wet
- c. D´ Bedd-**a** sen gmacht
- d. Die Bett-**en** sind gemacht
- The beds are made
- e. Kosch des mol hald-**a**?
- f. Kannst du das mal halt-**en**
- Can you this PRT hold
- Can you hold this?

Since adjectives, nouns and verbs ending in -en seem to be subject to the same process in dialects, namely the drop of the n-sound and replacing it by -a or -e (Schwa), the reason is probably phonological.

is often stated in the literature. However, in the definite DPs one third of the uninflected adjectives appears in oblique (Gen or Dat) DPs. Zero inflection does not seem to be tolerated in plural DPs, though.

Regarding the period of time in which the distribution of the two adjectival paradigms changed, that must have happened on the way from OHG to MHG, which finds support in the study by KLEIN (2007).

KLEIN (2007) undertook a corpus study focusing on MHG. His results reveal that the morpho-syntactic distribution was the most wide spread pattern in most areas of Germany at the time. In order to identify the distribution he used the *Bochumer Mittelhochdeutschkorpus* and the results show that adjectival inflection follows the morpho-syntactic distribution in most cases. Of particular relevance is the inflection in indefinite contexts both after the inflected and the uninflected indefinite article as well as after possessive pronouns. The inflection of adjectives after possessive pronouns is particularly interesting as possessive DPs are definite but the possessive occurs - just like the indefinite article - inflected and uninflected.

(117) *Mein-Ø groß-er Hund*
my-Ø big-NOM.MASC.SG. dog

(118) *Mein-en groß-en Hund*
my-ACC.MASC.SG. big-WK dog

If it is indeed the case that the morpho-syntactic distribution of adjectival inflection was already the main pattern it is expected that after uninflected possessives the adjective shows strong inflection (this is not expected in the semantic distribution!). After inflected possessives, adjectives should bear weak inflection. The overview in Table 17 is reproduced from KLEIN (2007, 201). Table 17 illustrates the distribution of the weak and the pronominal inflection after the inflected indefinite article. The table clearly shows that the weak inflection is strongly preferred. What looks like an exception, namely Acc. Fem. Sg., matches the NHG inflection which is *-e* and not *-en* as in example (119). Therefore, it is put down as pronominal and not as weak even though it is identical with the weak inflection as (119) b. with a definite article shows.

(119) a. *Ich habe ein-e klein-e Katze.*
I have a-ACC.FEM. small-ACC.FEM. cat
b. *Ich habe die klein-e Katze gefüttert.*
I have the small-WK cat fed

Inflection of the adjective after inflected <i>ein</i>				
	<i>pronominal</i>	<i>weak</i>		<i>weak (in %)</i>
Gen.Sg. Masc./Neut.	1	61		98,4%
Dat.Sg. Masc./Neut.	32	211		86,8%
Gen./Dat. Sg. Fem.	21	103		83,1%
	<i>pronominal</i>	<i>uninflected</i>	<i>weak</i>	<i>weak (in %)</i>
Acc. Sg. Fem.	97	4	1	1,0

Table 17: MHG adjectival inflection after the uninflected indefinite article (KLEIN 2007, 201)

Table 17 illustrates the distribution of adjectival inflection after inflected *ein* which is in most cases weak and thus corresponds to the morpho-syntactic distribution. Uninflected adjectives do not seem to appear after inflected *ein* which corresponds to the findings of the corpus study on adjectival inflection in EarlNHG.

The situation is a bit more complex after uninflected *ein* as Table 18 with data from KLEIN (2007, 202) shows. There is quite a big difference between the Middle- and Upper German (southern German) regions. The results show that the morpho-syntactic distribution has progressed in the Upper German area to a much greater extent than in the Middle-German regions. The most important observation is that the weak ending only appears in very few cases. The main difference to MStG is the fact that the adjective can appear uninflected.

Adjectival inflection after uninflected <i>ein</i>				
		<i>pronominal</i>	<i>uninflected</i>	<i>weak</i>
Nom. Sg. Masc.	all texts	51,7	41,9	6,4
	Upper German	66,9	28,3	4,8
	Middle German up to 1300	16,1	72,3	11,7
	Middle German after 1300	40,0	54,3	5,7
Nom. Sg. Neut.	Upper German	47,8	50,0	2,2
	Middle German	11,7	83,3	5,0
Acc. Sg. Neut.	Upper German	53,3	41,0	5,2
	Middle German	25,5	72,4	2,1
	Middle German after 1300	34,1	63,5	2,4
Nom. Sg. Fem.	Upper German	46,3	40,9	12,8
	Middle German	0,0	69,1	30,9
Acc Sg. Fem.	Upper German	56,1	42,4	1,5
	Middle German	85,7	14,3	0,0
	Upper German up to 1250	92,9	7,1	0,0
	Upper German after 1250	46,2	51,9	1,9

Table 18: MHG adjectival inflection after the inflected indefinite article in % (KLEIN 2007, 202)

The picture is very similar when the adjective follows a possessive pronoun. In this context the adjective shows weak inflection in the semantic distribution as the DP is definite. However, in MHG the adjective either inflects pronominally or does not inflect whereas weak inflection is not very frequent after the uninflected possessive pronoun. This corresponds to the morpho-syntactic distribution in NHG as exemplified in (120).

(120) *Sein klein-er Hund.*
 His small-NOM.MASC.SG. dog

Similar to the distribution after the inflected indefinite article we barely find uninflected adjectives after the inflected possessive pronoun but there is a strong preference for the weak inflection which is expected if the morpho-syntactic distribution has already spread.

(121) *Er geht mit sein-em klein-en Hund spazieren.*
 He goes with his-DAT.MASC.SG. small-WK dog for a walk
 ‘He goes for a walk with his dog.’

The morpho-syntactic distribution has therefore progressed to a great extent with the exception of the Franconian areas as is evident from KLEIN’S data reproduced in Table 19.

Adjectival inflection after the uninflected possessive pronoun				
		<i>pronominal</i>	<i>uninflected</i>	<i>weak</i>
Nom. Sg. Masc.	Upper German	73,3	17,9	8,3
	Upper German after 1300	80,0	17,1	2,9
	Middle German up to 1300	10,9	21,7	67,4
	Middle German after 1300	69,2	5,1	25,6
Nom./Acc. Sg. Neut.	Upper German	52,2	40,0	7,8
	Middle Franconian	0,0	70,8	29,2
	Middle German other	50,0	13,9	36,1
Nom. Sg. Fem.	Upper German	58,0	21,0	21,0
	Middle German	83,3	16,7	0,0
Acc. Sg. Fem.	all texts	53,1	22,4	24,5
Adjectival inflection after the inflected possessive pronoun				
		<i>pronominal</i>	<i>uninflected</i>	<i>weak</i>
Acc. Sg. Fem.	all texts	64,9	3,9	31,2
Gen. Sg. Masc./Neut.	all texts	3,3	0,0	96,7
Dat. Sg. Masc./Neut.	Middle Franconian	26,7	0,0	73,3
	rest	17,9	0,0	82,1
Gen./Dat. Sg. Fem.	Middle Franconian	95,7	0,0	4,3
	rest	8,1	0,0	91,9
Nom./Acc. Pl.	Middle Franconian	95,5	0,0	4,5
	rest	36,6	0,0	64,4

Table 19: MHG adjectival inflection after the uninflected and inflected possessive pronoun in % (KLEIN 2007, 207f)

The comparison of the MHG and the EarlNHG distribution of adjectival inflection leads to the conclusion that the morpho-syntactic distribution was completed to a great extent in MHG and that EarlNHG and MHG are very similar w.r.t. to the distribution of adjectival inflection. The main difference to NHG is the presence of uninflected adjectives in attributive position.

Remember that adjectives that appear to be uninflected are not regarded as being uninflected up to OHG but as being nominally inflected and thus bearing strong inflection. For this reason adjectives not showing overt inflection only appear in indefinite contexts up to OHG. From MHG onwards this restriction can no longer be observed and adjectives not bearing overt inflection are characterized as being truly uninflected as is also noted in KLEIN (2007, 210). This is due to the fact that in MHG uninflected adjectives are no longer restricted to indefinite contexts but also appear in definite DPs as is evident from Table 19. At the same time inflected adjectives clearly show morpho-syntactic distribution. In Table 20 below the main steps of the diachronic development described in the previous sections is summarized.

Adjectival inflection from Germanic to EarlNHG					
	Germanic	Gothic	OHG	MHG	EarlNHG
Article use	No articles	Definite article already present to some extent	Definite article present (differs from use in NHG), indefinite article present but not fully established.	Definite and indefinite article frequently used. Some differences to NHG.	Definite and indefinite article frequently used, no big differences to NHG
Distribution of adjectival inflection	semantic distribution	semantic distribution	semantic distribution	morpho-syntactic distribution (some regional variation)	morpho-syntactic distribution
Status of uninflected adjectives	zero-inflection = nominal inflection (strong)	zero-inflection = nominal inflection (strong)	zero-inflection = nominal inflection (strong)	zero-inflection = uninflected adjectives (≠ strong)	zero-inflection = uninflected adjectives (≠ strong)

Table 20: Overview of the diachronic development of adjectival inflection

A yet open question is the possible trigger for the redistribution of the two adjectival paradigms. As has been argued, it cannot be the case that irregularities in the distribution in EarlNHG led to that change as the distribution is in fact quite regular. A development that happens parallel to the redistribution of the two inflectional paradigms on adjectives is the more and more frequent marking of indefiniteness with an article as is already evident from Table 20. In the next section I will briefly discuss this as a possible factor that may have had an impact on the redistribution of adjectival inflection in German.

3.3.1.1 The marking of indefiniteness with an article - a possible reason for the restructuring of adjectival inflection

W.r.t. the re-distribution of adjectival inflection from the semantic to the morpho-syntactic pattern, we can observe that marking definiteness with an article had no effect. The weak paradigm continues to occur in definite DPs whereas the strong inflection (both in its pronominal and nominal (= zero)) form occur in indefinite DPs.

However, the frequent marking of indefiniteness with an article parallels the redistribution of adjectival inflection as the overview in Table 20 in the previous section reveals. In OHG the indefinite article does not occur frequently yet (PRESSLICH 2000, 88) and the two adjectival paradigms show the semantic distribution. This means that in the few cases in which an indefinite article occurs, it combines with pronominally inflected adjectives. As a consequence phi-features are marked twice as in (123). The nominal inflection, which appears as zero, also combines with the indefinite article or occurs in indefinite DPs without an article as in (122). The weak ending does not appear in indefinite DPs. The examples stem from PRESSLICH (2000, 86ff) and the *Referenzkorpus Althochdeutsch*.

(122) a. *dar ni ist eo so listic man der* (Muspilli, 88, 94)

there never is ADV such cunning man, who...

There will never be such a cunning man, who...

b. *íst êin uuîz stein* (Notker, Martianus Capella, 1, 64-72)

is a white stone

(123) a. *Ûndar dien fûozen bârg er êina drîzinga fûrkun.*

under the feet hid he a- ACC.FEM.SG. three-pronged-ACC.FEM.SG. fork

b. *mit êinemo rôtemo tûoche* (Notker, Martianus Capella, 56, 15)

with a-DAT.NEUT.SG. red-DAT.NEUT.SG. cloth

In MHG the indefinite article already occurs quite frequently and its use is very similar to NHG (PRESSLICH 2000, 69ff). In the previous section, KLEIN'S (2007) study was discussed, which revealed that the morpho-syntactic distribution is already the most wide spread pattern in MHG. Therefore, the marking of indefinite DPs with an article and the redistribution of the adjectival paradigms are parallel developments. In EarlNHG, as PRESSLICH (2000) mentions, the use and the occurrence of the indefinite article are already very similar to NHG.

What does this tell us about the possible reason for the change from the semantic to the morpho-syntactic distribution?

Before the indefinite article was used to mark indefiniteness, phi-features were marked once with the pronominal paradigm. They were either marked on the adjective or on the definite determiner (including possessive pronouns). With the more and more frequent marking of indefiniteness with an article, double marking with the pronominal paradigm on both the article and the adjective increased, because strong inflection was restricted to indefinite contexts.

We may therefore conclude that this double marking with the pronominal paradigm on both a determiner and the adjective was avoided by redistributing the adjectival paradigms according to the morpho-syntactic pattern. This means that the weak inflection appears after inflected determiners whereas the pronominal inflection appears after uninflected determiners.

The distribution of uninflected adjectives seems to be restricted to contexts in which the preceding article is also uninflected, but there are already a number of exceptions in EarlNHG as Table 14 shows. Parallel to the redistribution of the two adjectival paradigms another development can be observed: The spreading of uninflected adjectives to contexts in which inflected determiners appear. An empirical study undertaken in Alemannic (a southern German dialect; details of the study and its results are given in chapter 4), reveals that the restriction of uninflected adjectives to particular contexts is given up completely and they are widely accepted after the inflected and the uninflected determiner. The distribution might still follow a particular pattern though - an issue that will be extensively discussed in the next chapter.

The insights from the last section can be summarized as follows:

OHG	MHG	EarlNHG
indefinite article not frequent	indefinite article use rather frequent	indefinite article use similar to NHG
semantic distribution	morpho-syntactic distribution (regional differences)	morpho-syntactic distribution

Table 21: The interplay of occurrences of the indefinite article and adjectival inflection

3.4 Summary

The first part of this chapter discussed two approaches focusing on the weak adjectival paradigm and its possible origin. In OSTHOFF'S (1876) influential approach it is assumed that the n-declension is an old n-stem-suffix and thus nominal. When combining with adjectives the element therefore nominalized them and, as a consequence, they could only modify nouns in apposition. These nominalized adjectives were then re-interpreted as adjectival because of their frequent use in combination with other nouns. This means that in OSTHOFF'S approach the n-declension is a derivational suffix that must have grammaticalized into an inflectional one over time.

RATKUS (2011) rejects this view and assumes that the suffix was always inflectional and sees its source in the nouns following the n-declension in Germanic. In his approach, the inflection is thus much 'younger'.

The consequence of following the nominalization or the inflection approach lies in the analysis of those examples in which the adjective does not accompany a noun. Following OSTHOFF'S approach, this means that the nominalized adjective could occur in argument position; following RATKUS approach, it must be assumed that these are cases of nominal ellipsis. Three possible syntactic approaches based on OLSEN (1987), KESTER (1996), SLEEMAN (2013) and SAAB and LIPTÁK (2016) were introduced. It was concluded, that an approach along the lines of KESTER'S and OLSEN'S analyses is best suited to handle the data. They assume the HC to be nominal ellipsis with the NP headed by *pro*. Based on their approaches, it was argued that the *-n* as an individuating suffix is based in CIP but because it cannot combine with *pro* it must move to Mod° where it appears as adjectival inflection.

In the second part of the chapter the further diachronic development regarding adjectival inflection was focused on, namely the distribution of the strong and the weak paradigm. The

change from the semantic towards the morpho-syntactic distribution has taken place on the way from OHG to MHG and takes place parallel to the frequent marking of indefiniteness with an article. A connection between the re-distribution of the two inflectional paradigms and the use of the indefinite article is therefore very likely. Since the indefinite article also inflects, the re-distribution can be assumed to be a due to the tendency to only express phi-features and case once in the DP, preferably on the left-most element.

Another development can be observed parallel to the re-distribution of the inflectional endings and the marking of indefiniteness with an article: The occurrence of truly uninflected adjectives. Up to OHG zero-inflection is regarded to be a variant of the strong inflection corresponding to the old nominal declension. This is due to the fact that zero-inflection also appears in those contexts in which the pronominal inflection can appear (indefinite DPs). Since in MHG as well as EarlNHG zero-inflection can also appear in definite contexts, it can no longer be regarded as a variant of the strong inflection but adjectives are truly uninflected. The occurrence of uninflected adjectives was shown to be related to the more and more frequent marking of (in)definiteness with articles which made adjectival inflection superfluous

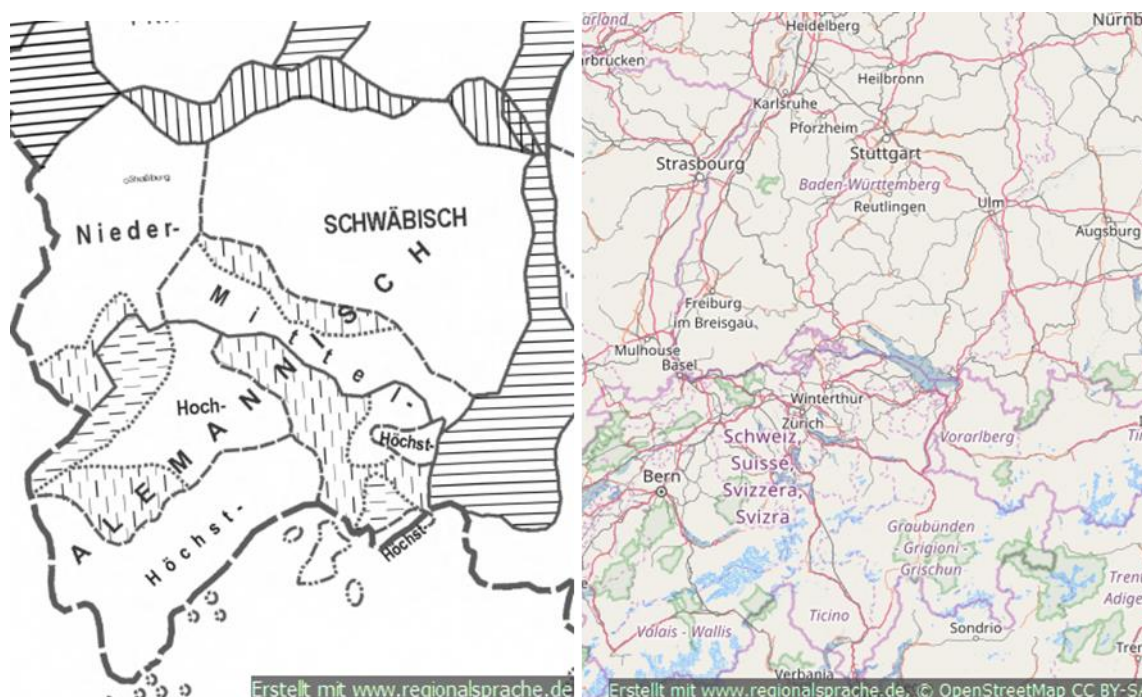
The development progresses further as the empirical study described in the next chapter will show, because the contexts in which uninflected adjectives can occur become less restricted. One of the central questions regarding uninflected adjectives is whether they follow a particular distribution and if yes which features trigger or prohibit uninflected attributive adjectives.

The general goal of the subsequent chapters is to highlight the contexts in which uninflected adjectives are possible and to develop a syntactic analysis that can account for the diachronic development as well as the (dialectal) variation that can be observed regarding this fact. The insights from the diachronic as well as dialectal data are essential in order to identify the underlying fine structure of the German(ic) DP, which is the topic of chapter 5. The insights are essential as the empirical study presented in chapter 4 reveals that adjectival inflection is in fact optional in current dialects of German. This optionality can only be understood in light of the diachronic development and by bearing in mind the different functions adjectival inflection was attributed at different times. In chapter 2, it was pointed out that adjectival inflection was a means to distinguish adjectives from nouns as they used to be identical in their morphological make up. The current chapter highlighted the consequences of the emergence of a second adjectival paradigm that led to a particular complementary distribution known as the semantic distribution of adjectival inflection. It was then pointed out that the

redistribution of the two inflectional paradigms took place parallel to the more and more frequent use of the indefinite article. The result of these developments is that the adjectival inflection has no function in the presence of an article and therefore it can be absent. This is confirmed by the fact that adjectival inflection in current varieties of German is obligatory only in the absence of a preceding article as discussed in the next chapter.

4 Adjectival inflection in Alemannic and Standard German

In the previous chapters, the diachronic development of adjectives and their inflection was in the focus of the discussion. The current chapter deals with the peculiarities of adjectival inflection in Standard German (StG) and Alemannic (a German dialect spoken in parts of southern Germany, the German speaking parts of Switzerland, Vorarlberg in Austria, Alsace in France and Liechtenstein). Alemannic has different varieties. They are called Höchst- (Highest), Hoch- (High), Mittel- (Middle), Nieder- (Low) Alemannic, and Swabian dependent on the region where they are spoken. This classification is based on WIESINGER (1983) and is displayed in Map 1 below. In this chapter I will not use these more traditional terms but I will refer to the political territories as named above, as these were the basis for the empirical study and the results discussed in the next sections will also be grouped accordingly.



Map 1: Wiesinger's dialect classification and a reference map to locate the area

Alemannic also has the two inflectional paradigms known as pronominal/strong and weak inflection. The two paradigms are morpho-syntactically distributed just like in StG. Alemannic differs from StG, because it allows uninflected attributive adjectives as in (124) whereas this is not the case in the standard variety (125).

(124) *A guat-Ø Buach ko mr au zwoimol läsa.*

a good book can one also twice read.

‘You can read a good book twice.’

(125) *Ein gut-*(es) Buch kann man auch zweimal lesen.*

A good-ACC.NEUT.SG. book can one also twice read

‘You can read a good book twice.’

The main questions w.r.t. uninflected adjectives, that will be addressed in this chapter, are:

- 1) Are uninflected adjectives a remnant of EarlNHG?
- 2) Do uninflected adjectives follow a particular morpho-syntactic or areal distribution?
- 3) Are uninflected adjectives restricted to Alemannic varieties?
- 4) Why do we not find uninflected adjectives in the standard variety?

In order to identify possible morpho-syntactic and/or regional factors regulating the occurrence of uninflected adjectives, a questionnaire study was undertaken. The results of the study show that zero-inflection is neither governed by any morpho-syntactic factors nor by regional ones. Uninflected adjectives are widely accepted throughout the Alemannic area, a fact which points to an overall optionality regarding the realization of adjectival inflection. The study also reveals that uninflected adjectives are accepted in more contexts than in EarlNHG. Therefore, it cannot be a remnant of this time but the distribution of uninflected adjectives has spread since then.

The observed optionality of adjectival inflection does not only hold for Alemannic but also for many other German varieties - even for StG. The absence of uninflected adjectives in the latter variety is analysed as a PF phenomenon driven by normative grammar. The process of Standardization began in the 15th century beginning with orthographic rules and was completed in the 19th century. In this process, variation was greatly reduced and this affected adjectival inflection, too. I therefore assume that even though it seems that adjectival inflection is obligatory in StG, the underlying syntactic structure allows uninflected adjectives.

4.1 Introduction

In StG attributive adjectives are generally inflected and precede the noun they modify, as in (126) and (127). There are two inflectional paradigms, traditionally termed strong and weak, based on GRIMM (1822). The two paradigms are illustrated in Table 22. The strong paradigm

is also called ‘pronominal’ as it corresponds to the inflection of the demonstrative (see also chapter 2).

- (126) a. *ein gut-er Wein*
 a good-NOM.MASC.SG. wine
 b. *ein klein-es Kind*
 a small-NOM.NEUT.SG. child
- (127) a. *der gut-e Wein*
 the.NOM.MASC.SG. good-WEAK wine
 b. *ein-em klein-en Kind*
 a-DAT.NEUT.SG. small-WEAK child

Strong Paradigm			
	Masc	Fem	Neut
Nom	gut-er Wein	gut-e Milch	gut-es Bier
Acc	gut-en Wein	gut-e Milch	gut-es Bier
Dat	gut-em Wein	gut-er Milch	gut-em Bier
Gen	gut-en Wein-es	gut-er Milch	gut-en Bier-es
Weak Paradigm			
	Masc	Fem	Neut
Nom	der gut-e Wein	die gut-e Milch	das gut-e Bier
Acc	den gut-en Wein	die gut-e Milch	das gut-e Bier
Dat	dem gut-en Wein	der gut-en Milch	dem gut-en Bier
Gen	des gut-en Wein-es	der gut-en Milch	des gut-en Bier-es

Table 22: The strong and the weak adjectival paradigm in StG

The distribution of the two paradigms is generally assumed to be morpho-syntactically determined (e.g. DEMSKE 2001; KLEIN 2007; OLSEN 1991), because it depends on the feature specification of the preceding article.

When the article marks gender, number and case, the adjective bears weak inflection. If there is no article present or if the article is uninflected then the adjective shows pronominal inflection. Table 23 illustrates the pattern.

The morpho-syntactic distribution in NHG

Pronominal inflection

uninflected indefinite article	<i>ein-Ø klein-es Kätzchen</i> a small-NOM.NEUT.SG. cat-DIM
no article	<i>ich mag Ø frisch-en Saft</i> I like fresh-ACC.MASC.SG. juice
no article	<i>d-er Geschmack von Ø frisch-em Saft</i> the.NOM.MASC.SG. taste of fresh-DAT.MASC.SG. juice
no article	<i>der Geschmack Ø frisch-er Milch</i> the taste fresh-GEN.FEM.SG. milk

Weak inflection

definite article	<i>d-as falsch-e Waschmittel</i> the-NOM.NEUT.SG. wrong-WK washing powder
definite article	<i>mit d-em neu-en Wagen</i> with the-DAT.MASC.SG. new-WK car
inflected indefinite article	<i>von ein-em alt-en Mann</i> of a-DAT.MASC.SG. old a-WK man
inflected indefinite article	<i>der Geschmack ein-er reif-en Banane</i> the taste a-GEN.FEM.SG. ripe-WK banana

Table 23: The distribution of the strong and the weak paradigm

Adjectival inflection in Alemannic follows the same distribution but in addition, it also allows uninflected attributive adjectives independent of the inflection on the preceding article.

The distribution of adjectival inflection in Alemannic

Pronominal inflection and uninflected adjectives

uninflected indefinite article	<i>a-Ø kloii-Ø Kätzle</i> a small-Ø cat-DIM
uninflected indefinite article	<i>a-Ø guat-Ø Buach</i> a good-Ø book
uninflected indefinite article	<i>a-Ø goldig-s Kätz-le</i> a cute-NOM.NEUT.SG. cat-DIM

<i>Weak inflection and uninflected adjectives</i>	
inflected indefinite article	<i>von a-m alt-Ø Mo</i> of an-DAT.MASC.SG. old- Ø man
definite article	<i>d-es falsch-Ø Waschmittel</i> the-NOM.NEUT.SG. wrong- Ø washing powder
definite article	<i>mit d-em nui-a Waga</i> with the-DAT.MASC.SG. new-WK vehicle

Table 24: Distribution of djectival inflection in Alemannic (Swabian variety)

Table 24 does not hint at a particular distribution of uninflected adjectives but there might nevertheless be factors that trigger or prohibit them. The distribution of uninflected adjectives could be driven by other morpho-syntactic variables than the strong vs weak distinction. It could also be a peculiarity of just some Alemannic varieties and hence have a certain areal distribution. Furthermore, it may reflect an earlier stage of German, because uninflected adjectives were also possible in Middle- and Early New High German (EarlNHG) (KLEIN 2007; SOLMS & WEGERA 1991). The following examples are taken from the *Bonner Frühneuhochdeutschkorpus*, the *Song of the Nibelungs* and the *Fest-and Heiligenpredigten*:

The distribution of adjectival inflection in Early NHG	
<i>Pronominal and zero inflection</i>	
uninflected indefinite article	<i>ein-Ø rein-Ø hertz</i> a pure heart
uninflected indefinite article	<i>ain-Ø kurz-Ø stund</i> a short hour
uninflected indefinite article	<i>ein-Ø schön-er spruch</i> a beautiful-NOM.MASC.SG. saying

Weak and zero inflection

definite article	<i>d-er männlich-Ø ritter</i> the.NOM.MASC.SG. manly knight
definite article	<i>d-er pitter-Ø marter</i> the.GEN.FEM.SG. bitter torture
definite article	<i>d-em haylig-en Nachtmal</i> the.DAT.MASC.SG holy-WK supper

Table 25: Adjectival inflection in EarlNHG

Inflected and uninflected adjectives in MHG	
inflected indefinite article	<i>ich auch pin ain-s</i> <i>diemuetig-en herecen</i> ¹⁵ I also am a-GEN.NEUT.SG. humble-WK heart
uninflected indefinite article	<i>ein-Ø ûz erwelt-er</i> <i>degen</i> a chosen-NOM.MASC.SG. warrior
definite article	<i>d-er</i> <i>laidig-Ø tewfel</i> the-NOM.MASC.SG. mean-Ø devil
uninflected indefinite article	<i>Ez wuohs in Burgonden ein-Ø vil edel-Ø magedîn</i> It grew up in Burgundy a very noble-Ø woman

Table 26: Adjectival inflection in MHG

In the empirical study, the focus was therefore twofold: On the one hand the influence of certain morpho-syntactic factors on the distribution of uninflected adjectives was systematically tested on the other hand, a possible regionally determined distribution was also investigated.

4.2 The distribution of uninflected adjectives in Alemannic

As noted above, the German dialect Alemannic allows uninflected attributive adjectives, an option that is not available in StG.

(128) *ein gut-*(es) Buch* (StG)

a good-*(NOM/ACC.MASC.SG.) book

(129) *a guat-(s) Buach* (Alemannic)

a good-(NOM/ACC.MASC.SG.) book

The distribution of uninflected adjectives might follow a morpho-syntactically determined pattern and/or an areal one. Evidence for the latter can e.g. be found in the so called *Wenker-maps* which will be described in more detail in the next paragraph.

Areal patterns

The Wenker-maps show the results of an extensive empirical study on German dialects undertaken between 1876 and 1887 by Georg Wenker. The study was extended after promising results and was continued under national conduct. All over Germany, a questionnaire with 42 sentences was sent out to be translated into the local German dialects

¹⁵ This example as well as the third one in the table are taken from PRESSLICH (2000, 98f)

(SCHMIDT et al. 2008). The results were then transferred onto maps showing in much detail lexical and morphological differences among these dialects. Map 2¹⁶ below displays the distribution of the inflection of the adjective *kalt* (cold) from the Wenker-sentence reproduced in (130).

(130) *Der gute alte Mann ist mit dem Pferde durch's Eis gebrochen*

The good old man is with the horse through-the ice broke

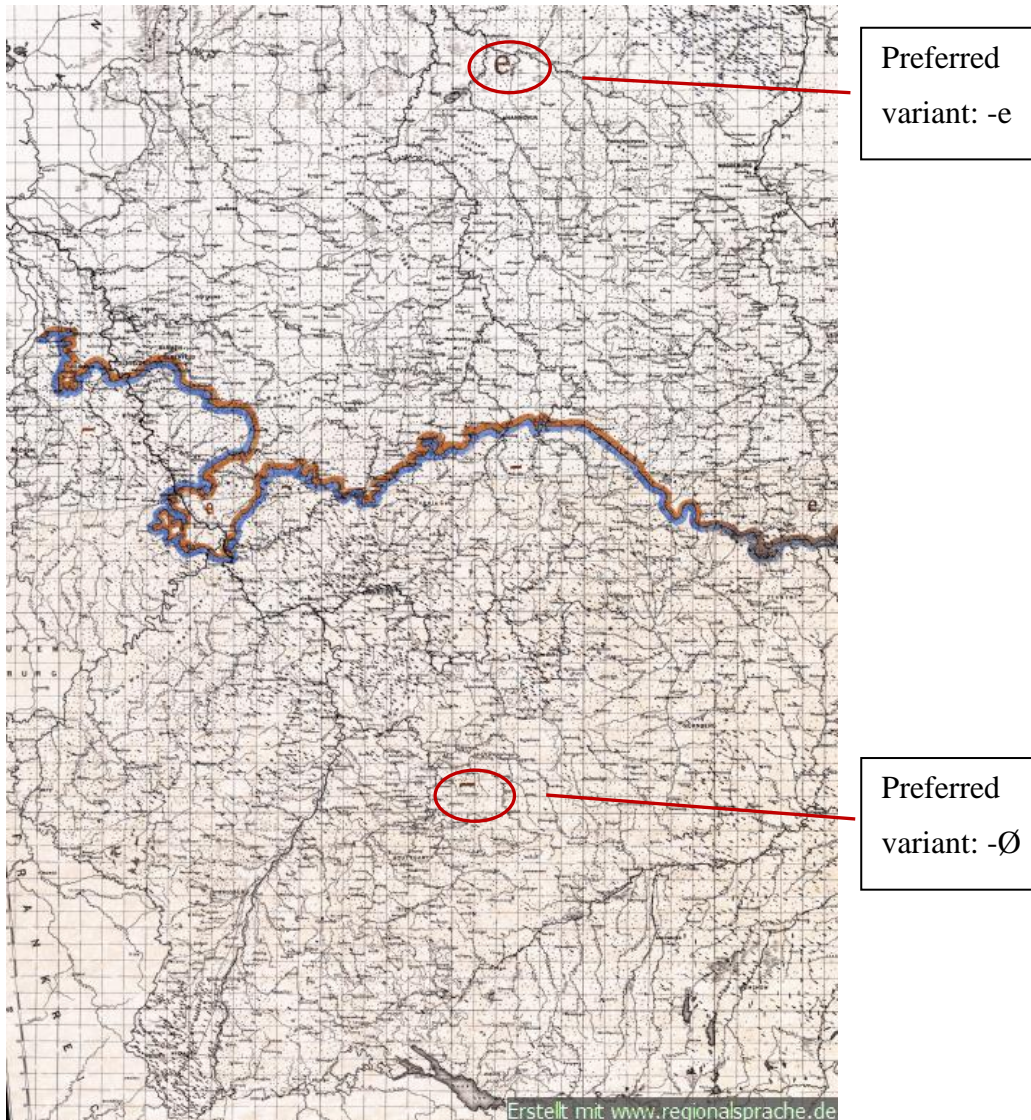
und in das kalte Wasser gefallen.

and in the cold-WEAK water fallen.

,The good old man broke through the ice with the horse and fell into the cold water‘

The map reveals that in the southern part, below the blue border, uninflected adjectives are preferred. In the northern part of the displayed area the inflection is mainly *-e*. The part of the map displayed roughly corresponds to the area in which our own empirical research took place (see Map 4 in section 4.3). The Wenker-map does not include the Alemannic areas outside of Germany, however.

¹⁶The map was created online with the tool REDE SprachGis (regionalsprache.de)



Map 2: Adjectival inflection of *kalt* according to the Wenker-Atlas

Additional support for a regionally determined distribution can be found in the translation of a Wenker-sentence as part of a questionnaire study of the SynALM project. In this study, one of the Wenker-sentences, reproduced in (131), had to be translated.

(131) *Geh nur, der braune Hund tut dir nichts.*

Go PRT, the brown-WK dog does you nothing

‘Just go, the brown dog won’t harm you.’

The distribution of uninflected instances of *braun* (brown) follows an areal distribution as it is much more common in Switzerland, Alsace and Vorarlberg than in Germany as the diagram in Figure 20 reveals. The blue bars indicate the number of inflected adjectives, the orange bars display the number of translations without inflection and the grey bars indicate the number of

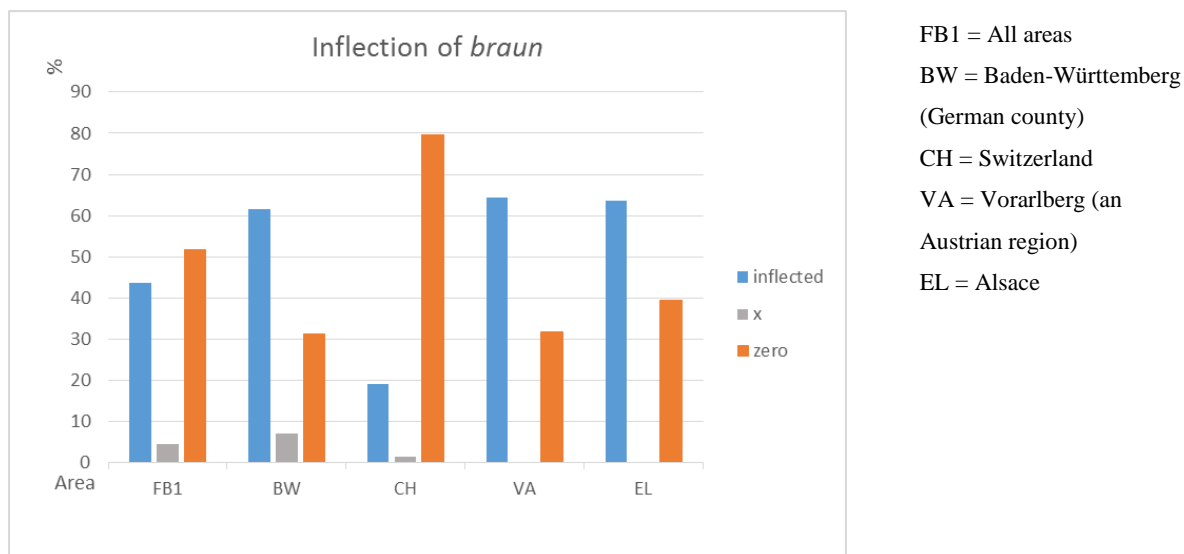
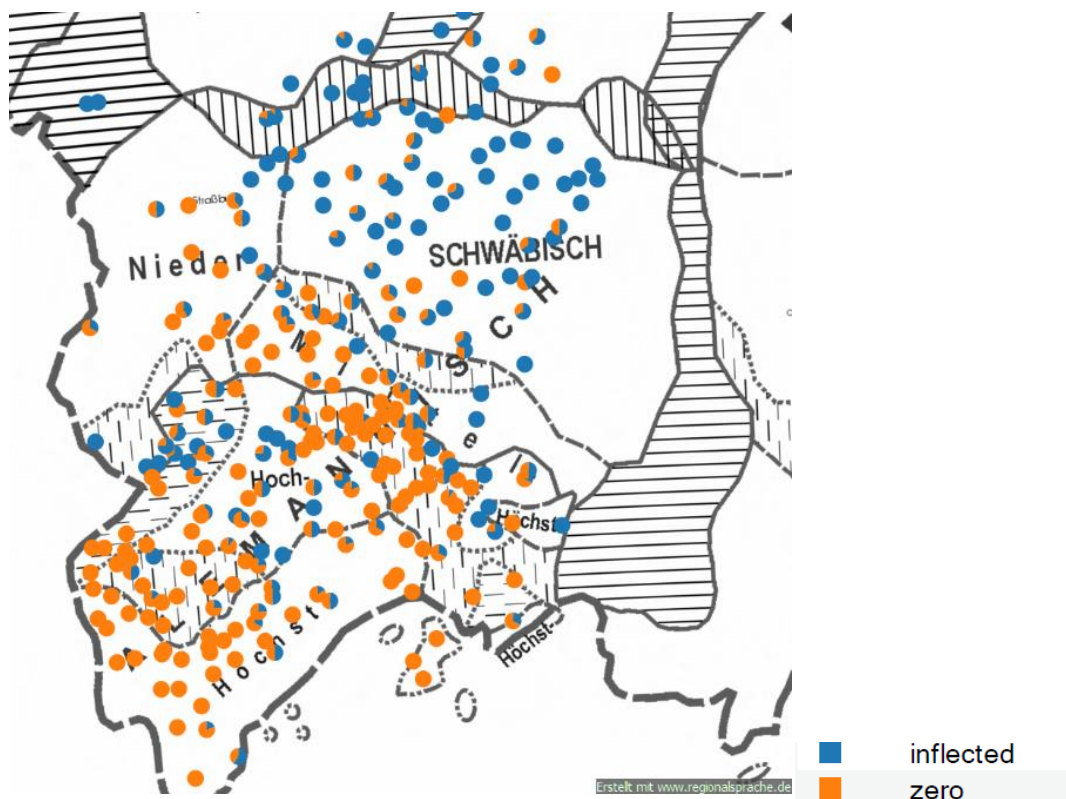


Figure 20: Distribution of uninflected instances of *braun* from a translation task

sentences that could not be evaluated¹⁷. About 70 % of the occurrences of *braun* were realized without inflection in the Swiss area whereas only 30% of the sentences contained an uninflected adjective in the German area. The results for Vorarlberg and Alsace also show a high rate of uninflected adjectives but due to the small data set, the results for the latter two regions are not as reliable as they are for Germany and Switzerland.

The areal distribution is even more striking when the results are displayed on a map. Map 3 illustrates the areal distribution of the results displayed in the diagram above based on WIESINGER'S (1983) dialect classification (introduced in 4 above). It is evident, that uninflected adjectives are very common in the so called Highest- and High-Alemannic areas whereas in Swabian or Low-Alemannic inflection is preferred.

¹⁷This includes e.g. sentences that were translated without the adjective.



Map 3: Distribution of uninflected instances of *braun*

Besides these indicators for a regionally determined distribution of uninflected adjectives, there is also evidence for a distribution based on morpho-syntactic factors. These can be found in historical and dialectal grammars.

Case and gender

PAUL (2007) as well as SOLMS and WEGERA (1991) note that uninflected attributive adjectives are restricted to NPs in Nominative and Accusative singular in MHG as well as in EarlNHG, which was partially confirmed by the small corpus study discussed in the previous chapter. SOLMS and WEGERA (1991) also state that in EarlNHG uninflected adjectives are most frequent with neuter nouns and also possible but less frequent with masculine and feminine nouns. With feminine nouns they are possible in Nominative and Accusative up to the 15th century but rare in the 16th century - with regional differences. Furthermore, they note that these options only hold for the pronominal paradigm whereas the weak is generally realized and uninflected adjectives are attested but less frequent (SOLMS & WEGERA 1991, 110-115). Table 27 illustrates the distribution as described in the two grammars. The corpus study included another factor, namely definiteness and unlike indefinite DPs in definite ones uninflected adjectives could also be found in the oblique case.

Distribution of uninflected adjectives in MHG and EarlNHG					
	Masc	Fem	Neut	Sing	Pl
Nom	✓	✓	✓	✓	✗
Acc	(✗)	(✓) ¹⁸	✓	✓	✗
Dat	(✗) ¹⁹	(✗)	(✗)	(✗)	✗

Table 27: Distribution of zero-inflection in MHG and EarlNHG

✓ = uninflected adjective is possible ✗ = uninflected adjective is not possible

A strong influence of gender is also postulated in STAEBELE (1927, 19f) for Alemannic, based on a variety spoken in Stahringen. Stahringen is a village in southern Germany. He notes that adjectives occur uninflected with neuter nouns in all environments (except in the vocative) in Nominative and Accusative. In the absence of an article there are also examples in the dative (134) with the nominal embedded in a PP.

(132) *gūəb brōt*

good-Ø bread.NEUT

(133) *s' nei rād*

the.NOM.SG.NEUT new-Ø bike.NEUT

(134) *mid āld īsə*

with old-Ø iron.Neut

(135) *godds morgə*

good-ACC.SG.MASC morning.Masc

¹⁸ According to SOLMS and WEGERA (1991) there are occurrences of uninflected adjectives with feminine nouns in Accusative case. For MHG it is noted in PAUL (2007) and also MAUSSER (1933) that uninflected adjectives in Accusative case are restricted to neuter.

¹⁹ The brackets indicate that we also found uninflected adjectives in our corpus study but only with the definite article and less frequent than with Nom and Acc:

der heilig-Ø kron

the.DAT.FEM.SG. holy crown

dem gemain-Ø Tisch

the.DAT.MASC.SG. common table

A problem with some of the examples with NPs without a determiner is the fact that they can also occur as nominal compounds and might therefore be ambiguous between an uninflected attributive adjective and a compound in which the adjectival part never inflects anyway:

(136) *warm-Ø Wasser vs Warmwasser.*

warm water warm water

The two examples can of course be disambiguated with prosodic means because the main stress in the compound is on ‘warm’ whereas in the example with the attributive adjective it is normally on ‘water’.

(In)Definiteness

STAEDELE (1927, 19f) also states that the weak inflection, normally appearing with the definite article, is omitted for all three genders in Nominative and Accusative singular NPs.

(137) a. *s' nei rād*

the new bike.NEUT

b. *də gūs(t) bouš²⁰.*

the good dog.MASC

c. *di ālt hōmst*

the old home.FEM

With the indefinite article, uninflected adjectives are not possible according to STAEDELE (1927). Similar observations are made by HENN-MEMMESHEIMER (1980) for Palatinate, a dialect spoken in the northern part of the county Baden-Württemberg and other counties which were not included in the study (Rhineland-Palatinate, Hesse and Saarland). Palatinate does not belong to the group of Alemannic varieties but it was also included in our questionnaire study. The occurrence of uninflected adjectives in similar contexts in a dialect other than Alemannic already hints at a phenomenon that is not restricted to a certain German dialect but it may be a general phenomenon of non-standard varieties. A summary of the contexts in which uninflected adjectives can occur in Alemannic according to STAEDELE (1927) is given in Table 28.

²⁰ In STAEDELE (1927) there are no translations of the Alemannic examples given and I could not find the exact representation of this word in an Alemannic dictionary. However, in the *Idiotikon* (<https://www.idiotikon.ch/online-woerterbuch>) the word *bouss* is listed, meaning *dog*. The problem with the phonological representation given in STAEDELE is, that the *š* is meant to be pronounced as /ʃ/. The word is clearly specified as being masculine singular but the translation with *dog* might not be correct.

Distribution of uninflected adjectives in Alemannic according to Staedele (1927)								
	Masc		Fem		Neut		Sing	Pl
	definite	indef	definite	indef	definite	indef		
Nom	✓	✗	✓	✗	✓	✓	✓	(✓) ²¹
Acc	✓	✗	✓	✗	✓	✓	✓	✗
Dat	✗	✗	✗	✗	✗	✗	(✗) ²²	✗

Table 28: Uninflected adjectives in Alemannic according to Staedele's Grammar

✓ = uninflected adjectives are possible ✗ = uninflected adjectives are not possible

The observations from these dialectal and diachronic grammars lead to the conclusion that there are three factors that regulate the distribution of uninflected adjectives: Case, gender and definiteness.

In a detailed study across the Alemannic area we tested for the features listed above as well as additional factors (e.g. elliptical contexts and absence of a determiner) that might influence the distribution of adjectival inflection. The results show that there is no clear distribution of uninflected adjectives and that their distribution is not governed by phi-features or case. However, the results reflect assumptions made in this section like a higher acceptability of zero-inflection with neuter nouns. This points to the conclusion that the spreading of uninflected attributive adjectives is a development that is still in progress. The details of the study as well as the results will be outlined in the next section.

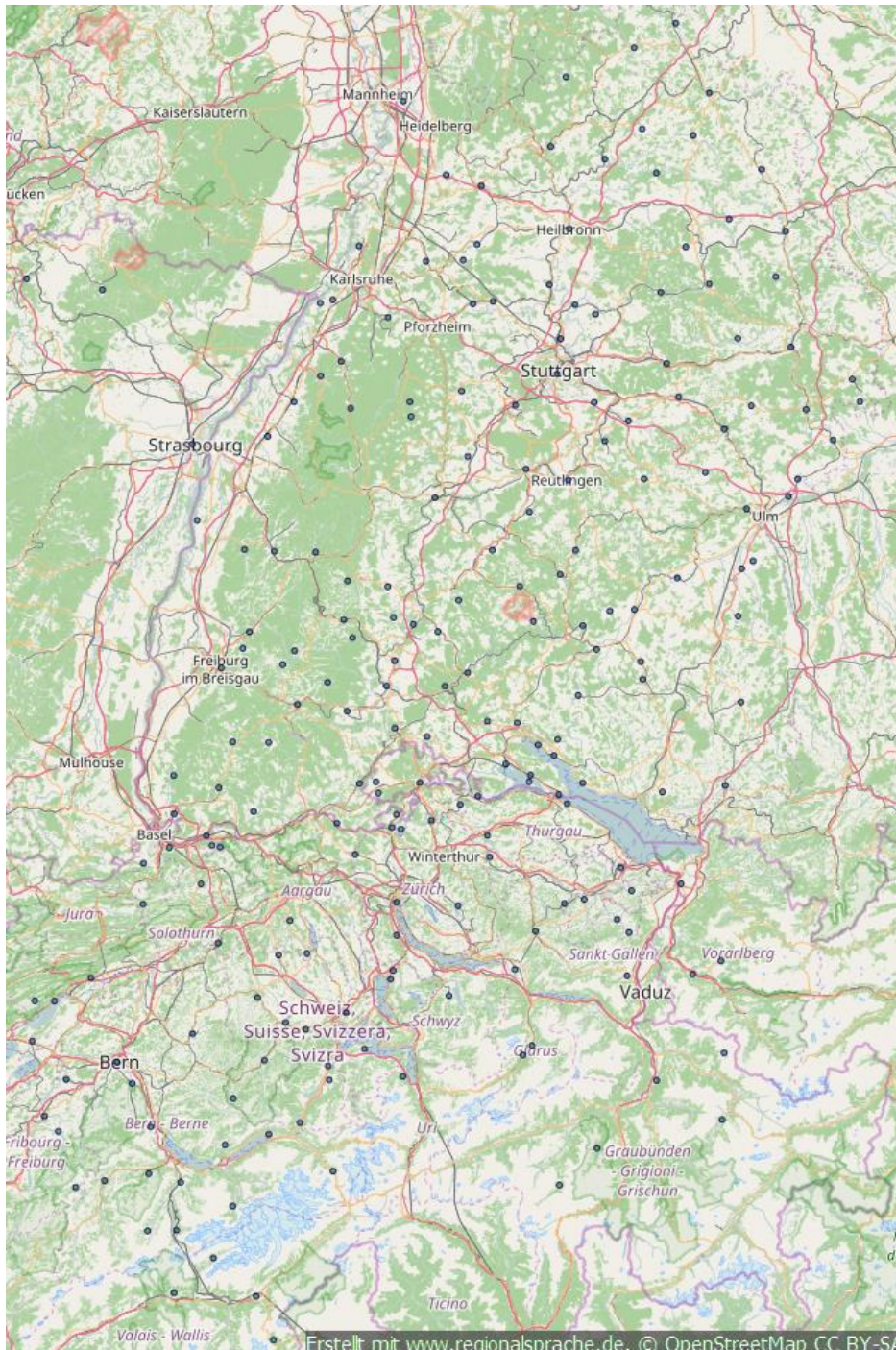
4.3 The questionnaire study

In order to determine the influence of possible morpho-syntactic factors on the distribution of uninflected attributive adjectives in Alemannic, several questionnaire studies were undertaken in the Alemannic area. This area includes the German speaking parts of Switzerland, Baden-Württemberg (a county in southern Germany), Vorarlberg in Austria and Alsace in France. Liechtenstein and the Alemannic regions in Bavaria were not included in the empirical study. We did include the northern parts of the county Baden-Württemberg, even though non-Alemannic dialects are spoken there. In the north-west of the county a Palatinate variety is spoken, and in the north-eastern part a Franconian variety. The areas were included in order to avoid a 'gap' between the empirical studies undertaken in the SynALM project and the Syhd-

²¹Only with neuter nouns.

²²There are examples with neuter nouns without an article but with a preposition as in (134).

project²³ in Hesse. Furthermore, including these areas also provides insights into whether a particular phenomenon is restricted to the Alemannic dialect or whether it may be a general phenomenon of non-standard varieties of German. The region in which the study was undertaken as well as the individual places questionnaires were sent to are given in Map 4.



Map 4: The Alemannic area with the individual places marked to which questionnaires were sent out

²³ Syntax of the Hessian dialects

Instead of translation tasks the participants were asked to rate sentences on a scale from 1 (*natural*) to 5 (*not possible*), so the different variables could be controlled for. All sentences that had to be rated in the questionnaire were translated into the different Alemannic varieties in order to prevent or at least reduce possible interference effects from StG. The example from one of the questionnaires illustrates the method (Figure 21):

(138) *D' Anna het e neu Fahrrad.*
 the Anna has a new-Ø bike

	natürlich		geht nicht		
	1	2	3	4	5
D' Anna het e neu Fahrrad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 21: Example from the questionnaire testing uninflected adjectives

In total, there were four questionnaires sent out to the participants at different times that included test-sentences on adjectival inflection as well as other phenomena which are not part of the research for this work. Between 757 and 536 questionnaires from these four rounds could be evaluated. The focus in the first two studies was on the variables *case*, *gender*, *number* and *definiteness* as these are the factors identified in the literature which are assumed to drive the distribution of the two paradigms and uninflected adjectives. The results of the study are summarized in the next section.

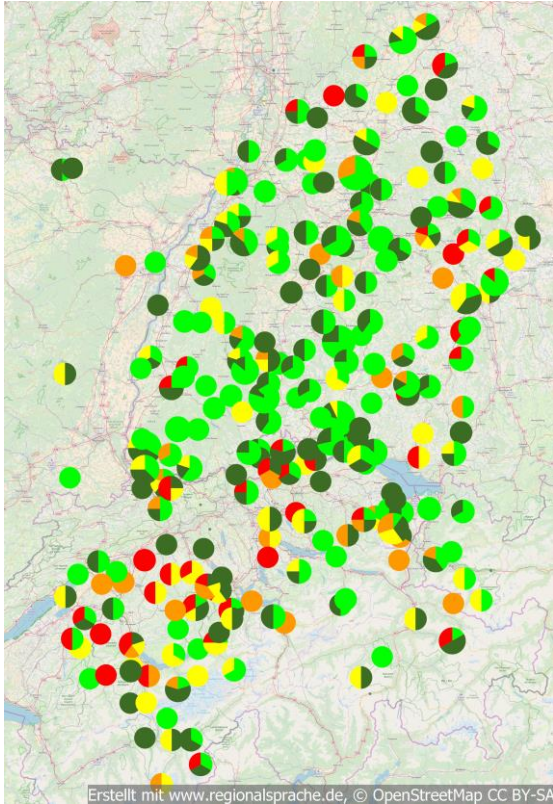
4.3.1 Neither an areal nor a morpho-syntactic distribution

Both the Wenker-map as well as the distribution of uninflected instances of *braun* (brown) from a translation task as described in section 4.2 strongly suggest an areal distribution of uninflected adjectives. The follow-up studies could however not reproduce these results.

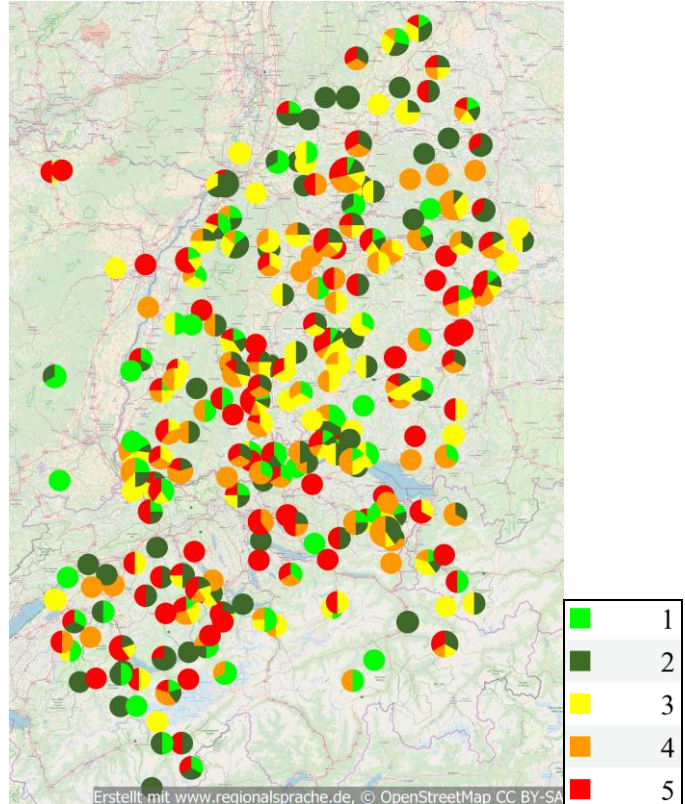
Map 5 and Map 6 below show the acceptance/rejection of uninflected adjectives for the sentences in (139) and (140). The judgements from 1 (*natural*) to 5 (*not possible*) are displayed in different colors listed next to the two maps. The acceptability of the two sentences w.r.t. uninflected instances of the adjective varies, however, the acceptance/rejection is distributed quite uniformly across the area.

(139) *A kloï Wohnung hot au viele Vordoil.*
 a small-Ø apartment has PRT many advantages
 ‘A small apartment has many advantages.’

(140) *Des lang Seil hod sich verwurschtelt.*
 the long-Ø rope has itself tangled up
 ‘The long rope got tangled up.’



Map 5: Results for sentence (140)



Map 6: Results for sentence (139)

A rather high acceptance - a judgement of either 1 or 2 for sentences with uninflected adjectives - can be found for all four of the morpho-syntactic variables tested (*case, gender, number, definiteness*) as illustrated in Table 29 to Table 32. The results are given in percent as well as the corresponding base value (= number of sentences per variable that were evaluated²⁴). Since there were several questionnaire rounds with a varying number of participants the number of sentences per variable was taken as the basis for the analysis.

No areal distribution

Table 29 illustrates the acceptance/rejection of uninflected adjectives in definite and indefinite DPs and shows that:

- The overall acceptance is very high.

²⁴The base value corresponds to the number of sentences that could be evaluated. So if there were 5 sentences containing the variables indefinite, nominative, singular and 500 participants rated those sentences, the base value is 2500.

- There is no big difference in acceptance/rejection of uninflected adjectives between the Swiss (CH) and the German (D) areas.
- Definite DPs with uninflected adjectives show higher acceptance rates than indefinite DPs but uninflected adjectives are clearly allowed in indefinite DPs.

Uninflected adjectives in Alemannic						
Indefinite DPs						
Judgement	1	2	3	4	5	x
N=4100 ²⁵	26,44	19,29	16,93	13,27	17,66	6,41
D (n=2682)	27,07	19,95	18,57	13,09	14,80	6,52
CH (n=1284)	25,62	18,30	13,55	13,86	22,58	6,07
Definite DPs						
Judgement	1	2	3	4	5	x
N=4542	35,20	26,16	15,46	10,15	8,15	4,89
D (n=3012)	37,02	27,25	15,31	10,09	5,91	4,42
CH (n=1368)	30,56	24,63	15,64	10,53	13,45	5,19

Table 29: Results for uninflected adjectives in definite and indefinite DPs in %

A closer look at the judgements given in Table 29 w.r.t. to an areal distribution reveals, that there is no striking difference between the Alemannic areas in Switzerland (CH) and Germany (D) w.r.t acceptance or rejection of uninflected adjectives. The table displays the results for definite and indefinite DPs in Nominative and Accusative with uninflected adjectives. In (141) and (142) two of the test-sentences are given.

(141) *A kloii Wohnung hot au viele Vordoil.*

a small apartment has PRT many advantages

‘A small apartment has many advantages.’

(142) *Des lang Seil hod sich verwurschtelt.*

the long-Ø rope has itself tangled up

‘The long rope got tangled up.’

The first row in the table displays the result for the whole area, the second and the third line list the results for the German and the Swiss regions. Contra the findings for the Wenker-sentence in (131) the acceptance of uninflected adjectives in the Swiss area is even slightly lower than in the German area.

²⁵ This number includes the data from the whole area in which we undertook the study, including Alsace and Vorarlberg.

Method

The difference between the results for the translated sentence and the follow up study shows that in the translation task a factor must have had an impact that was not of influence in the second study. We may speculate on two possible influential factors. The first one might be phonological as in the Swiss area as well as the southern parts of the Alemannic area in Germany the adjective *braun* (brown) is realized with a monophthong and in addition the *-n* at the end of the word is generally dropped (*bru*). In the other Alemannic areas the adjective is however produced with a diphthong (*brau(n)*). Furthermore, there may be an influence of an extralinguistic factor, namely the awareness of Swiss German speakers that their variety allows uninflected adjectives which might not be the case for the other Alemannic areas, even though we can find information about the phenomenon in some dialectal grammars. In other words, the fact that the Swiss participants are aware of the fact that their dialect has zero inflection might have led to the high rate of translations without inflection as a ‘proper’ translation into the dialect includes this phenomenon. Since in the other areas people are less or not at all aware of this phenomenon the interference from the StG sentence was higher – but nevertheless about 30 percent of the translations in the German area were realized without the inflection on the adjective. This is of course a very speculative account of the areal vs the non-areal distribution but at this point a full analysis is not possible as more data focusing on the method as well as possible phonological factors would be necessary. The issue will be taken up again in section 4.4.1, which reveals a possible connection of the particular areal distribution to the fact that *brown* is a color-adjective as a similar distribution can be found with the color-adjectives *rosa* (pink) and *lila* (purple). This also points to the reliability of the method as the difference cannot be attributed to using translation or judgement tasks since the results for *braun* are from a translation task but those for *rosa* and *lila* are from a judgement task.

Morpho-syntactic features and (in)definiteness

Besides a possible areal distribution the questionnaire also focused on morpho-syntactic factors that might drive the distribution of uninflected adjectives. As has been mentioned above, the focus was on *case*, *gender*, *number* and *definiteness*.

There are indeed differences regarding the acceptability for the different variables, however, none of the results stands out to an extent either in acceptance (= a rating with 1 or 2) or rejection (= a rating with 4 or 5) or participants being undecided (= a rating with 3). In other

words among the variables tested none of them clearly regulates the (non-)appearance of uninflected adjectives.

Table 29 above shows, that uninflected adjectives preceded by a definite article show a higher acceptance compared to the indefinite article. This does not mean that uninflected adjectives are rejected in indefinite DPs, though - 26,44% of the test-sentences with uninflected adjectives in indefinite DPs are rated with 1 and 19,29% with 2. 35,2% of the sentences with a definite article preceding the adjective were rated with 1 and 26,16% with 2. This means that in both contexts uninflected adjectives are possible and neither definiteness or indefiniteness clearly trigger or prohibit them.

Nominative and Accusative vs Oblique DPs

Comparing DPs in Nominative and Accusative (example (141) and (142)) with those in the Oblique case (example (143) to (145)) shows that uninflected adjectives are indeed preferred in Nominative and Accusative DPs - but it is again not the case that they are completely rejected in oblique DPs. An overview is given in Table 30.

(143) *D'Mona isch mit dem nei/nui Waga komma.*

The Mona is with the.DAT.MASC.SG. new-Ø car come

'Mona came with the new car.'

(144) *Dr Mario hot dem alt Haus an Astrich verpasst.*

The Mario has the.DAT.MASC.SG old-Ø house a paint given

'Mario painted the old house.'

(145) *I hab des Buach von am alt Maa gschenkt kriagt.*

I have the book from a.DAT.MASC.SG. old-Ø man as a present got

'I got the book from an old man as a present.'

If we add the judgements of 1 and 2 and analyse them as acceptance, uninflected adjectives in DPs in Nominative or Accusative show an acceptance of 45,73% for indefinite DPs and 61,36% for definite ones. The acceptance rate is 35,14% for definite oblique DPs containing an uninflected attributive adjective and 38,05% for indefinite oblique DPs. It might be argued regarding this particular variable that one sentence is not enough to make any reliable statements. This may indeed be true but due to an unexpected earlier end of the SynALM project only the definite Oblique DPs could be tested in more detail and the results confirm a rather high acceptance of uninflected adjectives in the Oblique case. Unfortunately, there are not enough sentences with indefinite oblique DPs at this point.

Recall that in the MHG and EarlyNHG grammars zero inflection was said to only be possible in Nominative and Accusative, which was partially confirmed by the small corpus study presented in chapter 3. In indefinite DPs uninflected adjectives did only occur in Nominative and Accusative, in definite DPs 4,90 % of the uninflected adjectives appeared in oblique case (Dative or Genitive). This means that present day Alemannic has developed further in that the distribution of uninflected adjectives has been expanded to contexts in which they were not or barely accepted before.

Uninflected adjectives in Alemannic						
Nominative & Accusative singular						
Judgement	1	2	3	4	5	x
Indef=4100 ²⁶	26,44	19,29	16,93	13,27	17,66	6,41
Def=4542	35,20	26,16	15,46	10,15	8,15	4,89
Oblique (masc, sing)						
Judgement	1	2	3	4	5	x
Indef (n= 757)	19,82	18,23	19,42	16,91	18,10	7,53
Def (n=757)	16,12	19,02	18,89	17,97	20,21	7,79
Def (n=3028)	16,68	19,78	19,52	16,68	18,59	8,75

Table 30: Results for Nominative & Accusative vs Oblique DPs in %

Gender

For EarlyNHG it was mentioned in the previous section that according to SOLMS and WEGERA (1991) uninflected adjectives are clearly preferred with neuter nouns and the already less frequent occurrence with feminine and masculine nouns declines. The results displayed in Table 31 indeed show a preference of uninflected adjectives with neuter nouns. Nevertheless, acceptance for masculine and feminine is also between 46% and 49%, which means that the former tendency of disallowing uninflected adjectives with non-neuter nouns does no longer hold. It is also interesting to see that the judgements with 1 or 2 are lower with feminine nouns than with masculines, however, rejection is higher for masculine nouns with 18,17% of the sentences rated with 5, whereas only 14,93% received this rating for feminine nouns. This means that **lower acceptance does not necessarily mean a higher rejection**. In the case of feminine NPs there were more people undecided (sentences rated with 3) and the number of sentences rated with 1 was nearly identical to those rated with 2. The fact that all genders

²⁶ This number includes the data from Alsace and Vorarlberg.

allow uninflected adjectives can be regarded as a progressing development w.r.t. to zero-inflection as has been already observed for oblique case.

Uninflected adjectives in Alemannic						
Gender (Nom & Acc, definite & indefinite)						
Judgement	1	2	3	4	5	x
Fem (n=1514)	23,51	23,18	18,03	13,87	14,93	6,47
Masc(n=1293)	27,22	22,12	15,93	12,68	18,17	3,90
Neut (n=1293)	40,84	23,28	11,76	7,58	12,61	3,94

Table 31: Results for uninflected adjectives with feminine, masculine and neuter nouns in %.

Number

For EarLNHG and MHG as well as for Palatinate and a particular Alemannic variety a restriction of uninflected adjectives to singular DPs was mentioned in the literature. Table 32 shows that this is not confirmed by our study but uninflected adjectives are also accepted in plural DPs - even though the sentences with uninflected adjectives in singular DPs have higher acceptance rates. An example of a test-sentence in plural is given in (146). We only tested definite DPs for the influence of number because for all other variables only DPs with an overt article were systematically tested. We did include DPs without an article in the singular though but not for all variables (gender, number, case). The results are discussed in section 4.4.2.

(146) *Dia nui Kloider sen wirklich schea.*

the new-Ø dresses are really nice

‘The new dresses are really nice.’

Uninflected adjectives in Alemannic						
Plural (definite, all genders)						
Judgement	1	2	3	4	5	x
Nom & Acc (n=2733)	19,72	12,62	14,45	17,78	30,44	4,98
Oblique (n=1034)	22,73	12,67	16,05	17,50	27,47	3,58

Table 32: Results for uninflected adjectives in plural DPs in %

Summary

Summarizing the results described above the following findings can be listed:

- i. The variables tested vary w.r.t. acceptance/rejection of uninflected adjectives.
- ii. No variable clearly triggers or prohibits the occurrence of uninflected adjectives.
- iii. There is no areal distribution of uninflected adjectives w.r.t. to the variables tested.
- iv. Uninflected adjectives are not governed by morpho-syntactic features.
- v. Uninflected adjectives have spread since MHG and EarlNHG regarding the contexts they can appear in.

Table 33 illustrates the contexts in which uninflected adjectives are possible according to the findings from the questionnaire study. The table shows that compared to the distribution for EarlNHG and Alemannic as described in SOLMS and WEGERA (1991) and in STAEBELE (1927) displayed in Table 27 and Table 28 in section 4.2, there are more contexts in which uninflected adjectives are possible in the present day varieties of Alemannic.

Distribution of uninflected adjectives in Alemannic								
	Masc		Fem		Neut		Sing	Pl
	definite	indef	definite	indef	definite	indef		
Nom	✓	✓	✓	✓	✓	✓	✓	✓
Acc	✓	✓	✓	✓	✓	✓	✓	✓
Dat	✓	✓	✓	✓	✓	✓	✓	✓

Table 33: Distribution of uninflected attributive adjectives in present day Alemannic

Based on the findings from the empirical study and the results given in this section, it will be argued that adjectival inflection has indeed become optional, not only in Alemannic but in all German varieties, including StG. It will be shown that the absence of uninflected adjectives in StG is due to extralinguistic factors and can be reduced to a PF-phenomenon.

4.4 Adjectival inflection in German - optional but not disappearing

The results listed in the previous section have shown that there is neither an areal nor a morpho-syntactic distribution of uninflected adjectives based on the variables tested. The test-sentences with inflected adjectives support this finding as there is also no variable in which inflection is not accepted - on the contrary, acceptance of inflection for all variables is, as expected, very high. It is expected, because all people who speak dialect have been exposed to the standard variety from the day they entered school. So even though in some dialectal grammars uninflected adjectives are mentioned as if they were the only option for certain contexts (e.g. in STAEBELE 1927) this is clearly not the case. But they are the preferred variant for some people as there are also instances of rejection of the sentences with inflected DPs.

Sentences with inflected adjectives were included in the questionnaire for all the variables that were tested with uninflected adjectives. The results for (in)definite DPs as well as Nominative and Accusative versus Oblique case are summarized in Table 34.

Inflected adjectives in Alemannic						
Nominative & Accusative singular						
Judgement	1	2	3	4	5	x
Indef (n=2364)	63,49	17,13	7,02	4,15	5,20	3,00
Def (n=4542)	44,71	24,17	12,58	7,46	7,07	4,00
Oblique (masc, sing)						
Judgement	1	2	3	4	5	x
Def (n=757)	61,96	23,78	6,74	2,64	1,32	3,57
Indef (n= 757)	32,50	27,48	13,61	10,83	9,78	5,81

Table 34: Acceptance of sentences with inflected adjectives in %

It is interesting to see that the percentage of sentences with inflected adjectives rated natural (=1) is higher for indefinite than definite DPs. This result is the reverse of the result with uninflected adjectives for the same variable, as their acceptance was higher in definite than in indefinite NPs.

In general, rejection of the sentences containing inflected adjectives is extremely low for both definite and indefinite NPs²⁷.

Adjectival inflection is optional

The results for sentences with uninflected and inflected adjectives lead to the conclusion that adjectival inflection in Alemannic is generally optional. There is no context which requires an inflected adjective (the only exception are DPs without an article, which is discussed in 4.4.2) but there is also no context which prohibits inflection. Differences in acceptability regarding the different morpho-syntactic variables can be observed, however. The contexts in which uninflected attributive adjectives can occur have been shown to have expanded compared to EarlNHG and MHG. This observation further supports the analysis of the optionality of inflection. Two questions arise in the light of this assumption:

1. Why does the inflection not disappear completely (like in English)?
2. Why does the standard variety not allow uninflected adjectives?

²⁷ Greater rejection can be found in indefinite oblique DPs compared to the definite ones. Since oblique DPs seem to receive greater rejection with both inflected and uninflected adjectives in general there might also be a factor other than adjectival inflection that has an impact on the judgements.

The answer lies in the inflectional endings themselves. Neither the pronominal nor the weak ending exclusively combine with adjectives. This is most evident for the pronominal paradigm as it can combine with the *d-* element forming the definite article or demonstrative (WILTSCHKO 1998), and it can combine with *(irgend)ein-* ((some)one) forming indefinite pronouns. In isolation, the elements of the pronominal paradigm occur as a free morpheme in the function of personal pronouns (WILTSCHKO 1998, 148ff). This is illustrated in Table 35 below.

			Inflection	Personal Pronoun
d-	(irgend)ein-	adj-	er	er (he)
d-	(irgend)ein-	adj-	ie/e ²⁸	s-ie (she)
d-	(irgend)ein-	adj-	as/es ²⁹	es (it)

Table 35: Elements the pronominal ending combines with

The weak ending does not exclusively attach to adjectives either but also forms the declension of so called weak masculine nouns. The Nominative singular form of these nouns is not inflected but for all other cases the inflection is *-en*. Table 36 illustrates the declension of weak masculine nouns and Table 37 shows weak inflection on the adjective.

Nom	der Student the.NOM.MASC.SG student-WK
Acc	den Student-en the.ACC.MASC.SG. student-WK
Dat	dem Student-en the.DAT.MASC.SG. student-WK
Gen	des Student-en the.GEN.MASC.SG. student-WK

Table 36: Weak masculine nouns

²⁸ There are two phonological variants of this morpheme as it is always *-e* when combining with an indefinite pronoun, whereas it can be *-ie* or *-e* in some varieties of German when it combines with the definite article and also on the personal pronoun:

- (1) *Wo isch d' Maria? - I hab se ned gsäha.*
Where is the Maria? - I have she not seen.
- (2) *Hast du de Maria gesehn?* (Saxon dialect)
Have you the Maria seen?

²⁹ Similar to the feminine form there are two phonological variants for the neuter form. The variation is found on the definite article:

- (3) a. *Wo isch d-es Deng?* (Swabian)
b. *Wo ist d-as Ding?* (StG)
Where is the thing?

Nom	Der gut-e Wein the.NOM.MASC.SG. good-WK wine
Acc	Den gut-en Wein the.ACC.MASC.SG. good-WK wine
Dat	Dem gut-en Wein the.DAT.MASC.SG. good-WK wine
Gen	Des gut-en Wein-es the.GEN.MASC.SG. good-WK wine-GEN

Table 37: Weak adjectival inflection

Furthermore, the n-declension used to be productive in word-formation as a stem-suffix in the Germanic period which is extensively studied in WESSÉN (1914) and which was also briefly mentioned in chapter 3. The ending, as he notes, was extremely productive in nominal word formation, both in de-verbal and de-nominal formations. The fact that the weak ending occurs as a case ending on certain nouns and that it used to be a word-formation element shows that it fulfills different morpho-syntactic functions. In this respect, it is similar to the pronominal paradigm. It can therefore be assumed that both suffixes must always be present in the mental lexicon and cannot disappear completely.

The observation that both inflectional endings still and frequently appear as adjectival inflection allows to draw conclusions w.r.t. the syntax. There must be a functional position in the structure of the DP which is always present when the noun is modified by an adjective but which does not need overt material in its head. A simplified version of this structure is displayed in Figure 22 below in which this position is labelled Mod(ifier)P(hrase) and which has already been introduced in chapter 2. There is admittedly nothing exciting about the structure in Figure 22. It essentially follows theories assuming adjectives to be located in the specifier of a designated head (e.g. CINQUE 2010; JULIEN 2005; ROEHRS 2006). Why the projection should best be characterized as ModP was motivated in chapter 2. There is one difference in the structure below compared to the theories listed above, namely the fact that adjectival inflection heads the ModP. For independent reasons LEU (2008) also assumes adjectival inflection to be the head of the projection that has the AP in its specifier. In his

theory, this is AgrDP. I will briefly discuss his account as well as other theories in section 4.4.4.

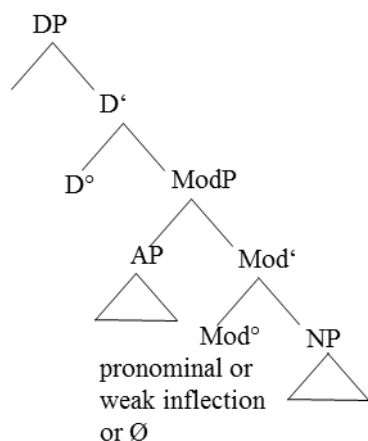


Figure 22: The ModP is optionally headed by adjectival inflection

For the purpose of this essentially descriptive chapter the structure above shall suffice and I will continue with further empirical observations. The syntactic analysis of the data and a detailed discussion of the structure of the (German) DP is the topic of chapter 5.

4.4.1 The special case of *rosa* and *lila*

The color adjectives *rosa* (pink) and *lila* (purple) are special in that they occur uninflected in StG as exemplified in (147) and (148). In colloquial German they may also occur inflected according to WERMKE et al. (2006).

- | | |
|----------------------------------|---------------------|
| (147) <i>Ein rosa Stift</i> | (Standard German) |
| a pink pen | |
| (148) <i>Ein lila Kleid</i> | (Standard German) |
| a purple dress | |
| (149) <i>ein rosa-n-er Stift</i> | (colloquial German) |
| a pink-n-NOM.MASC.SG. pen | |
| (150) <i>ein lila-n-es Kleid</i> | (colloquial German) |
| a purple-n-NOM.NEUT.SG. dress | |

Since *rosa* and *lila* occur uninflected in StG it is expected that the acceptance rate for uninflected instances of these adjectives is much higher than for others. This is borne out as rejection of uninflected instances of both *rosa* and *lila* is only marginal which is illustrated in Table 38.

Rosa and Lila						
Uninflected						
Judgement	1	2	3	4	5	x
Nom/Acc (n=1128)	65,60	18,37	7,33	3,05	2,03	3,60
Obl (n=591)	58,38	19,71	9,56	5,33	2,96	4,06
Inflected						
Judgement	1	2	3	4	5	x
Nom/Acc (n=1773)	49,52	14,21	8,18	8,35	15,17	4,57
Obl (n=1182)	47,96	15,99	8,63	9,39	13,79	4,23

Table 38: Acceptance of uninflected and inflected instances of *rosa* (pink) and *lila* (purple) in %.

The acceptance of inflected *rosa* and *lila* is of equal importance for the present discussion. It is expected that inflection on these adjectives is accepted in all contexts. The results show that this is borne out, providing another piece of evidence for ModP being present but only optionally headed by overt material. It has to be noted though that the results for *rosa* and *lila* only include sentences in the singular.

Despite the expected results w.r.t. to *rosa* and *lila*, there is a very interesting areal distribution regarding the inflected forms. It has already been noted in section 4.2, that the color adjective *braun* (brown) showed a particular areal distribution as uninflected instances of this adjective were more common in the Swiss Alemannic areas as well as along the border - in other words in the areas classified as High and Highest Alemannic. In exactly these areas inflection on *lila* and *rosa* shows a **lower** acceptance rate as is evident from Map 7 displaying the results for the sentence in (151).

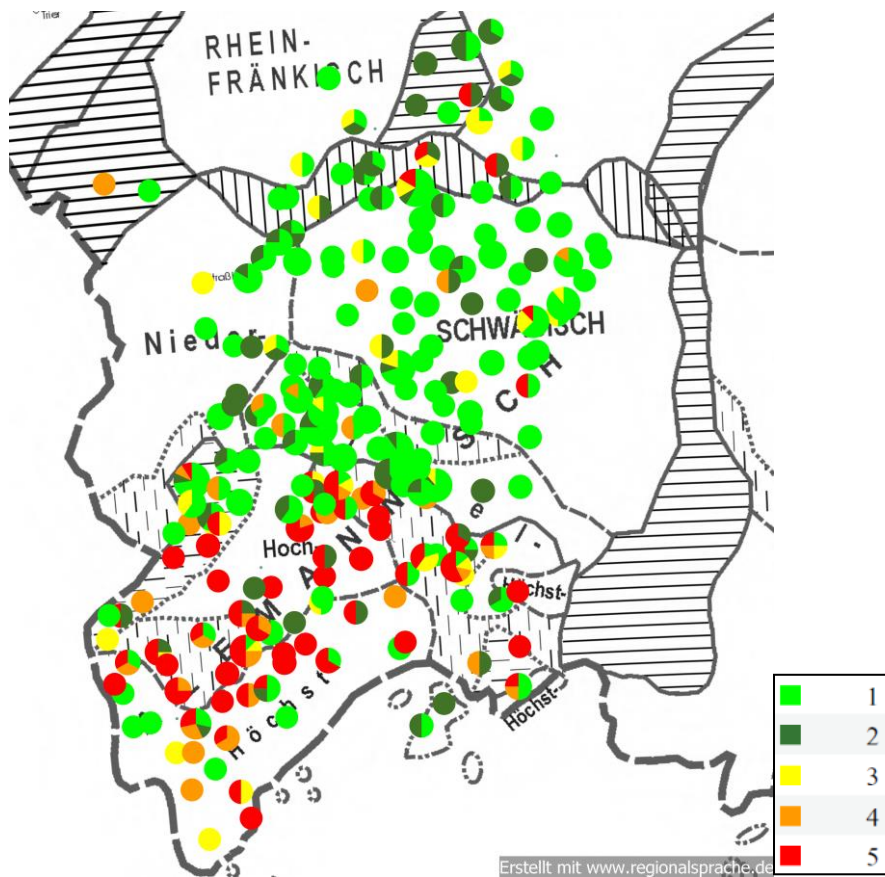
(151) *Die lila-ne Hose ist leider zu groß.*

The purple-WK pants is unfortunately too big

‘The purple pants are unfortunately too big.’

The observed areal distribution provides an additional factor that might play a role regarding the particular distribution of *braun*, *rosa* and *lila*. All three elements are color adjectives. It might therefore be exactly this (semantic) factor, which is responsible for the regionally determined distribution. In all other cases, acceptance of uninflected adjectives do not show

great differences w.r.t. the different dialectal regions in which Alemannic is spoken. In order to confirm this hypothesis more data on color adjectives would be needed, though.



Map 7: Acceptance/Rejection of inflection on *lila*

There might also be a phonological explanation to the particular areal distribution of the inflected instances of *rosa* and *lila*. Both adjectives end in /a/ and in order to combine with an inflectional suffix an *n* needs to be inserted for phonological reasons.

- (152) a. *ein rosa-n-es Kleid*
 b. *ein lila-n-es Kleid*
 a pink/purple dress

In the case of *braun* the *n* is often dropped but unlike in *rosa* and *lila* the *n* is part of the stem. More importantly, the adjective ends in /au/ in this case, which is not problematic as in these cases an *n* is not inserted as example (153) c. shows.

- (153) a. *ein braun-es Kleid* (Standard German)
 b. *a brau-s Kloid* (Swabian)
 a brown dress
 c. *ein blau-es Kleid* (Standard German)
 a blue dress

In order to exclude this phonological factor it would be necessary to test other adjectives with the same phonological properties to rule this out. In addition, it would also be necessary to test color adjectives that do not end in /a/ or /n/ to see whether they are distributed similar to the ones tested or if they behave differently.

4.4.2 Adjectival inflection – optional with one exception

Above it has been argued that adjectival inflection is optional in all contexts that were tested. This is indeed the case as the results have shown, but there is one construction for which this optionality does not hold. DPs without an overt article do not seem to tolerate uninflected adjectives.

(154) *Guad-er Wei isch hald duier.*

Good-NOM.MASC.SG. wine is PRT expensive

(155) **Guad-Ø Wei isch halt duier.*

Good wine is PRT expensive

(156) *Mit guat-em Wei ko ma nix falsch macha.*

With good-DAT.MASC.SG. wine can you nothing wrong make.

You can't go wrong with good wine.

(157) **Mit guat-Ø Wei ko ma nix falsch mache.*

With good wine can you nothing wrong make.

You can't go wrong with good wine.

Rejection is very high in these contexts as the results in Table 39 show and acceptance is only marginal. There are some participants who rate the sentence with 3 and seem to be undecided, but the overwhelming majority did not accept the examples and rated the sentences with 4 or 5.

Uninflected adjectives in Alemannic						
	No preceding article					
Judgement	1	2	3	4	5	x
Nom (n=591)	1,35	4,23	13,03	25,04	48,73	7,61
Obl (n=591)	0,68	2,88	12,69	25,21	51,27	7,28

Table 39: Results for uninflected adjectives without a preceding article in %.

These results contradict STAEBELE (1927) who states that uninflected adjectives are possible with bare neuter nouns. Since STAEBELE explicitly refers to neuter nouns, it might be argued that our example is rejected because the noun is masculine. A distribution based on gender

has already been proven wrong in section 4.3.1, because the results illustrate that adjectives can appear uninflected with all genders in definite and indefinite DPs. It is therefore safe to conclude that the variable that prohibits dropping of the inflectional ending is the absence of the article and not gender.

Two questions have to be answered regarding the results for bare nouns and uninflected adjectives:

- 1) **Why** are uninflected adjectives prohibited with bare nouns?
- 2) **Which features** must be specified and overtly marked in the DP?

The most obvious answer to the first question is that the result reflects the requirement of certain features to be marked overtly. Whenever these features are not marked on the article then they are marked on an adjective. This is the basic assumption regarding the distribution of the strong and the weak paradigm in StG. It cannot hold in the same form for Alemannic as feature specification on the article does not have any influence on adjectival inflection. Even the uninflected indefinite article allows uninflected adjectives as in (141) repeated here as (158).

- (158) *A-∅ guat-∅ Buach ko mr au zwoimol läsa.*
a good book can one PRT twice read
'You can read a good book twice.'

This observation leads to the second question, namely which features have to be marked? The Alemannic data show that number and oblique case are the only features that have to be marked overtly. The paradigms of the definite and the indefinite article provide the relevant insights. The details are given in the next section.

4.4.3 Number and oblique case – the only obligatorily marked features

In the previous sections it was argued, that German adjectival inflection is optional but does not disappear completely, based on the multifunctional nature of both endings. However, there is one exception. In the absence of a determiner the Mod^o head cannot be empty. The simplest answer for this phenomenon is, it was argued, that the adjectival inflection is necessary as it marks the features that would otherwise appear on the article. This would be too simple an explanation, though. Even in the case of an uninflected article, the adjective can appear uninflected.

- (159) *a-∅ guat-∅ Buach*

a good book

The relevant insights are provided by the paradigm of the article. It will be shown that the two features that always require to be marked overtly are number and oblique case. The Swabian paradigm in Table 40 serves as an example for the feature specification on the definite and indefinite article following the overview in BARUFKE and SPANNBAUER-POLLMANN (1989). The paradigm shows that the indefinite article only marks oblique case consistently. Accusative is only marked with masculine nouns. Number is specified as the indefinite article only occurs in singular DPs. Gender is not specified regularly but is only marked in two cases, namely Oblique with feminine nouns and with masculine nouns in the Accusative. The definite article shows case syncretism between Nominative and Accusative but as opposed to the indefinite article gender is specified. Oblique case and number are clearly marked. The only exception is the singular with feminine nouns which does not differ from the plural form of the definite article. The plural form is the same for Nominative and Accusative and does not show any gender specification. Oblique case is however marked.

Indefinite				Definite		
	Masc	Fem	Neut	Masc	Fem	Neut
Nom	a Mo	a Frau	a Keed	dr Mo	d Frau	s Keed
Acc	an Mo	a Frau	a Keed	dr Mo	d Frau	s Keed
Dat	am Mo	ra Frau	am Keed	em Mo	dr Frau	em Keed
Plural						
Nom				d Männer	d Frau	d Kender
Acc				d Männer	d Frau	d Kender
Dat				de Männer	de Frau	de Kender

Table 40: The definite and indefinite article in Swabian

The paradigm of the StG articles also shows cases of syncretism. In the plural paradigm gender is not marked at all but only oblique case is marked. The singular paradigm is also deficient regarding feature specification, as is also noted in BAYER et al. (2001). Only in the masculine form is Accusative distinguished from Nominative but neither in the feminine nor in the neuter form.

Singular	Indefinite			Definite		
	Masc	Fem	Neut	Masc	Fem	Neut
Nom	ein Mann	eine Frau	ein Kind	der Mann	die Frau	das Kind
Acc	ein-en Mann	eine Frau	ein Kind	den Mann	die Frau	das Kind
Dat	ein-em Mann	ein-er Frau	ein-em Kind	dem Mann	der Frau	dem Kind
Gen	ein-es Mann-es	ein-er Frau	ein-es Kind-es	des Mann-es	der Frau	des Kind-es
Plural						
Nom				die Männer	die Frauen	die Kinder
Acc				die Männer	die Frauen	die Kinder
Dat				den Männern	den Frauen	den Kindern
Gen				der Männer	der Frauen	der Kinder

Table 41: The Standard German paradigm for the definite and indefinite article

The observations regarding the feature specifications on the articles in Alemannic, exemplified with Swabian, as well as the StG paradigm lead to the conclusion that two features must be marked obligatorily: Oblique case and number. Neither Nominative, Accusative or gender are consistently marked which is also noted in STAEBELE (1927) for Alemannic. For Palatinate HENN-MEMMESHEIMER (1980) observes that only Dative is consistently marked on the article. This observation accounts for the fact that in the absence of an article, the inflection on the adjective cannot be dropped. Example (140) requires the adjective to be inflected as this is the only available means to mark singular. In (141) the indefinite article provides the relevant number specification and adjectival inflection can be dropped.

(160) \emptyset *guat*-(*er*) *Wie*

good-*(NOM.MASC.SG.) wine.NOM.MASC.SG.

(161) *a* *groaß*-(*er*) *boom*

a.SG. big-(NOM.MASC.SG.) tree.NOM.MASC.SG.

Based on these observations a principle regarding the requirements of feature specification in German DPs can now be formulated.

Feature specification in German DPs (preliminary)

Within a DP in German, number and oblique case must be marked overtly either

a) on an article or

b) through inflection realized in Mod^o when no article is realized,

The above principle for feature specification in German DPs is not complete, yet. Number and oblique case can also be marked on the noun itself in the absence of an article or an adjective, which is the case in indefinite plurals.

(162) *Männ-er-n sollte man als Frau nie trauen.*

Men-PL-DAT should one as woman never trust.

As a woman you should never trust men.

(163) *Sarah hilft Freund-e-n beim Umzug.*

Sarah helps friend-PL-DAT at-the move.

Sarah is helping friends to move.

For this reason the above statement about feature specification has to be refined in the following way:

Feature specification in German DPs

Within a DP in German, number and oblique case must be marked overtly either

a) on an article,

b) through inflection realized in Mod^o when no article is realized,

c) or on the noun itself when neither of the above is realized.

It may be objected that c) is only possible for Dative but not for Genitive DPs³⁰ as Genitive marking on the noun alone is no longer an adequate means for case marking as illustrated in (164) to (166). The examples below are only grammatical in the presence of an adjective or article:

(164) *Der Duft Blumen

The smell flowers

(165) Der Duft schöner Blumen

The smell nice.GEN flowers

(166) Der Duft der schönen Blumen

The smell the.GEN nice flowers

(167) Der Duft von schönen Blumen

The smell of nice flowers

This observation does not refute the overall finding but requires a restriction of c) to Dative. This may have to do with the general decline of adnominal Genitive which is no longer

³⁰ For a detailed overview on Genitive case marking and the “Genitive Rule” with a discussion of various exceptions see GALLMANN (2018).

productive in non-standard varieties and it is also frequently replaced in colloquial German by alternative strategies (cf. KASPER 2014), e.g. like the one in (167). The above principle for phi-feature marking thus holds but w.r.t. case marking c) is restricted to Dative.

The above statement about feature specification says which features have to be specified where but it says nothing about why these features and not others are relevant. Regarding the obligatory marking of oblique case, I will not be able to provide a satisfactory answer. Case marking is a topic that is only discussed marginally in this work. I will briefly take up the issue again in chapter 5. My focus is on phi-feature marking and one of the main questions regarding the feature specification as stated above is: Why must number be marked overtly in the DP?

Why number?

In current German varieties, gender seems to be an arbitrary lexical feature of nouns without an interpretive effect. However, this was not always the case. As will be discussed in chapter 5 based on insights from HACHEM (2015) following LEHMANN (1958) gender used to mark the distinction of nouns as mass, collective or individuated (count nouns). The three types are illustrated in (168).

- (168) a. There is wine on the carpet. (mass)
b. The team is/are very good. (collective)
c. The wines in the basement are very good. (count)

In languages like Chinese, which does not have number morphology, notions like mass, count, collective or partitive are expressed with classifiers. BORER (2005) observes that number morphology and classifiers are in complementary distribution. From this, she concludes that number and classifiers must be in the same structural position and they fulfill the same function: The portioning out of mass. In her framework, all nouns are interpreted as mass by default and therefore a Classifier Phrase must project that is either headed by number morphology or by a classifier in order to make a count reading available.

With this in mind it is now obvious why number must be marked obligatorily: The absence of number marking results in a mass-reading. This observation will be elaborated on in chapter 5 and it will also be modeled syntactically. In the next section, I will also focus on the syntactic consequences of the data presented in this chapter. I briefly discuss three approaches to the German DP to illustrate that they are not able to capture uninflected adjectives and that a new account is needed in order to include them in a general analysis of the German DP.

4.4.4 Syntactic consequences

The observation regarding the feature specification for German DPs as made above allows us to draw conclusions w.r.t. to the syntax. The connection between adjectival inflection and the feature specification on the article is not new. It was already mentioned in the introduction that the traditional account regarding the distribution of adjectival inflection in German is said to depend on the inflection on the preceding article. Table 23 above illustrates the pattern.

I will briefly consider three syntactic analyses at this point to highlight that the results presented in the empirical study are not captured so far and thus a new approach is needed in order to account for the observed optional realization of adjectival inflection. The accounts I will introduce here are OLSEN (1991), ROEHRS (2006) and LEU (2008).

LEU discusses several Germanic languages and he also includes Alemannic (Swiss German) data in his analysis. His syntactic approach seems to elegantly capture a lot of data from the languages he discusses; however, when considering a broader empirical basis the analysis faces some empirical problems.

In LEU'S approach, only the definite but not the indefinite article play a role in the distribution of adjectival inflection, because the definite but not the indefinite article is part of the extended projection of the adjective, as is claimed. The reasoning is based on the inflectional patterns in Nominative and Accusative. LEU observes that the definite but not the indefinite article has an impact on the inflection of the adjective. The reasoning behind this assumption is that the pronominal paradigm on the adjective and the determiner is the same and he derives the distribution via movement of the adjective in the absence of a determiner. This is roughly sketched in (169) and (170).

(169) adjective	AgrA	adjective
<i>gut</i>	<i>-er</i>	<i>gut</i>
good	-NOM.MASC.SG.	
(170) d-	AgrA	adjective
<i>d-</i>	<i>-er</i>	<i>gute</i>
the-	-NOM.MASC.SG.	good

Since the adjective still bears strong inflection when an indefinite article precedes it, LEU concludes that the adjective has not moved and the article does not take on the inflection as it is outside of the adjectival projection.

(171) Indefinite Article [_{xAP} Adjective]

ein [_{xAP} [_{AP} gut [_{AgrA} er]]]

This sounds like an elegant solution to explain the peculiarities of German adjectival inflection, however, the empirical basis for the approach faces some problems and the following questions remain unanswered:

- What is the reason for the weak inflection to occur on the adjective in the presence of a definite determiner?
- How does the approach comply with the diachronic facts of
 - o double strong inflection,
 - o the semantic distribution before articles were used to mark (in)definiteness,
 - o the spreading of uninflected adjectives to contexts with both inflected and uninflected articles.
- Where does the weak inflection come from and where/why is it in the structure?

The Swiss German data LEU uses to support his analysis include DPs with feminine nouns. In these examples, the definite article is inflected but the adjective is not. Leu claims, that the inflection on the article cannot be absent in the presence of an adjective.

(172) a. *d rosä*

the rose

b. *d*(i) rot-Ø rosä*

the.AGR red rose

c. *ä rot-i rosä*

a red-AGR rose

However, he discusses only feminine nouns. The opposition illustrated in (172) cannot be found with neuter or masculine nouns though. (173) shows that the article can appear in its weak form and just bear schwa, which does not correspond to the strong paradigm that is assumed to head AgrA, or it can appear in its strong form. Both variants can appear with the adjective being inflected or uninflected. The same observation can be made with the neuter article. In its weak form it appears as *-s* which may be assumed to correspond to AgrA without a *d*-element being merged. The neuter article can also occur in both its strong and weak form with inflected and uninflected adjectives - a fact that cannot be captured in the suggested analysis.

(173) a. *de bru Hund*

b. *daer bru Hund*

c. *de brune Hund*
d. *daer brune Hund*

the brown dog

(174) a. *s nei rad*

b. *s neie rad*

c. *des nei rad*

d. *des neie rad*

the new bike

There is an empirical issue LEU addresses himself, namely the fact that the definite article as well as the adjective can bear inflection. This is unexpected in his approach because the double occurrence cannot be derived by movement.

(175) *di rot-i rosä*

the red-STR rose

LEU notes that it seems to him that the inflection that appears together with an inflected article as in (175) indicates emphasis and is not the same inflectional element as the *-i* that appears on the article. There are several problems with this assumption:

- Diachronically, double strong inflection is attested (see chapter 3),
- other Alemannic varieties also allow inflected adjectives with inflected articles,
- there is no empirical evidence that points towards the inflectional ending being a stress marker.

Regarding the latter point, when an adjective is emphasized, the stress is on the stem and not on the inflection.

Furthermore, the indefinite article can also precede uninflected adjectives - a fact that is unexpected in LEU'S analysis if the indefinite article is not part of the xAP as the adjective is then assumed to always bear the strong inflection. Example (176) is a Swiss German example from one of the questionnaires in which the indefinite article precedes an uninflected adjective.

(176) *Es³¹ guet Buech ka mo scho zwoamal lese.*

a good book can one PRT twice read

'You can read a good book twice.'

³¹ The form *es* for the neuter Swiss indefinite article corresponds to the inflection of the pronominal form (*ein-es*) as is noted in the GRIMM-dictionary (Volume 3, Column 112-146, source: <http://woerterbuchnetz.de> 19.07.2017:18:27).

Based on these empirical issues I conclude that LEU'S analysis cannot capture the empirical facts outlined in this chapter.

In OLSEN'S (1991) analysis the morpho-syntactic distribution of the two adjectival paradigms is formulated in syntactic terms following the Invisible Category Principle of EMONDS (1987, 615):

A closed category B with positively specified features Ci may remain empty throughout a syntactic derivation if the features Ci (save possibly B itself) all alternatively realized in a phrasal sister of B.

By applying this principle to German, OLSEN (1991) can nicely account for the fact that the strong inflection must always occur when there is no preceding article or when the article is uninflected. The syntactic structure suggested is given in Figure 23 (OLSEN 1991, 45) for the DP in (177). An obvious problem is of course that the account fails to explain why e.g. in the case of the indefinite article the inflection nevertheless combines with the adjective even though D° is filled with an element that is able to bear inflection (see Table 41 for the paradigm of the indefinite article).

For her analysis, OLSEN only considered StG data, so she does not discuss uninflected adjectives. Since uninflected adjectives can appear with both inflected and uninflected articles, this fact cannot be captured with the Invisible Category Principle because the features that are regarded to be in D° in Figure 23 are neither specified on the article nor on the adjective. For this reason, OLSEN'S approach is not sufficient to account for the Alemannic data presented in this chapter.

- (177) [DP [D Ø] [NP [AP kalt-es][N Wetter]]] ist scheußlich
 [DP [D Ø] [NP [AP cold-NOM.NEUT.SG][N weather.NOM.NEUT.SG]]] is awful
 'Cold weather is awful.'

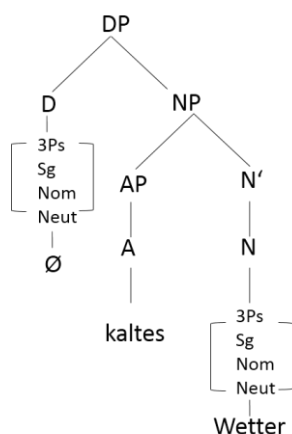


Figure 23: Olsen’s structure based on the Invisible Category Principle

Another more recent approach to the distribution of the weak and the strong paradigm is given in ROEHRS (2006). Again, the article plays an important role in explaining the peculiarities of German adjectival inflection. ROEHRS assumes that inflection is always realized on the first element in the DP. The basic idea is that the article is base generated in a projection below the adjective, in art(icle)P(hrase) (see Figure 24). From this position the article moves to D°. If case assignment takes place before the article moves, it is the adjective which is the first lexical element in the DP and hence it receives strong inflection – despite the fact that at a later stage the article appears as the first element. If the article moves before case is assigned, it is the article that is inflected and the adjectives bear weak inflection. With this account, ROEHRS can explain the facts that were unresolved in OLSEN’S approach, namely why the adjective must inflect despite the presence of a preceding article that should be able to bear the inflection. The structure he assumes is given in Figure 24 (ROEHRS 2006, 200).

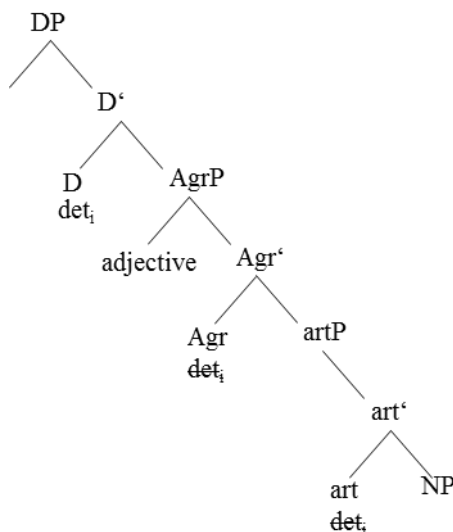


Figure 24: Roehrs’ approach to German adjectival inflection

Again, this approach works quite well for StG but cannot account for the Alemannic data. The problem is that adjectival inflection can be zero regardless of the inflectional properties of the article. So ROEHRS’ approach does not work in these cases, because case has to be assigned anyway but it is impossible to determine whether the article has moved before or after case assignment when neither the adjective nor the article inflect. A more general question might be why case is sometimes assigned before and sometimes after movement of the article. The main point however is, that we need a new syntactic approach in order to account for the Alemannic data.

There are aspects in both the approach of OLSEN and of ROEHRS, which are confirmed by the data. ROEHRS' observation, that it is generally the first element in the structure that bears the relevant feature specification is correct - even though based on different empirical grounds. It is the first element in the structure that bears the relevant feature specification not because of movement of the article at different times but because of the fact that only number and oblique case have to be specified overtly. Therefore, the article - inflected or uninflected - always provides the relevant feature specification. In the absence of an article, the features are marked on the adjective. The latter point is in compliance with the observations made in OLSEN'S approach. In the absence of an article or an adjective, number and Oblique case can also be specified on the noun as noted in section 4.4.3. Both features, I assume, are interpreted high in the structure and for this reason the noun must move from its original position. This also explains why example (178) is ungrammatical even though the noun is specified for plural.

(178) **Gut-Ø Büch-er*

Good book-s

Plural realizes mass-division but the interpretation of number is higher and therefore the adjective must inflect and moves to the relevant position. This aspect as well as the projection headed by the inflectional material that fulfills the function of the obligatory marking of number and oblique case will be addressed in more detail in chapter 5, particularly in 0.

Before providing a new syntactic approach that is able to also capture the Alemannic data presented in this chapter two remaining empirical issues need to be addressed. The two questions below will be answered in the remainder of this chapter:

- 1) Is it feasible to extend the Alemannic observations to other German dialects?
- 2) Why is inflection obligatory in Standard German?

It will become evident that the observations made for Alemannic can not only be extended to other German dialects but even to StG. The obligatory inflection in StG will be argued to be due to an extra linguistic factor, namely the process of standardization in this language. Obligatory inflection is thus a requirement of normative grammar but not a requirement of the underlying syntactic structure.

4.5 Variation in adjectival inflection in (other) dialects of German

In the previous sections, it has been shown that in Alemannic attributive adjectives can but do not have to inflect. It has also been mentioned previously that this is not the case in StG which requires attributive adjectives to bear overt inflection (exceptions aside).

- (179) *a guat-(s) Buach* (Alemannic)
a good-(NOM.NEUT.SG.) book
- (180) *ein gut-*(es) Buch* (Standard German)
a good-(NOM.NEUT.SG.) book
- (181) *des lang-(e) Seil*
the long-(WK) rope
- (182) *das lang-*(e) Seil*
the long-(WK) rope

The difference between Alemannic and StG could point to the conclusion that the observed optionality in adjectival inflection is a peculiarity of this dialect and that it is not possible to extend these observations to other varieties - least of all StG.

In the empirical study, two non-Alemannic varieties were included (a Palatinate and a Franconian variety) which show the same behavior w.r.t. adjectival inflection as Alemannic. Both dialects allow uninflected adjectives.

- (183) a. *a guad-Ø Bouch* (Franconian)
b. *e gut-Ø Buch* (Palatinate)
a good book

Furthermore, ROWLEY (1991) has shown that uninflected adjectives can also be found in Bavarian, and the extensive description of German dialects in SCHIRMUNSKI (1962) reveals that besides dropping the inflection on adjectives there is a lot of variation regarding the realization of the inflectional ending in general in the dialects of German. For Westphalian and northern Franconian it is noted that adjectival inflection in dative DPs can either be *-em* or *-en* with “einer Tendenz zur Verallgemeinerung der *-n*-Form” (with a tendency towards the generalization of the *n*-Form) (see example (184) (SCHIRMUNSKI 1962, 464))

- (184) a. *zraut-m*
big-DAT.MASC.SG.
b. *zraut-n*
big-WK

SCHIRMUNSKI (1962) explicitly attributes adjectival inflection in Low German dialects to the influence of StG. He notes that besides the inflected forms, influenced by the standard variety, the ‘old’ uninflected forms still exist. He further notes that for neuter there are three variants, the uninflected form, the inflected form and an inflectional variant in *-et*.

- (185) a. *grōt-∅*
 b. *grōt-əs*
 c. *grōt-ət*
 big

Low German furthermore shows case syncretism in the masculine form as the following data from SCHIRMUNSKI (1962, 465) illustrate. The accusative *-n* extends to Dative as above but also to Nominative as in (186).

- (186) *nə all-ŋ frōnt* (Low German)
ein alt-er Freund (Standard German)
 an old friend

- (187) *ŋ flītīz-n kēl* (Low German)
ein fleißig-er Kerl (Standard German)
 a diligent guy

The above examples allow to conclude that the attested optionality does not only hold for Alemannic but also for other German dialects, even those that are spoken in Northern Germany for which an influence of the southern German dialects can be excluded.

Regarding StG, it might now be concluded that the occurrence of uninflected attributive adjectives is a property of non-standard German varieties and therefore it can only be observed in dialects.

In the next section, I will argue for a different view despite the fact that StG does not seem to tolerate uninflected adjectives in most cases. The situation in StG, namely the obligatory inflection on attributive adjectives, seems to be triggered by a non-linguistic factor. StG was subject to a process of standardization, which successfully eliminated uninflected adjectives. This development can be reconstructed by having a closer look at various normative grammars that existed before, during and after this process of standardization.

4.5.1 The absence of uninflected Adjectives in StG - the result of Standardization

In the previous sections it was argued that inflection on attributive adjectives is optional not only in Alemannic but in most non-Standard varieties of German. The empirical study revealed that uninflected adjectives are not a relic of earlier stages of German. It could be shown that the contexts in which they can appear have expanded compared to MHG and EarlNHG. StG seems to differ from the non-standard varieties as it does not show the same amount of variation and it does not allow uninflected attributive adjectives.

Uninflected adjectives in StG can be observed in some rather idiomatic expressions. These fixed expressions might reflect a stage in which uninflected adjectives have even been part of StG grammar.

(188) *auf lieb Kind machen*

on lovely child make

‘pretend to be nice’

(189) *ein ander Mal*

a other time

‘another time’

In order to understand the StG situation, it is important to understand what is meant when we speak of StG. The term itself already implies that StG does not refer to a certain regional dialect but it constitutes a supra-regional variety that is understood and spoken in all parts of Germany, Switzerland and Austria. It is the language used in schools and any other formal context. Such a supra-regional variety did not exist in the 15th or 16th century (JELLINEK 1914, 40) but its development was only completed in the 18th century and involved a process of standardization that eliminated variation to a great extent (POLENZ 2013, 159). The development of this standardization process is of importance in order to understand why StG differs from the various German dialects in many respects. In addition, as WEIB (2004) points out, StG was a language without native speakers for a long time and therefore developed differently compared to the non-standardized varieties. There are two main sources I will use and which give important and detailed insights into this standardization process, namely JELLINEK (1914); JELLINEK (1913); POLENZ (2000) and POLENZ (2013) which I will mainly refer to in this section. JELLINEK’S work describes the history of New High German grammar

“von den Anfängen bis auf Adelung”³² (from its beginning up to Adelung). This subtitle implies that the bulk of the standardization of German is more or less completed with the work of Adelung, which includes a number of publications dealing with normative grammar in the 18th century.

In the 16th century there was no uniform orthography but there were already some works dealing with orthographic variants, as JELLINEK (1913) points out. In one of these works, the *Schryfftspiegel* (1527), the advice is given that writers should express themselves in a way so not only people from their own region are able to understand them (JELLINEK 1913, 42f). This advice does not judge dialectal variants but aims at mutual intelligibility. Other works from the 16th century are less tolerant regarding orthographic variation (JELLINEK 1913) and there are some efforts towards a transregional compensation that can already be observed in the 14th and 15th century (POLENZ 2000, 159). This compensation excludes certain dialectal variants and thus reduces variation in general, but not through a targeted process at the time but rather by conventionalized writing habits (POLENZ 2000).

The region that shaped the standardized writing is ‘east-middle-German’ (Wittenberg and Leipzig were important places in this development) (POLENZ 2000). As mentioned above the process of standardization included the reduction of variation and moved away from the purely phonological principle (write as you speak) regarding orthographic conventions. As part of the standardization process there is a tendency in the 18th century to re-introduce inflectional endings that had disappeared in the spoken language (POLENZ 2013, 275f). POLENZ (2013, 277) sees in this guided standardization one of the reasons that German is still inflectionally rather rich compared to Germanic languages like English or Dutch:

So liegt es nahe anzunehmen, dass die deutsche Sprache als Standardsprache heut sicher ähnlich flexionsarm, also mehr nach dem analytischen Sprachbau strukturiert wäre wie etwa das Niederländische oder Englische, wenn die deutsche Sprachentwicklung (...) nicht so stark schreibsprachlich, akademisch, lateinorientiert, flexionsfreundlich und sprachideologisch gesteuert verlaufen wäre.

It is thus obvious to assume, that the German language as standard language would have been inflectionally poor, thus rather analytically structured similar to Dutch or English, if the German language development (...) had not been driven so much by written language and if it had not been so academic, inflectionally friendly and language ideologically shaped.

³²This is part of the subtitle of the book. Johann Christop Adelung (1732 - 1806) was a linguist, lexicographer, grammarian and librarian and published a number of works of which the *Grammatisch-kritisches Wörterbuch der hochdeutschen Mundart* (1811) is the most well-known one. (<http://lexika.digitale-sammlungen.de/adelung/online/angebot> (23.03.2017, 15:58).

The efforts regarding inflectional endings also affected adjectival inflection. POLENZ (2013, 276) notes that in the course of this development even the paradigmatically functionally empty *-e* on adjectives is accepted. Unfortunately, he does not give an example and it is not entirely clear in which contexts this inflectional ending is meant to (not) appear.

Adjectival inflection under the influence of standardization is discussed in more detail in JELLINEK (1914). He first notes that in the 17th century there was no consensus among the scholars regarding the status of the two inflectional paradigms. The general view seemed to be that the weak inflection was the ‘normal’ one whereas the pronominal ending is regarded as a variant. However, there was no consensus and other scholars analyse the pronominal ending as the ‘natural’ paradigm. The distribution of the adjectival paradigms is also subject of discussion and receive a partially phonological explanation. One of these phonological rules says that the adjective bears an ending different from the article for euphonic reasons. The uninflected forms are included in the discussion and likewise receive different analyses.

JELLINEK (1914) pays special attention to the uninflected attributive adjective and the way it is analysed in the earliest normative descriptions of German. RITTER (1616) is said to have noted the uninflected adjective in attributive position first and restricts it to indefinite contexts (JELLINEK 1914, 383):

- (190) a. *ein reich-er Mann*
- b. *ein reich-Ø Mann*
- a rich man

Other works mentioned see a restriction based on gender and assume uninflected adjectives to only precede neuter nouns and some reject uninflected attributive adjectives completely. These restrictions regarding uninflected attributive adjectives match those mentioned in MAUSSER (1933) and SOLMS and WEGERA (1991) as discussed above. JELLINEK’S overview reveals the extent to which the analyses differ. Besides the morpho-syntactic rules above, there are also phonological rules given w.r.t. uninflected adjectives. PÖLMANN (1671) as JELLINEK (1914, 384) notes, recommends uninflected forms to avoid the clash of two unstressed syllables (191) and also accepts them with neuter nouns (192) but finds them less acceptable with masculine nouns (193). Note that there are even examples of uninflected adjectives without a preceding article in (192) and (193) even though the results of the empirical study clearly show that this is not accepted. The rules given for the distribution of adjectival inflection thus seem to be based on the varying intuitions and preferences of the individual grammarians and not on empirical data. This is not surprising given the fact that it is at some point no longer possible to identify a particular distribution of uninflected

attributive adjectives since they can be used in more and more contexts as is evident from the results of the questionnaire study.

(191) a. *ein unbesonnen Man*

a careless man

b. *unser eigen Geld*

our own money

(192) a. *rein Wasser*

clear water

b. *ein klein Feuer*

a small fire

(193) a. *ein fromm Man*

a pious man

b. *gut Tranck*

good drink

The uninflected attributive adjective is also discussed in the 18th century and again mostly restricted to accompanying neuter nouns. This (restricted) acceptance or even recommendation of uninflected adjectives for certain contexts ends with ADELUNG (1828) and, as said above, ends with the completion of the bulk of standardization. ADELUNG (1828) mentions uninflected attributive adjectives but considers them wrong. Uninflected adjectives are adverbs for ADELUNG and he mentions that these uninflected forms used to precede nouns and still do in Upper German (194) (ADELUNG 1828, 213). Regarding the development of StG, he points out that adjectives were distinguished from adverbs (in his work including uninflected adjectives) when Upper German became the model for StG.

(194) *ein gut brav ehrlich Mann*

a good upright honest man

ADELUNG'S description of the distribution of the two inflectional paradigms corresponds to the morpho-syntactic distribution introduced at the beginning of this chapter. He points out that the correct adjectival inflection in genitive DPs without an article is *-es* (195), but in order to avoid too many *s*-sounds, the suffix is often changed to *-en* (196).

(195) *sey gut-es Muth-es*

be good-GEN.MASC.SG. cheer-GEN.MASC.SG.

'be in good cheer'

- (196) *gut-en Theils*
good-WK part-GEN.MASC.SG.
'to a big part'

Despite his general rejection of uninflected adjectives, ADELUNG notes that when two adjectives are coordinated the first one generally occurs uninflected but points out that this is only acceptable in Nominative and Accusative (ADELUNG 1828, 223).

- (197) *ein roth und weisses Gesicht*
a red-Ø and white-NOM.MASC.SG. face

In the early 19th century we can thus still find some remnants of uninflected attributive adjectives even in normative grammar.

The discussion w.r.t. the distribution of uninflected adjectives reflects the fact that the pattern is not entirely clear as was also shown in chapter 3. Uninflected adjectives are discussed by a number of grammarians and reveals that their occurrence is acknowledged to be part of the grammar. However, since it is not possible to formulate a rule that captures the distribution of uninflected adjectives, this may have been one of the reasons to exclude them from normative grammar as a valid variant.

The acceptance of uninflected attributive adjectives seems to end with ADELUNG (1828) and they were eliminated from normative grammar.

Following POLENZ (2013), I assume that the obligatoriness of adjectival inflection in StG is an artificial product of the standardization of the German language. As noted before, in this process, variation was reduced and inflectional endings were re-introduced despite the fact that they were not frequently or obligatorily used in spoken language.

From this point of view obligatory adjectival inflection in StG is a mere PF-phenomenon. The underlying structure allows to drop the inflection just like the non-standard varieties. The attested optionality of adjectival inflection is thus assumed to also extend to StG.

4.6 Summary

In this chapter, the results of an empirical study focusing on uninflected adjectives in Alemannic were discussed. It was shown that the distribution of uninflected adjectives is not regulated by any of the morpho-syntactic variables tested (definiteness, number, gender, case). An areal distribution could also be excluded.

The results reveal that in the presence of an article adjectival inflection can be dropped. However, in the absence of an article adjectives must inflect. This was argued to be related to the obligatory marking of number and oblique case. Obligatory number marking was attributed to the assumption that absence of number results in a mass-reading of nouns, a topic that is discussed in detail in chapter 5.

Based on insights from dialectal grammars and on the development of the standard German variety it was argued that the observed optionality of adjectival inflection holds for all German varieties - including StG. It was argued, that the absence of uninflected attributive adjectives in StG is due to the process of standardization in which variation was greatly reduced in general and dropping the inflection on adjectives was at some point regarded as incorrect.

The chapter also briefly discussed three syntactic approaches that deal with the distribution of adjectival inflection in German, and it was shown that none of them is able to capture the empirical facts the study revealed.

In the next section a new syntactic approach to the German DP will therefore be suggested that can also capture the fact that adjectives only inflect optionally in the presence of an article.

5 The structure of German DPs

The previous chapter was a descriptive account of the synchronic situation in Alemannic and StG based on the findings of a detailed questionnaire study. The study investigated the distribution of uninflected adjectives in Alemannic. The results show that adjectival inflection is optional except in the absence of a preceding article, which is related to the obligatory marking of number and oblique case as discussed in the previous chapter. It was argued that the option of dropping the inflectional ending on the adjective in the presence of an article is underlyingly also available in StG. The seeming obligatory inflection on attributive adjectives was shown to be related to the process of standardization and is thus due to the influence of normative grammar. From the results, it follows that for German we need to account for the distribution of the two inflectional paradigms on the one hand but also for their optional realization on the other.

The syntactic structure I will argue for is based on BORER (2005) and the assumptions put forth in this chapter also follow her *exo-skeletal* assumptions to a certain extent. In the first section of this chapter I will briefly introduce the basic idea behind the model as well as its consequences for the structure of the DP as suggested in the framework. After making some preliminary refinements the chapter will continue with an introduction of the proposal as a consequence of the results from the empirical study in the previous chapter.

5.1 Some introductory remarks to the general proposal – the *exo-skeletal* view

The proposal is couched within the *exo-skeletal* model of BORER (2005). *Exo-skeletal* refers to the view that it is essentially the (functional) structure which determines the interpretation of the lexical elements embedded within it.

I will adopt this approach and follow the idea of the structural manifestation of the interpretation of lexical items but I will not adopt the bare phrase structure representation as used in BORER. I understand the functional projections above the lexical root more in the sense of a functional sequence as motivated in nano-syntactic approaches (e.g. CAHA 2009). In other words, the presence of a certain projection entails the presence of the ones below it. This view differs from cartographic approaches in which all functional projections are present at all times but which are not necessarily filled. In the approach I adopt the presence or absence of a functional projection has a certain interpretive effect.

In the following, I will give a very brief overview of the general assumptions regarding the exo-skeletal approach and a more detailed description of the DP-structure that is suggested in the framework.

At the very beginning of the first volume of her work, BORER points out that her model deals with the observation that “words can mean so many different things, but structures cannot” (BORER 2005, 3). Verbs, it is argued, are interpreted as verbs not because they are classified as such in the lexicon but because they appear “embedded within a specific functional structure” (p. 16) e.g. TP.

(198) Pat kicked the ball.

(199) A kick in the arse

This is even more obvious when looking at the following examples which contain proper and common nouns. In example (200) a. and b. a common noun is interpreted as a proper noun and in example c. and d. it is the other way round (examples are from BORER 2005, 73f).

(200) a. Cat came in.

b. I invited Dog/*dog.

c. I saw tall Kims.

d. The tall Kim showed up here.

The difference in interpretation is accompanied by the presence or absence of the definite article. In example (200) a. and b. the absence of the article triggers the interpretation of the common nouns as proper ones whereas in example c. it is the plural morphology and the structural position that triggers an interpretation as common noun. BORER convincingly argues that the interpretation of a nominal as a proper or common noun is captured structurally and not manifested in the lexicon. She also notes that a noun like *John* is conventionally interpreted as a proper noun but this interpretation can be overridden by grammar as the examples above illustrate.

In this framework functional elements that have an interpretive effect come in two different shapes: *f-morphs* (corresponding to functional elements like articles or auxiliaries) and *head features* like <pst> for past tense (p. 31). The difference is illustrated in the examples below. In (201) tense is represented by a head feature and in (202) with an f-morph. The result in both cases is a VP, the one in (201) involving movement of the head to T° whereas in (202) no movement is involved. This differentiation into f-morphs and head features is not a new concept as it essentially captures the classical distinction of analytic vs synthetic forms.

(201) walk → walked

(202) walk → will walk

All lexical elements are analysed as roots which are categorized either by appearing in a particular structural context or by combining with an affix, as is motivated in detail in BORER (2013).

The difference between a lexical element being categorized by the structural context or an affix was already introduced in chapter 2 and the following examples shall suffice to illustrate the point. In (203) *form* can either be interpreted as a verb or a noun – the root *form* is not categorially specified. Once it combines with an affix such as *-ation* (*form-ation*) the root is categorized as nominal and it cannot appear in a context that would result in verb-interpretation. This is illustrated in (204).

(203) form → to form → the form

(204) form-ation → the formation → *to formation

The only exception, as was discussed in 2.3.1, are adjectives. This particular assumption is of importance when considering the fine structure of the DP as will become evident in section 5.2.3 and 5.2.3.1. Adjectives, it will be argued, entail the projection of a Cl(assifier)P(hrase) which makes a count reading available (see sections 5.1.1 and 5.2.3.1) due to the semantic properties they bring with them. This is an assumption in which I essentially depart from BORER (2005), who does not give much attention to adjectives and their placement in the structure of the DP.

In this work, I will follow BORER's approach by assuming roots to be categorized by the environment they appear in or by their combining with derivational affixes. Regarding inflectional elements, BORER explicitly argues against a correlation of form and function. The function of inflection, it is stressed, is regular and also syntactic. The form of inflectional endings is argued to be rather idiosyncratic though. Examples (205) and (206), partially reproduced from BORER (2005, 53), illustrate this point. In example (205) in both a. and b. verbs appear in the past but the (morphological) realization of past tense is very different for the two elements. The same holds for the examples in (206) which illustrate the various ways for plural marking in German. The meaning of the inflectional elements is always plural but the form of the suffixes differs.

(205) a. walk - walked

b. sink - sank

- (206) a. *Haus - Häuser*
house - houses
- b. *Apfel - Äpfel*
apple - apples
- c. *Bett - Bett-en*
bed - beds
- d. *Anker - Anker-Ø*
anchor - anchors

It is known that this diversity of morphological exponents is due to diachronic developments (e.g. the various declension classes in the Germanic period) and thus idiosyncratic. A clearer understanding and explanation for how and why these different forms entered the grammar would be desirable – but the important point for the discussion here is the strict division between the syntactic function of a head-feature (its impact on the interpretation) and its actual realization in terms of morpho-phonology. If BORER is right then a consequence of this observation is that contexts in which form and function cannot be separated must receive particular attention. A case in which morphological form has an impact on the function of a grammatical element is the pronominal paradigm as is evident from the discussion in 2.6.4 and which will be of relevance again in the subsequent paragraphs. Example (207) and (208) give a brief illustration. Both DPs mean *the dog*. The crucial difference lies in the form of the definite article. In (208) it is weak and has different distributional and referential properties than its strong counterpart in (207) even though the feature specification is the same (see section 5.2.2 for a more detailed discussion of this difference).

- (207) ***D-ear*** *Hood isch greaßer wie der Hood* (Swabian)
The/this-NOM.MASC.SG. dog is bigger than this dog
‘This dog is bigger than that dog.’
- (208) ***Dr*** *Hood vo meiner Nochbre isch abghaut* (Swabian)
The.NOM.MASC.SG. dog of my neighbor is run away
‘The dog of my neighbor ran away.’

This brief introduction to the basic assumptions of BORER’s exo-skeletal model shall suffice for the purpose of this chapter. In the next section, I will highlight some particular aspects of the framework with focus on the interpretation of nouns and the structure of DPs.

Before continuing with the next paragraph, I briefly summarize the main points of BORER’s model as sketched above:

- Lexical elements are uncategorized roots,
- the interpretation of a lexical element is determined by the functional structure under which it is embedded³³,
- roots are either categorized by affixes or by the structural environment,
- adjectives are the only exception and are ‚born as such‘ in the lexicon,
- form and function of inflectional material is independent of each other.

5.1.1 The DP-structure in Borer’s framework

BORER (2005) discusses three functional projections that are part of the extended projection nouns³⁴ can appear in: Cl(assifier)P(hrase), #P (Quantifier Phrase) and DP.

The DP layer is assumed to be universally present, as BORER follows the assumption of bare nouns being predicates (LONGOBARDI 1994), an assumption I will adopt and not discuss any further at this point. The D-layer (in the languages under discussion mostly realized via a determiner) is the part of the structure which is responsible for the referential properties of the DP – regardless of the lexical content of the noun (cf. the examples in (200) discussed at the beginning of this chapter).

There are two more functional projections above N that are argued to be universally present in BORER’S work and which I will discuss in more detail. The functional projection immediately above NP is assumed to be CIP which is the structural manifestation of mass-division. This means that BORER does not assume the classical distinction of nouns into mass and count but she argues that all nouns are interpreted as mass by default and that the count reading results from the projection of CIP. The argument is based on the possibility for count nouns to receive mass interpretation and vice versa (mass nouns can receive a count reading). A typical mass noun would be the one in (209) whereas (210) corresponds to what is generally classified as a count noun. This distinction captures the inability of mass nouns to (freely) combine with plural-morphology or numerals. However, as BORER argues, this is not correct. Example (211) and (212) illustrate the count interpretation of a mass noun and the mass interpretation of a count noun.

³³ It is important to bear in mind that this is not the only process that can categorize a root. A root can also be categorized by merging with a derivational affix (cf. section 2.3.1). The noun ‚eagerness‘ can only be embedded under NP but never under VP (*to eagerness). Furthermore, there are also lexical elements that are argued to be ‚born as such‘ in the lexicon, which means that they are categorized before they are merged (e.g. adjectives and probably also adverbs like ‚soon‘) (BORER 2013).

³⁴ I use the term *noun* here and not roots even though it would be more precise to say lexical roots that receive nominal interpretation due to the structural environment they appear in.

- (209) There is **wine** on the carpet. (mass)
- (210) **The tables** in the kitchen are big enough. (count)
- (211) We are sailing stormy **waters**. (Rod Stewart, Sailing) (count)
- (212) This is **too much table** for such a small room. (mass)

For this reason, BORER assumes that all nouns receive a mass interpretation by default. A count reading is only possible when a CIP is projected. It will become evident in section 5.2.3 that a simple dichotomy into mass vs count is not fine-grained enough but that mass-division comes in various manifestations.

The empirical basis for the presence of a universal CIP is a comparison of classifier languages to languages that have plural morphology. In classifier languages such as Chinese there is no number marking and BORER follows CHERCHIA (1998) (but essentially rejects his nominal mapping parameter approach) in the assumption that all nouns either receive kind or mass interpretation. In order to allow quantification, mass-division by a classifier is necessary (BORER 2005, 86ff) as the following reproduced examples illustrate. In (213) no classifier is present and the interpretation of the noun *student* can be singular or plural. In order to allow quantification, a classifier must be present, as is evident from the examples in (214) and (215).

- (213) *Xuesheng lai le*
 student come ASP
 ‘The student/s came’

- (214) *y l mi*
 one CL rice
 ‘one grain of rice’

- (215) *yi ge ren*
 one CL person

BORER further notes that classifiers and plural morphology never co-occur and must hence be in complementary distribution. This is particularly evident in Armenian which has both classifiers and plural morphology but the two elements can never co-occur. The following examples are also reproduced from BORER (2005, 94f). The examples (216) a. and b. illustrate the optionality of the appearance of either plural or classifier, example c. and d. show the complementary distribution of the two elements.

- (216) a. *Yergu hovanoc uni-m.*
 two umbrella have-1SG.
 ‘I have two umbrellas.’
- b. *Yergu had hovanoc uni-m.*
 two CL umbrella have-1SG.
 ‘I have two umbrellas.’
- c. *Yergu hovanoc-ner unim.*
 two umbrella-PL. have-1SG.
 ‘I have two umbrellas.’
- d. **Yergu had hovanoc-ner unim*
 two CL umbrella-PL. have-1SG.
 ‘I have two umbrellas.’

The complementary distribution of classifiers and number morphology is taken as evidence for them to occupy the same position in the functional structure of the DP. Consequently, they must be responsible for the same interpretational/syntactic effect - namely mass-division. The assumption that all nouns enter the derivation as mass is thus extended to languages such as English or German. In the suggested framework, mass cannot be a property of nouns as lexical elements are uncategorized roots. BORER argues that the mass-interpretation in fact results from the absence of the lexical or grammatical specification of roots and therefore is the default interpretation. The mass interpretation of nouns that are traditionally regarded as count is illustrated in (217) (BORER 2005, 102). The examples are certainly marked but nevertheless interpretable, especially when put into context.

- (217) a. there is dog/stone/chicken on this floor
 b. that’s quite a bit of table/carpet for the money
 c. (too) much dog/chicken, (too) much stone
 d. a lot of dog/chicken

In sum, number (or the label ‘plural’) is just one instantiation of the more basic notion of mass-division which is assumed to apply universally.

Above the CIP the Quantity Phrase, labeled #P, is placed. As the locus of quantification it can be headed by numerals or quantifiers. #P can be present regardless of the presence of CIP and “is responsible for the assignment of quantity to stuff or divisions of it” (BORER 2005, 96). BORER argues that both CIP and #P can be missing from the structure. If the former is

missing, the noun receives mass interpretation as in (218) and (219). If the latter is missing, the noun does not receive a quantity interpretation as in (219). Based on these assumptions, the basic DP-structure is the one reproduced in Figure 25.

(218) There is too much salt in the soup (#P but no CIP)

(219) There is wine on the carpet (no CIP and no #P)

(220) There are many guests at the party (CIP and #P)

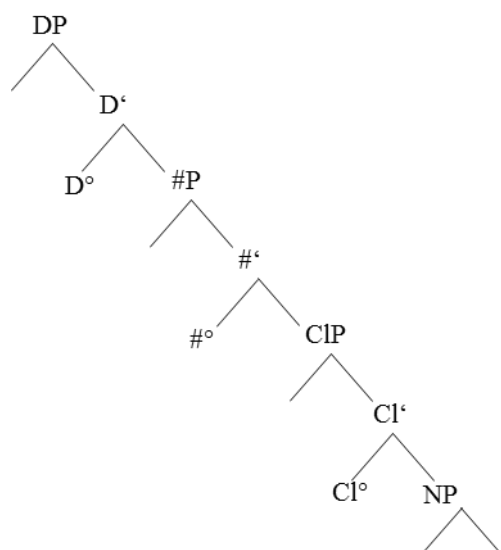


Figure 25: Adapted version of the basic structure of DPs as suggested in BORER (2005, 96)

Structural representations for phrases with and without a CIP or #P and the resulting interpretive difference are illustrated in (221) to (228) with the corresponding structures in Figure 26 to Figure 33.

(221) Salt is essential for cooking.

(Determinerless mass)

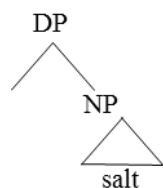


Figure 26: Mass

(222) Dogs are barking outside.

(Determinerless plural)

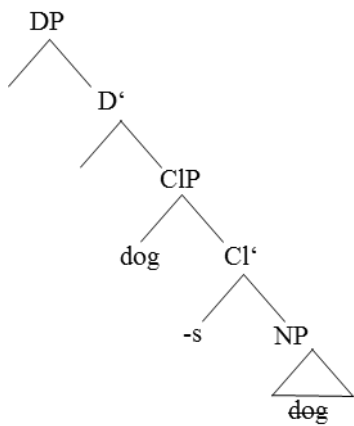


Figure 27: Determinerless Plural

(223) You should add some salt to the soup.

(quantity weak mass)

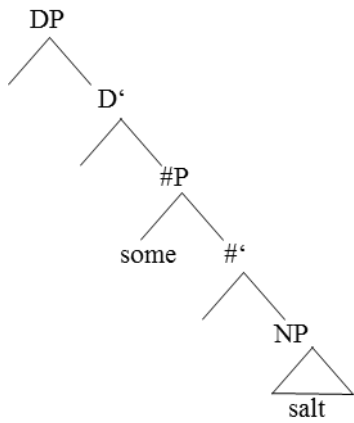


Figure 28: Quantified mass

(224) Some dogs were barking outside.

(quantity weak, plural)

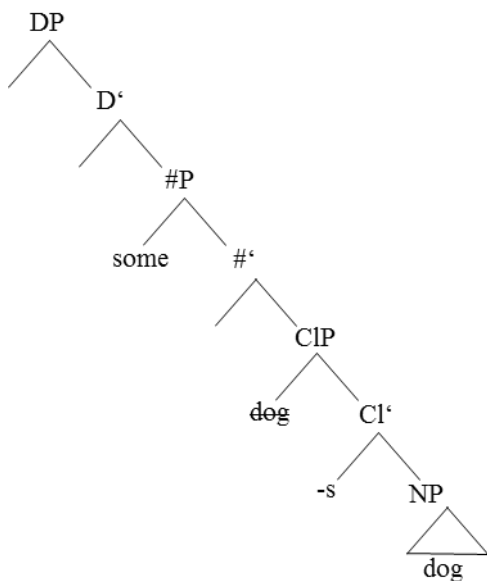


Figure 29: Quantified Plural

(225) I want a dog.

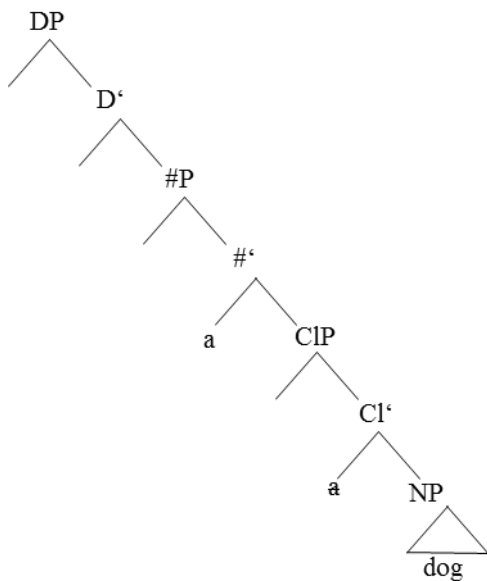


Figure 30: Singular

The structure in Figure 30 shows that the indefinite article has got two functions, it inseparably combines mass division and quantification due to the singular interpretation it brings with it. Therefore CIP and #P are always projected when an indefinite article is merged - an assumption that will be discussed in more detail in the next section.

(226) I must get the salt from the kitchen. (definite mass)

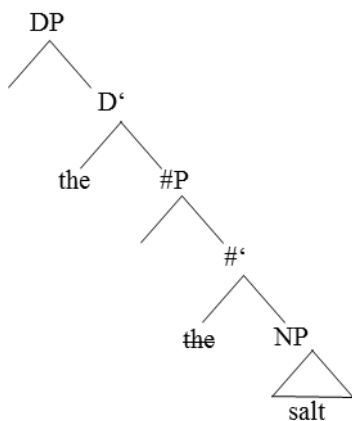


Figure 31: Definite Mass

(227) The dogs from the animal shelter are lovely. (definite plural)

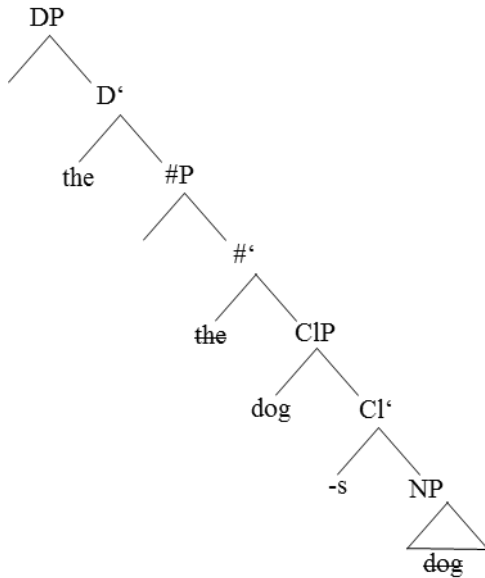


Figure 32: Definite Plural

The representation in Figure 32 departs from BORER as in her model the lexical element *dog* reemerges in SpecCIP and has the morpho-phonological representation *dog-s* because an f-morph (an article or a numeral) has assigned range to CI° . In this work I will assume number-morphology to head the CIP. The reason is that BORER assumes Classifiers and number-morphology to be in complementary distribution due to the fact that they are in the same structural position. Classifiers in languages like Chinese are free morphemes and are assumed to head their own projection (e.g. LI 2013; ZHANG 2013). Furthermore, the definite as well as the indefinite article can start out in CI° as they are assumed to be heads. I therefore take all overt instances of CIP to be in CI° .

(228) The dog in the garden belongs to my neighbor. (definite singular)

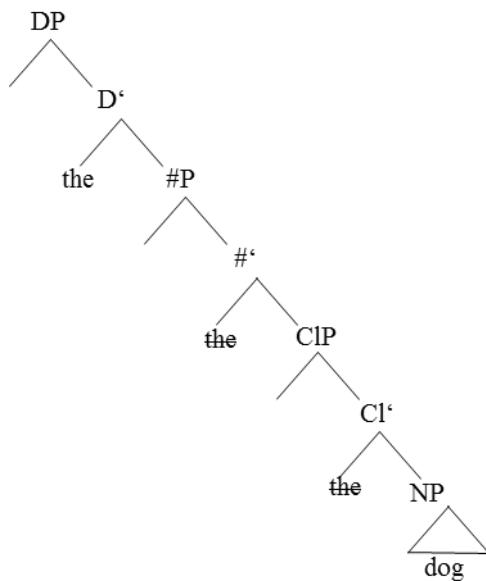


Figure 33: Definite Singular

The structure in Figure 33 shows that the definite article, just like the indefinite one, can start out in CIP. Unlike the indefinite article it can also be based in #P with CIP being absent from the structure (Figure 31).

In the next section I will discuss the motivation and consequences of the assumption of articles to be based in CIP or #P, because definite singulars are a particular challenge since (at least in English) the article is not marked for singular and neither is the noun.

Summarizing BORER'S approach to the structure of the DP as presented in this section, the following assumptions are made:

- all nouns are interpreted as mass by default,
- DP is universally present,
- mass-division is structurally represented in all languages by a CIP above NP,
- quantification is realized by #P above CIP,
- both #P and CIP can be absent from the structure either resulting in a non-quantity or a mass interpretation.

5.2 Refinements of Borer's structure and the current proposal

In this section I will elaborate on the DP structure suggested in BORER (2005) and also depart from it regarding some particular aspects introduced in the previous section. I essentially adopt her assumption of all nouns being interpreted as mass by default and the CIP to be responsible for mass-division. I also adopt the assumption that plural morphology is located in

CIP. #P as the locus of quantification above CIP is also assumed to hold as well as the assumption of bare nouns being predicates, hence a universally present DP-layer in argumental noun phrases.

I depart from Borer in showing that:

- the indefinite article is not always based in CIP,
- the DP is split into DP and artP,
- the (strong) definite article is composed and realizes DP and AgrDP,
- a split CIP-approach is needed (following HACHEM (2015)),
- the projection of ModP entails the projection of CIP.

5.2.1 Singular DPs in English

Regarding material in CIP it has already been mentioned that plural morphology and the indefinite article can head CIP. The indefinite article is assumed to always start out in Cl° . It remerges in $\#^\circ$ because it is assumed to inherently bear the relevant features for division and quantification. The reason is the singular marking that arises in indefinite DPs. A singular reading requires mass-division but also entails quantification. The structure of an indefinite DP is therefore the one in Figure 34, corresponding to Figure 30 from the previous section.

[DP [#P [# a [CIP[Cl[°] & [NP [N dog]]]]]]

Figure 34: Indefinite DP

Indefinite DPs are rather unproblematic as the indefinite article brings the relevant features for mass division and quantification with it which means that it first merges in Cl° and then it remerges in $\#^\circ$ as shown above. Definite singulars like the one in (229) pose a special problem, though, as BORER points out.

(229) the cat

The example above is singular but the question is whether CIP and #P are projected and where the definite article is actually merged. Since nouns receive a default mass interpretation and there is no number morphology or quantifier present, the question arises what the source of the singular reading is (BORER 2005, 161). BORER (2005) follows HEIM (1982) in assuming that the definite article is a discourse anaphor which inherits the properties from its antecedent. These properties include information on the mass-count distinction as well as quantity (BORER 2005, 161). The definite article is thus assumed to merge in Cl° and copies are remerged in $\#^\circ$ and D° . The latter assumption also accounts for the impossibility of the co-occurrence of definite and indefinite article (p. 163) as in (230), because both articles are

heads and thus occupy the same structural position. Therefore, they must be in complementary distribution³⁵.

(230) *the a cat

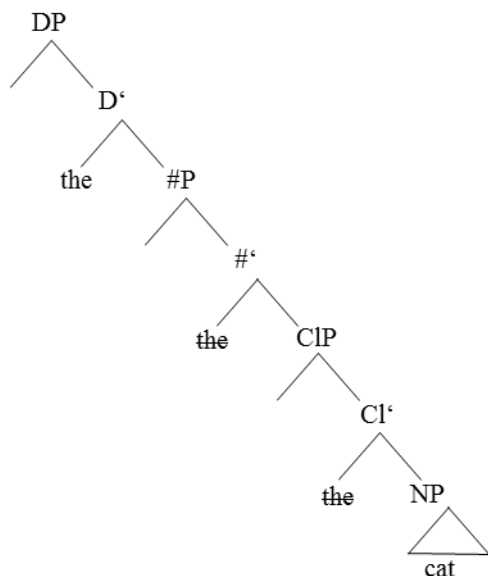


Figure 36: Definite singular DP

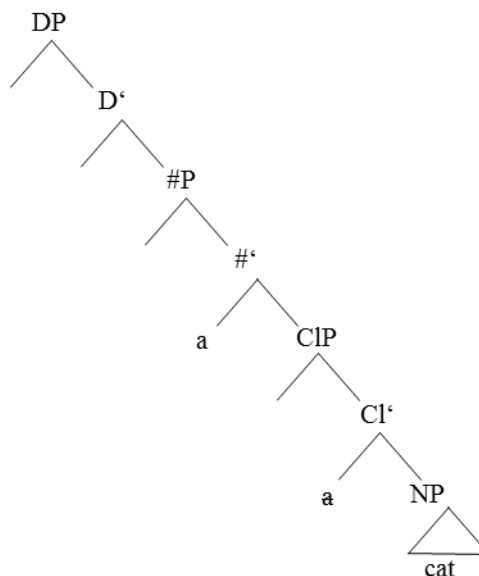


Figure 35: Indefinite DP

5.2.1.1 The problem of singular morphology, pre-article modifiers and doubling phenomena

For English, the above structures may indeed be the correct assumption but consider the following examples from German:

(231) *ein-es Wein-es*

a-GEN.MASC.SG. wine-GEN.MASC.SG.

³⁵ It may be objected that the structure below does correctly rule out the co-occurrence of the definite and the indefinite article but that it fails to allow the combination of the indefinite article with the quantifier *jeder* as in (1). The reason is that BORER assumes the indefinite article to be in #P, which should rule out its co-occurring with other quantifiers.

- (1) (ein) jeder Student
(a) every student
each student

The question is: What exactly is the role of the indefinite article in the example above? It is realized optionally and there are various analyses that try to account for the properties of the combination of the two elements. Standard German *ein jeder* is analysed as a complex quantifier similar to its Low German counterpart, illustrated in (2), in ZIMMERMANN (2011).

- (2) jeder-een/jed-een (Low German)
every-one

He argues that it is not possible to derive the Low German version from the StG one but it must be the other way round. Based on the observation that the indefinite article individuates, he suggests that *ein* is in NumP and moves across *jeder*. The crucial point is that the two elements are not assumed to be in the same structural position. Based on this analysis I assume 'ein jeder' to be a complex quantifier.

- (232) *des Wein-es*
 the.GEN.MASC.SG. wine-GEN.MASC.SG.
- (233) *auf dem Weg-e*
 on the.DAT.MASC.SG. way-DAT.MASC.SG.
- (234) *auf den Weg-en*
 on the.DAT.MASC.PL. way-DAT.MASC.PL.
- (235) *der Wein-e*
 the.GEN.MASC.PL. wine-GEN.MASC.PL.

In oblique DPs the noun bears case-inflection which is also specified for number. In Dative the ending is somewhat outdated but can nevertheless still appear on the noun. In the Genitive it is obligatory in StG. Following the assumption of roots as being unspecified regarding their category and receiving a default mass interpretation, the inflectional ending that marks singular as well as case must be in CIP just like plural morphology. The consequence of this assumption is that the indefinite article must be merged in #° in this case and cannot be based in CIP as suggested in BORER (2005).

[DP [#P [# eines [CIP Wein [CI es [NP [N ~~Wein~~]]]]]]

Figure 37: Indefinite DP with singular morphology

The assumption of the indefinite article being based in #° in the presence of singular marking morphology is not problematic for the examples above, because, as is also noted in BORER, the indefinite article always entails quantification and #P must be projected.

There is a problem with the above assumption though if you consider constructions like the one in (236), taken from WOOD and VIKNER (2011, 94), in which the indefinite article follows the adjective and is preceded by the degree modifier *so*. This example looks like a case in which the article remains in CIP, ModP is projected but no #P. This is problematic because #P is assumed to always project in the presence of an indefinite article due to the singular reading it brings with it.

- (236) *So bad a hotel*

Based on data from Danish, German, and English WOOD and VIKNER (2011) argue for a predicate raising analysis in which *so/such* in pre-article position has moved from a post-nominal Small Clause (SC) (Figure 38). Evidence for this analyses stems from the inflectional properties of *such* in Danish and German that allow to determine whether the element is attributive or not. Obligatory inflection on the element only appears in attributive position.

- (237) a. *et sådan-t hotel* (Danish)
 b. *ein solch-es Hotel* (German)
 a such-INFL hotel

As has been pointed out in the previous chapter attributive adjectives in German dialects can appear uninflected but crucially inflection is never ungrammatical. In cases in which an adjectival element cannot inflect it is not in ModP but functions e.g. as an adverbial. A summary of the relevant examples is given in (238) to (240). The inflectional *-t* in brackets in the Danish data in (239) a. means that it can be missing. This could be taken as an argument against the SC-analysis as the element could then assumed to be in attributive position. However, a corpus study reveals that the version without *-t* is clearly preferred. The uninflected version occurs 1460 times whereas the inflected version is only found in 52 examples (WOOD & VIKNER 2011, 101). For the attributive modifier *sådan* in (239) b. the *-t* cannot be missing. The German data in (240) also show that *solch* can only be inflected when it appears in adjectival position but not as a degree word modifying an adjective as in d. or when modifying the entire DP as in a. The different types of modification are summarized in Table 42 which is also based on the results from WOOD and VIKNER (2011).

- (238) a. such a hotel
 b. *a such hotel
 c. *such bad a hotel
 d. *a such bad hotel
- (239) a. sådan(t) et hotel
 b. et sådant hotel
 c. *sådan(t) darligt et hotel
 d. *et sådan(t) darligt hotel
- (240) a. solch ein Hotel
 b. ein solch-es Hotel
 c. *solch(es) schlechtes ein Hotel
 d. ein solch schlecht-es Hotel

		pre-article	post-article		pre-article	post-article		pre-article	post-article
<i>modifying the whole DP/NP</i>	<i>English</i>	such	x	<i>Danish</i>	sådan(-t)	sådant	<i>German</i>	solch	solches
<i>modifying AP only</i>		x	x		x	x		x	solch

Table 42: The distribution and scope of *such* in English, Danish and German (WOOD & VIKNER 2011)

Assuming their analysis to be correct, the example in (236) does no longer pose a problem to the current proposal. The structure in Figure 38 is a slightly modified version of the one suggested in WOOD and VIKNER (2011, 104). If the determiner *such* or *so* + *adjective* precede the indefinite determiner they raise from a postnominal SC position to Spec#P. This analysis makes it possible for the indefinite article to merge in Cl° and remerge in $\#^{\circ}$ regardless of the presence or absence of a pre-article modifier.

Since the empirical evidence provided clearly speaks in favor of predicate raising and contra XP-movement from a pre-nominal position as e.g. suggested in MATUSHANSKY (2002), I conclude that examples like the one in (236) do not pose a problem to the current analysis.

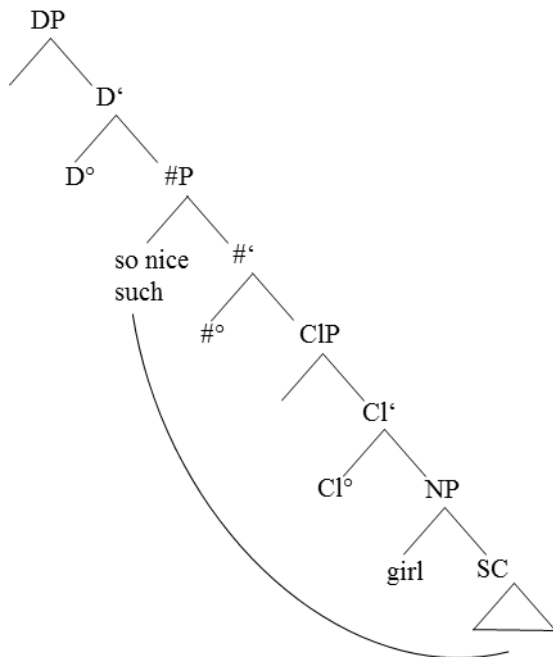


Figure 38: Predicate raising of *so/such* to Spec#P

An alternative approach to the construction discussed above is given in BRANDNER (2016) and BRANDNER (to appear) in her discussion of a related phenomenon that also has to be considered, namely determiner doubling in southern German dialects of the type in (241) and (242). I only comment briefly on this phenomenon here.

(241) *e so n huet* (Alemannic (Lake Constanze))

a so a hat

(242) *a weng a Wasser* (Alemannic (Swabian))

a bit a water

As BRANDNER shows the different types of doubling must receive different analyses. In fact (242) is not analysed as an instance of doubling but as a partitive due to the historic origin of the construction. This means that the lower article substitutes for genitive case whereas the higher one is the actual indefinite article and is merged in #P. The example is thus assumed to parallel the EarlNHG partitive constructions in (243) and (244) reproduced from BRANDNER (2016, 18).

(243) *ich han ein wening öl-s.*

I have a bit oil-GEN.

‘I have a bit of oil’

(244) *mit einem wenig rosenwasser-s.*

with a bit rosewater-GEN.

‘with a bit of rosewater’

The structure for the above examples would then look like the one in Figure 39. The article together with *wenig* is in #P as the two elements are assumed to be idiomatic due to their obligatory co-occurrence in constructions like in (242).

[_{DP} [_D [_{#P} a weng/ ein wening [_# [_{CIP} [_{CI} a/ -s [_{NP} [_N Wasser/ Öl]]]]]]]]

Figure 39: Doubling of the indefinite article in Alemannic

(241) is regarded as an instance of doubling in which the lower article realizes CIP and corresponds to mass division. It is thus not an instance of the indefinite article but a spurious element with the sole purpose of mass-division similar to a classifier. The degree modifier *so* has equative function³⁶ and “picks out (...) one member of the set of different ‘sub-kinds’” (p.5). It is therefore assumed to be in #P. The higher article, which is absent in StG, can (optionally) occupy the empty D-position.

The fact that the three types of examples (pre-article modification and doubling) receive different analyses is consistent with insights from ALEXIADOU’S (2014) discussion of various patterns of determiner doubling, because it reveals that a unified analysis is not possible. In her discussion of the doubling and spreading of indefinite articles she points out that the phenomenon “is not related to (in)definiteness” (p. 104) but involves spurious articles. To be more precise, she analyses doubling constructions of the type in (246) a. parallel to the example in (246) b. by assuming that both involve predicate inversion. The lower instance of the article in this analysis is a spurious article and functions as a relator. Evidence for this analysis stems from the fact that the lower article does not inflect and therefore does not realize number (p. 101f). The relevant example from ALEXIADOU (p. 98) is given in (247). Her example is in StG and I added a translation into the Franconian dialect.

³⁶ Equative constructions, as pointed out in BRANDNER (to appear, 8) always consist of two elements as in the example below:

(3) *Hans ist so groß wie Maria.*
Hans is as tall as Maria

- (245) *en ganz guete Wi*
 a very good wine
- (246) a. *ganz en guete Wi* (intensifying)
 very a good wine
- b. *en ganz en guete Wi* (intensifying)
 a very a good wine
- (247) *mit einer so ein roten Brühe*
mit aner so an roudn Braij (Franconian)
 with one-DAT such a red broth

In a footnote, ALEXIADOU (2014, 102) notes that in some varieties of German the lower determiner can also be analysed as a classifier similar to suggestions in BORER (2005). In this case, both instances of the article are spelled out, one in CIP and another copy in DP, which is consistent with the current proposal and which structurally corresponds to Figure 39 (except for the higher article being in #P instead of DP).

A further consequence of this assumption would be that this type of doubling in German should not be possible with nouns bearing singular morphology. This would be the case in Genitive and Dative because in StG the noun can bear a case suffix that is also specified for number.

- (248) a. *auf dem Weg-e*
 on the.DAT. way-DAT.
- b. *ein-es Weg-es*
 a-GEN. way-GEN.

In this case, CI° is occupied by number morphology and a second indefinite article heading CI° should be ungrammatical. This is a point that requires empirical investigation, but since the doubling generally occurs in non-standard varieties, this might indeed be the case. Most varieties of Alemannic no longer have Genitive case, which is the only one in which the noun shows obligatory inflection. Furthermore, Alemannic as well as other German dialects do not have dative inflection and therefore doubling is possible as example (247) shows.

Evidence for the restriction regarding the co-occurrence of doubling and case morphology is provided by the examples (243) and (244) above reproduced here as (249). BRANDNER (to appear) proposes that the doubling of the indefinite article is a compensatory strategy for the partitive structure involving Genitive marking as in (249) b. If it is correct that the Genitive suffix heads CIP, the loss of Genitive marking ‘makes room’ for another element to head the CIP, namely the indefinite article. It also explains why the doubling does not occur together

with the Genitive marking and c. is not attested. The structural representation was already given in Figure 39 above.

- (249) a. *a weng a Öl*
 b. *ein wenig Öl-s*
 c. **a weng a Öl-s*
 a bit (a) oil-(GEN)

Another argument against the assumption that the nominal inflection in (231) to (235) marks singular may be that singular is never marked but is the absence of plural. The problem with analysing singular as the absence of plural in the current model is that absence of plural would then correspond to absence of number marking which in turn means the absence of CIP and yields mass interpretation. In other words, the absence of plural does not necessarily mean singular. In order for a singular or a plural reading to be possible, CIP must be projected. So first we need mass-division and then we can identify either a particular quantity of the divided mass (five dogs, one dog, a dog) or not (dogs are outside). Under this view, singular is the marking of a particular quantity of the individuated nominal. In addition, in 5.2.3.1 it will become evident that even the distinction into *plural - singular - mass* is too simple and based on insights from GRIMM (2012); ZHANG (2012) and HACHEM (2015) a split CIP will be argued for.

The definite article can start out in different positions in the structure in BORER'S framework. In definite singulars, it can start out in Cl° and remerge in $\#^\circ$ and D° . In the case of plural nouns the definite article starts out in $\#P$ and moves to D° . Again, in the case of singular morphology we can simply assume the definite article to be also based in $\#^\circ$ and remerge in D° . The structure below is the one for (232) above.

[_{DP}[_D des [_{#P} [_# des [_{CIP} Wein [_{Cl} -es [_{NP} [_N Wein]]]]]]]]

However, the situation is a bit more complex in German which is discussed in 5.2.2.

Before continuing, I will briefly summarize the main points of this section. It was shown that:

- the indefinite article can be merged in $\#P$ when singular morphology occupies CIP,
- the presence of pre-article modifiers does not challenge the proposed structural assumptions as there is good evidence for them to originate in a post-nominal SC.

5.2.1.2 A brief note on oblique case marking

An issue I will briefly address is the marking of case. I will not discuss it in detail, but since in German number and case can be realized in a portmanteau-morpheme on the noun, case marking must be accounted for.

The nominal inflection in (231) to (235) morphologically realizes number and case. It is not evident from the structures presented so far where exactly case marking should be placed in the structure and if it should be placed there at all. In the previous chapter, it has been shown that in German number and oblique case must always be marked overtly. The requirement for overt oblique case marking is addressed in detail in BAYER et al. (2001) who argue for an additional KP-projection in German DPs. Based on empirical evidence mainly from German it is shown that Oblique case unlike structural case must be morphologically licensed. Regarding linearization, KP can be headed by a preposition in which case it precedes DP. It may also follow DP “in analogy to inflectional morphemes or the Case particles seen in other languages” as is pointed out in a footnote (BAYER et al. 2001, 476). The following data reproduced from BAYER et al. (2001, 472 and 474) are taken to illustrate this. The quantifiers are nominalized and thus head NP. (250) shows that in Nominative (as well as Accusative) inflection on the quantifier is optional, whereas inflection is obligatory in Dative, illustrated in (251). Example (252) is grammatical as the quantifier is embedded under a PP.

(250) *Viel(-es) ist passiert*

Much(-Nom) has happened

(251) *Das schadet viel*(em)*

This harms much(-Dat)

(252) *Otto ist mit viel zufrieden*

Otto is with much contented

The following structure may thus be assumed to hold for DPs which have to be marked for oblique case. In Figure 40 KP is headed by a preposition and appears above DP whereas the nominalized quantifier heads NP and is uninflected. W.r.t. linearization, it is noted that: “The linear order between K and DP follows from principles of morphology”. This is made more explicit in a footnote, which says that: “If K is P, it normally precedes DP in German (...); if K is [dat] it may follow DP in analogy to inflectional morphemes or the Case particles seen in other languages” (BAYER et al. 2001, 476).

[_{KP}[_K mit [_{DP}[_D [_{NP}[_N viel]]]]]]

Figure 40: KP projection headed by a preposition

Considering examples like the one in (253), the question is, how KP is licensed since case morphology is on the noun whereas the preceding adjective bears weak inflection.

- (253) *Der Geschmack gut-en Wein-es*
The taste good-wk wine-GEN.MASC.SG.

The requirement for morphological licensing may be achieved by assuming that KP - due to its being [dat] - probes for the relevant case feature which does not need to move overtly to K. In cases like (253) *-es* remains in Cl° where it marks number and thus mass-division. It is more likely though that it is indeed the inflection on the adjective - even though it is weak - which provides the relevant morphology to license KP. This is evident from the fact that Genitive morphology on the noun can no longer license KP and an additional element that can bear the relevant suffix must be merged (cf. GALLMANN 1998):

- (254) a. **Der Geschmack Bier-es*
The taste beer-GEN.NEUT.SG.
b. *Der Geschmack frisch-en Bier-es*
The taste fresh-wk beer-GEN.NEUT.SG.
c. *Der Geschmack ein-es/d-es Bier-es*
The taste a-GEN.NEUT.SG./the-GEN.NEUT.SG. beer-GEN.NEUT.SG.
'The taste of a/the/fresh beer.'

An open question regarding case marking in the system the proposal is couched in, is how case assignment works anyway when verbs are assumed to be categoryless and also semantically vacuous. This is an issue I will not touch here but is e.g. addressed in LEVINSON (2014).

I will leave it at this short note on case marking in the DP and continue with the discussion of the compositionality of the German definite article.

5.2.2 The problem of the compositionality of the German article

In 2.6.5 the compositionality of the German article and d-pronoun was already introduced and is repeated here for ease of reference. Following assumptions put forth in WILTSCHKO (1998) I assume d-pronouns as well as the definite article to be composed of a *d*-part and a phi/Agr-part. The phi-part can not only combine with the *d*-part but also with indefinite pronouns and adjectives. It can also appear as a free standing morpheme in the function of a personal pronoun.

			Inflection	Personal Pronoun
d-	(irgend)ein-	adj-	er	er (he)
d-	(irgend)ein-	adj-	ie	s-ie (she)
d-	(irgend)ein-	adj-	as/es ³⁷	es (it)

Table 43: The pronominal paradigm as suffix and in isolation

The independence of the d-part has already been argued for on the basis of diachronic data in chapter 2. The relevant OHG example is repeated below. In (255) the definite article attaches onto the following noun and only consists of the d-part but essentially lacks the phi-part. This can also be observed with the relative particle, which, unlike the relative pronoun, also lacks the phi-component. It is noted in BRAUNE (2004) that this happens regardless of the noun starting with a vowel or a consonant, which excludes a purely phonological explanation. The latter point is also evident from an assimilation process that can be observed with the weak feminine article in some Alemannic varieties. The d- of the weak article is assimilated and combines with the first consonant of the noun to an affricate. The relevant example in (256) is taken from STUDLER (2011, 201). The same process also takes place with feminine nouns starting with a velar sound as in (257).

(255) *dërda = die érda* (BRAUNE 2004, 248f)

the earth

(256) *pFrou* (Swiss German)

the woman

(257) *gKiche* (Swabian)

the ktichen

The independence of the two components forming the definite article has immediate consequences for the position of its parts in the structure of the DP. Assuming the inflectional material to head its own projection and not being inseparably combined with the d-component means that the two parts occupy different structural positions. In German it is essentially the phi-part that marks number and case, consequently it must be the pronominal suffix that is merged in Cl° or $\#^{\circ}$. The d-part, providing the relevant link to the discourse, must be merged in the highest projection, which is D° (Figure 41).

The question is, which part of the structure the phi-part is spelled out in. $\#P$ cannot be the projection where the inflectional part remains, as this would be incompatible with definite

³⁷ The variation between *-as* and *-es* is purely phonological as HACHEM (2015) points out.

noun phrases containing numerals. The components would not be in the correct linearization as the inflection would appear on the numeral.

(258) *D-ie zwei Hund-e*

**D- zwei-ie Hund-e* (inflection remaining in #°)

The.PL two dog-s

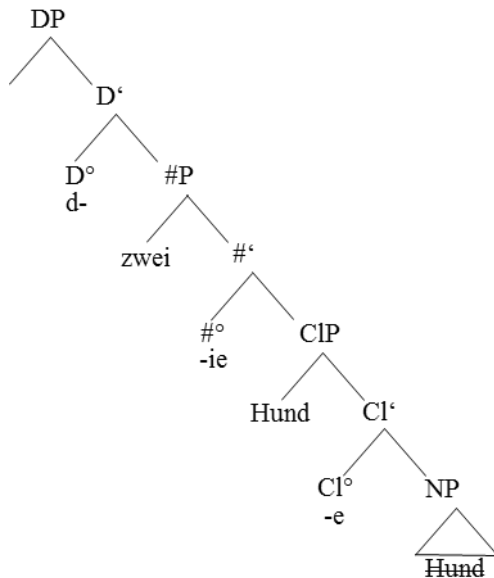


Figure 41: Wrong linearization with the pronominal paradigm in #°

The pronominal paradigm cannot remerge in D° either as this position is occupied by the d-part. As argued before, it merges in a projection directly below DP, namely AgrDP (along the lines of WILTSCHKO (1998)). The structure for definite DPs must therefore be the one in Figure 42.

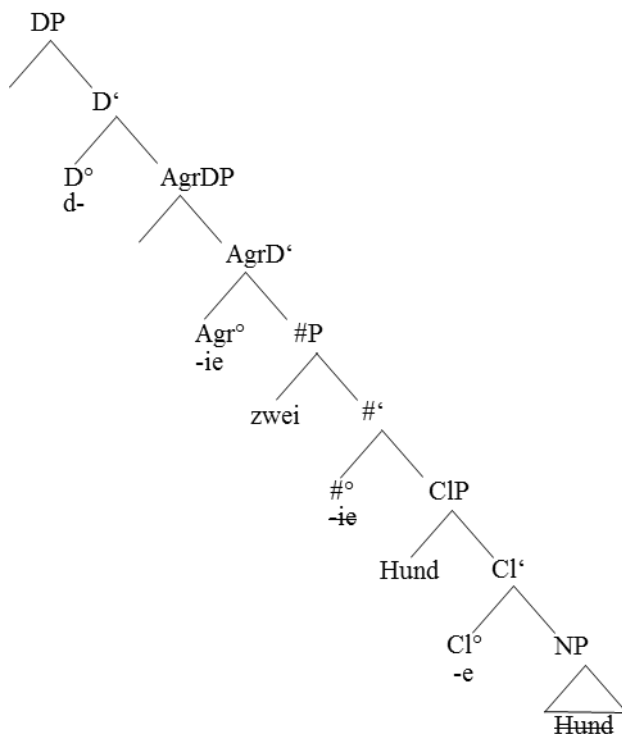


Figure 42: The compositionality of the definite article

Regarding the exo-skeletal assumption, it is not sufficient to propose a functional projection simply due to a particular linearization of individual elements in the structure. As pointed out in 5.1, exo-skeletal refers to the view that it is the functional structure that determines the interpretation of a lexical element. The presence or absence of AgrDP should therefore have a particular interpretive effect. StG as well as dialectal data show that this is borne out. The phi-component has an impact on the referential power of the definite article in German which manifests itself in the distinction of a weak and a strong definite article. Only when the pronominal paradigm combines in non-reduced form with the d-component, AgrDP is projected and the two elements function as the strong definite article.

5.2.2.1 The strong and the weak article in German

Empirical evidence for the phi-part taking part in the different interpretations of the definite article can be found in the distinction of so called weak and strong definite articles in German, studied in detail in SCHWARZ (2009) and for Swiss German in STUDLER (2011). This distinction is present in StG as well as in German dialects. In StG the weak article consists of the phi-part attaching to a preposition whereas German dialects also have a proclitic weak article consisting of the d-component and a phonologically reduced phi-component or the phi-component or d-component only (see Table 44).

	Singular			Plural
	Masculine	Feminine	Neuter	
Nom	dr	d	s, ds	d
Acc	də, dən ³⁸	d	s, ds	d
Dat	əm, m, em, im	(not given)	əm, m, em, im	(not given)

Table 44: The paradigm of the weak/unstressed article in Swabian (BARUFKE & SPANNBAUER-POLLMANN 1989, 136)

Example (259) to (262) from SCHWARZ (2009, 30ff) illustrate (some) contexts in which the strong and the weak article can appear. The strong article can appear in anaphoric DPs but not the weak one which is illustrated in (259). The strong article (in German) can have demonstrative use but the weak one cannot (260). I take this observation in support of the view that the element under discussion is ‘multi-functional’. It is thus not the case that we have a strong article, a relative pronoun and a demonstrative but we have one element that can fulfill various functions - a fact that is also stressed in WILTSCHKO (1998, 146):

“Thus, we are dealing with a many-to-many correspondence between form and use of lexical elements: The d-word is used as the definite determiner, a pronoun, and the relative pronoun.”

(259) *Hans hat einen Schriftsteller und einen Politiker interviewt. Er hat*

Hans has a writer and a politician interviewed. He has

#vom/ von dem Politiker keine interessanten Antworten

from-the_{weak}/ from the_{strong} politician no interesting answers

bekommen.

gotten

‘Hans interviewed a writer and a politician. He didn’t get any interesting answers from the politician.’

(260) *Hans ist in DEM [pointing at car 1]Auto gekommen, nicht in DEM*

Hans is in the_{strong} car come not in the_{strong}

Auto [pointing at car 2].

car

‘Hans came in this car, not in that car.’

The weak article is not able to appear in the two contexts above but it is felicitous in contexts in which a unique referent can be identified. This is the case in so called immediate or global

³⁸ Before words starting with a vowel.

situations, in which only one referent is available as e.g. in the examples (261) and (262) from SCHWARZ (2009, 38).

- (261) *Das Buch, das du suchst, steht im* (immediate situation)
 the book that you look for stands in-the_{weak}/
#in dem Glasschrank
 in the_{strong} glass-cabinet
 ‘The book that your are looking for is in the glass-cabinet.’
- (262) *Armstrong flog als erster zum Mond* (global situation)
 Armstrong flew as first to-the_{weak} moon
 ‘Armstrong was the first one to fly to the moon.’

The point regarding the weak-strong distinction of the definite article for the current proposal is the role of the AgrDP. As has been noted before, AgrDP is assumed to be headed by the pronominal inflection whereas the d-component is in D° as it is assumed to provide the relevant link to the discourse. This is shown in Figure 42 above.

I take the examples from SCHWARZ (2009) as further support for assuming the inflectional part to start out in Cl° or #°, because it is essentially the phi-part that overtly marks phi-features and case in German. This property makes it a suitable candidate for Cl° and #° to remerge in.

The crucial question to answer now is how these assumptions can be connected to the weak-strong distinction of the definite article above.

The weak article is only felicitous when the referent is uniquely identifiable (SCHWARZ 2009, 37ff). There are examples in which the weak article also appears in contexts which are anaphoric. This is the case for both the suffixed as well as the proclitic weak article as is evident from the overview in STUDLER (2011). However, the examples are quite limited (for details and examples see SCHWARZ (2009, 44ff)). Nevertheless, these examples provide another clue as mentioned by SCHWARZ: the weak and the strong article are not in complementary distribution and for the syntactic structure this means that they do not (necessarily) occupy the same position. Since Table 44 shows that the weak article can either appear with *d-* + phonologically reduced phi-component, as phi-component only or as *d-* component only it is not compositional, at least not in the same way as its strong counterpart.

WILTSCHKO (1998) also makes a note on the weak strong distinction of the definite article and argues that the strong article - which can be used pronominally - is an R-expression. This means, that the projection of DP is always present and headed by the *d-* component. WILTSCHKO shows that only the strong article can license empty NPs. The inflectional part,

(264) *zum Mond*
to-the moon

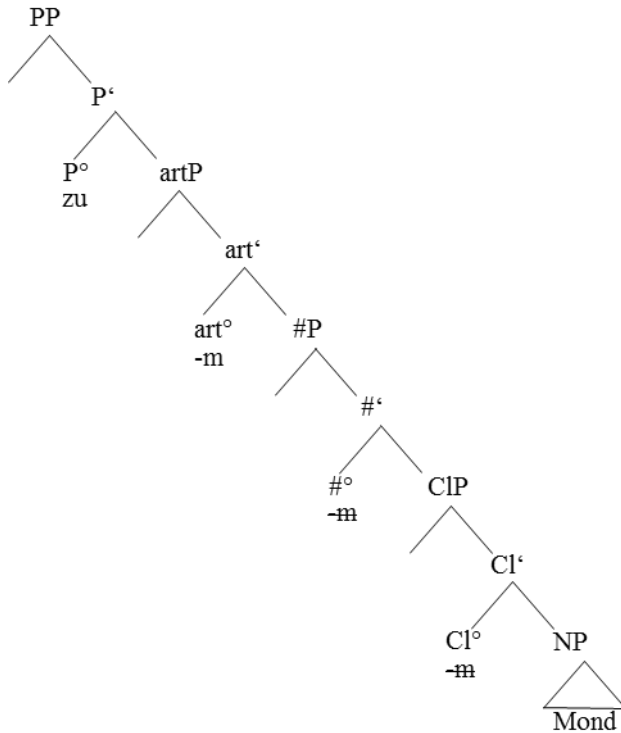


Figure 43: The weak suffixed article

Figure 44 illustrates the structure for a proclitic weak determiner as in the Bavarian examples in (265) which are taken from WILTSCHKO (1998, 161). The different forms show that the weak article still marks gender, number and case. The examples in (265) are all Nominative singular.

(265) d Frau də Mo s' Kind
the.FEM.SG. woman the.MASC.SG. man the.NEUT.SG. child

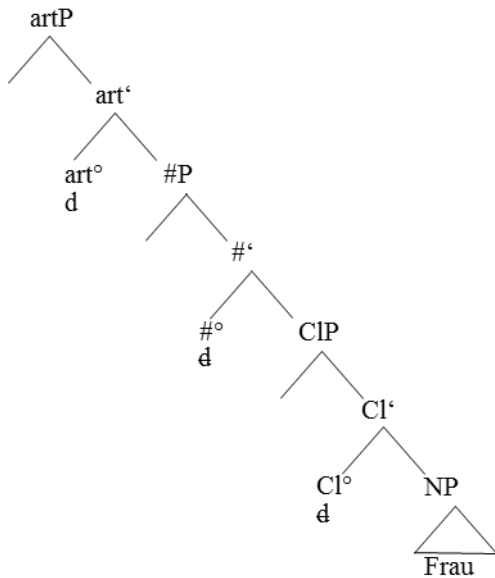


Figure 44: The weak free standing article

A possible opposition to the structure as suggested above could be that the weak article here involves the d-element that was said to head DP. However, the d- only surfaces as the weak article for phonological reasons. When phonologically possible, the d-part is dropped. The neuter article only consists of -s whereas if the d- was left out in the masculine and feminine form the remaining part is /ə/ and for this reason the d- surfaces. The Dative forms (see Table 44 above) containing an additional -m surface without the d- as expected. The d- part as a weak determiner is therefore an expletive element that is only realized when phonologically necessary.

The structure for DPs with a strong article as in (266), is given in Figure 45.

(266) *d-er Hund*

the-NOM.MASC.SG. dog

The pronominal inflection starts out in Cl° if the noun is uninflected, as it marks number. It reemerges in #° and Agr°.

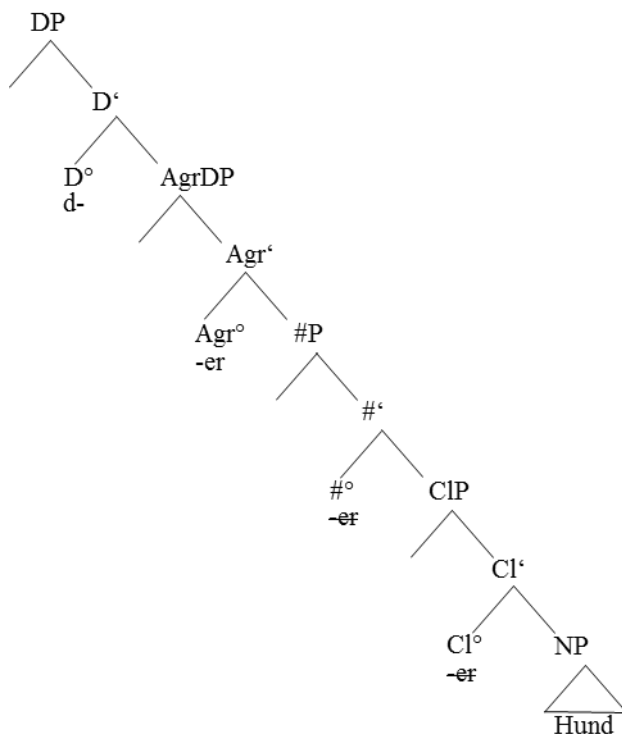


Figure 45: The strong article

The obligatory presence of #P with definite articles

At this point, the obligatory projection of #P has to be reconsidered. BORER (2005) argues that #P is always projected when an indefinite or definite article is merged. With the indefinite article, the reason lies in the singular reading it brings with it. Despite the fact that the English definite article is not marked for number, BORER argues that definite descriptions are always quantificational because they inherit the properties of their antecedence, including information on mass-division and quantification. It is important to understand the term ‘quantificational’ here in the sense that the definite article can inherit the information on mass-division and thus of a nominal being singular. In this case it behaves like the indefinite article and #P is projected. The definite article should of course not be understood as being a quantifier (cf. KRIFKA 1992).

Assuming that both, the indefinite and the definite article, (re)merge in #P explains their complementary distribution. This assumption may work for English but for German I will pursue a slightly different approach.

In German, the strong definite article is marked for singular or plural and the relevant features are realized with the pronominal inflection in AgrD where they are interpreted. When a weak article is merged, the relevant features are specified in artP. Number marking on the noun corresponds to different manifestations of mass-division. Both forms can correspond to different levels of individuation and combine e.g. with collectives or clearly individuated

nouns in German. These different notions and realizations of mass-division are discussed in detail in 5.2.3.1. The relevant point here is, that because of the number specification on the article, there is no need to assume the definite article to remerge in #P, because the relevant number features are interpreted in artP or AgrDP. The basic structure of a definite DP without a quantifier are given in Figure 47 and Figure 46. Figure 47 contains a strong and Figure 46 a weak article.

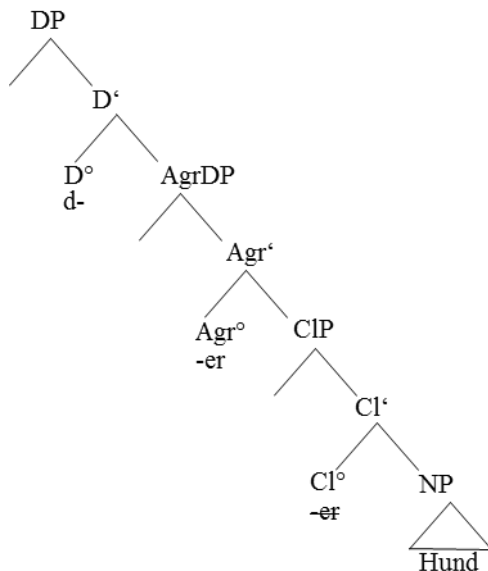


Figure 47: Strong article

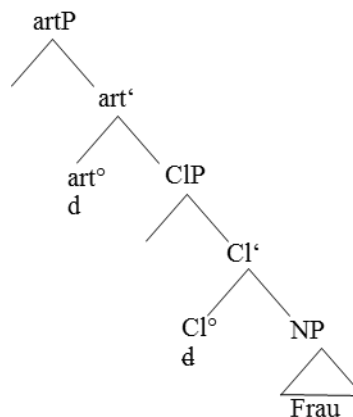


Figure 46: Weak article

A problem may be that in the above structure we can no longer account for the ungrammaticality of the co-occurrence of the indefinite and the definite article when assuming the two elements to be based in different projections. The problem arises when assuming that the indefinite article is not only based in #P but also stays there. Since the indefinite article can neither co-occur with the definite article nor with an additional quantifier I assume that it must remerge in artP.

- (267) a. **der ein Hund*
 the a dog
 b. **ein drei Hunde*
 a three dogs

artP, as motivated above, is a layer of the DP and projected in the presence of non-anaphoric articles. Since artP is a layer of the DP, the complementary distribution of definite and indefinite article is accounted for.

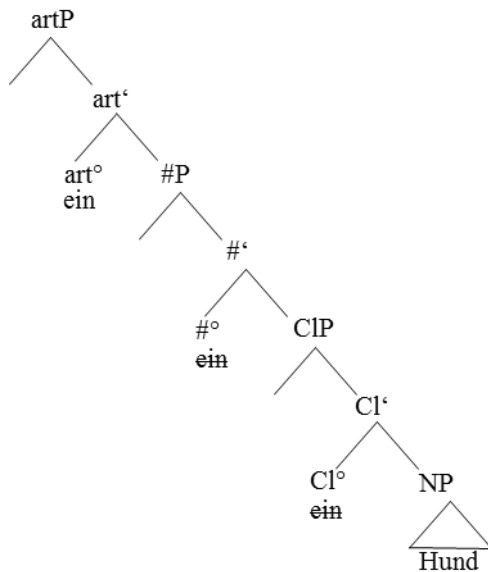


Figure 48: Indefinite article

In the following I briefly summarize the assumptions put forth in this section w.r.t. the positions of the article and the parts it is built of.

When a strong article appears:

- the phi-part (=the pronominal paradigm) starts out in Cl° and remerges in Agr° (a refinement of this assumption is given in section 5.2.3 and 5.2.3.1),
- the phi part is assumed to start out in Cl° because it marks number,
- only when the phi-part and the d-part appear in non-reduced form can the element be anaphoric and have demonstrative use,
- the d-part is based in D° .

For the weak article I assume the following:

- the referent must be uniquely identifiable following insights from SCHWARZ (2009) and STUDLER (2011),
- the DP is split and in the case of the weak article artP is the highest projection (capturing the fact of the weak article being non-deictic).

There is one obvious problem regarding the structure as outlined above: Assuming the pronominal paradigm to start out in Cl° it would also have to remerge in Mod° in the presence of an adjective. This is an undesirable consequence as it would mean that adjectives always inflect pronominally in definite DPs. This issue is addressed in the next section.

5.2.3 Adjectives in the structure of the German DP

In the first volume of her series BORER does not discuss adjectives but only mentions that their placement and interpretation is rather unproblematic in the model she suggests.

Distinguishing lexical items in interpreting one as nominal and the other one as modifier is due to the structural position they occur in or due some functional projection that categorizes them. Lexical elements embedded under DP are interpreted as nouns and combine with different functional structure than those that are embedded under TP. This difference alone may make the distinction of modifiers being interpreted as adjectives or adverbs as they occur as part of different structural contexts (p. 48). In BORER (2013), adjectives are assumed to be the only category specified as such in the lexicon, because of their categorial inflexibility (see also 2.3.1 for a brief discussion). This characteristic may be the reason that they cannot appear as the head of VP or NP because they do not ‘fit’ into the structural environment. The question remains open as to where they are placed in the structure and what functional projections might be part of the AP itself.

As argued for in 2.7.1, adjectives are in the specifier of ModP, which is located between CIP and #P. ModP will be shown to entail mass-division and therefore the projection of CIP. Mass-division is not simply a division into mass vs count but has intermediate stages (cf. COWPER & HALL 2012; GRIMM 2012; HACHEM 2015) and this can be accounted for with a split-CIP.

As noted above, adjectives are in the Specifier of ModP and ModP is - quite simply - characterized by the function of introducing nominal modifiers.

Regarding BORER’S DP-structure it is evident that adjectives must be located between CIP and #P. Adjectives modify nouns and show concord in phi-features and case. Therefore, they must be above CIP because the presence or absence of CIP is responsible for mass-division and thus singular or plural interpretation that can also be marked on the adjective as in (268).

- (268) a. *Ein gut-es Buch*
a good-NOM.NEUT.SG. book
b. *Die gut-en Bücher*
the.PL. good-PL. books

Adjectives must be below #P because quantifiers have scope over adjectives. In the examples in (269) a. the quantifier *many* refers to the red cups only. In example b. the numeral refers to the Persian carpets but not to all carpets that might be owned by John.

- (269) a. There are many red cups in the cupboard but also a few black ones.
b. John owns three Persian carpets.

The structure for modified nouns is thus assumed to be the following (in a simplified representation):

[_{DP} the[_{#P} three[_{ModP} diligent [_{CIP} girl-s[_{NP} ~~girl~~]]]]]

Regarding English, this might be sufficient to account for the placement of adjectives. The situation in German is more complex though as we need to account for the (possible) inflection on the adjective as well as the inflection on the articles.

Let us start with two simple cases - those in which the noun bears a case suffix that also marks number.

- (270) a. *auf dem richtig-en Weg-e*
 on the.DAT.MASC.SG. right-WK way-DAT.SG.
 b. *auf den richtig-en Weg-en*
 on the.DAT.PL. right-WK way-DAT.PL.
- (271) *die groß-en Bild-er*
 the.NOM.PL. big-PL. picture-s

In both examples Cl° is occupied by number morphology. In example (270) Cl° is headed by a suffix, that marks singular and case and in (271) CIP is headed by plural morphology. Mod° can have weak or no inflection. Above $ModP$ there is $AgrDP$ headed by the pronominal inflection which is the inflection of the strong definite article. The projection $AgrDP$ was already introduced in chapter 2 and was also discussed in the previous section. Above $AgrDP$ there is DP , which is the link to the discourse and is headed by the d-part of the definite article (setting aside the distinction of weak and strong articles here). The structure argued for would look like the representation in Figure 49 which is based on the example in (270).

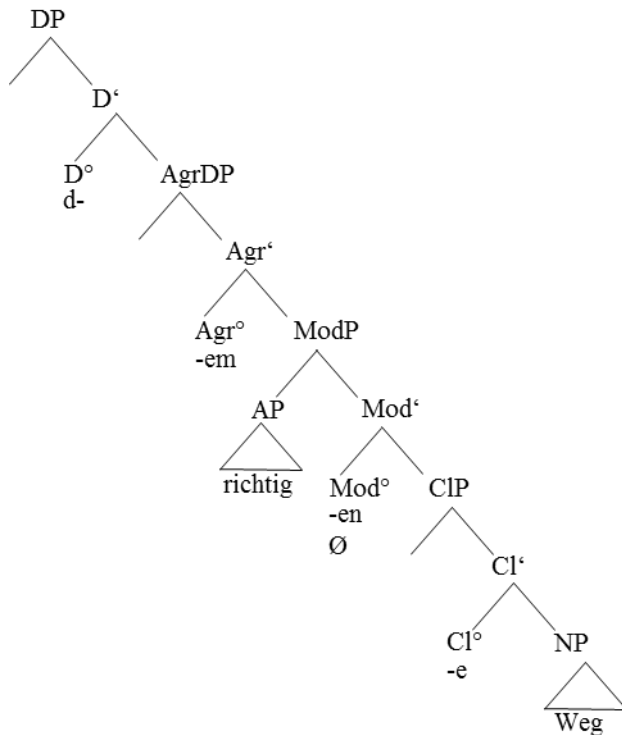


Figure 49: DP with singular morphology in CI°

Modified DPs with inflected and uninflected adjectives

A problem regarding the above proposed scenario arises in singular DPs in which the noun does not bear overt morphology and ModP is projected.

- | | |
|-------------------------------|-------------------|
| (272) <i>Ein gut-es Buch</i> | (Standard German) |
| <i>A guat-Ø Buach</i> | (Alemannic) |
| ‘a good book’ | |
| (273) <i>Das lange-e Seil</i> | (Standard German) |
| <i>Des lang-Ø Soil</i> | (Alemannic) |
| ‘the long rope’ | |

The problem is, that Mod° in German does not necessarily mark phi-features but it can be zero or weak, as has been extensively discussed in chapter 4. In the previous section, it was argued that the definite article is composed of two elements, a d-component and a phi-component. It was also argued that in the absence of number morphology it is the phi-component which is based in CI° and AgrD° and thus is the overt instantiation of mass-division as it is specified for number. In the presence of a ModP there is an intervening head though. One possibility may be that the phi-component starts out in CI° and remerges in Mod° and AgrD°. In this case the adjective inflects pronominally or it does not inflect depending on whether the copy is pronounced or not. However, inflected adjectives can also bear weak

inflection and mostly do so in the presence of a definite article in StG. In the sketched scenario this cannot be accounted for.

The second option would be that the pronominal inflection starts out in AgrD° - just like in those cases in which the noun bears number morphology. The problem with this scenario is that in singular DPs with an attributive adjective no element is merged in CI° and a count reading is not available in this case, as nothing assigns range to CI°. This problem is represented in the structure by giving CIP a lighter color.

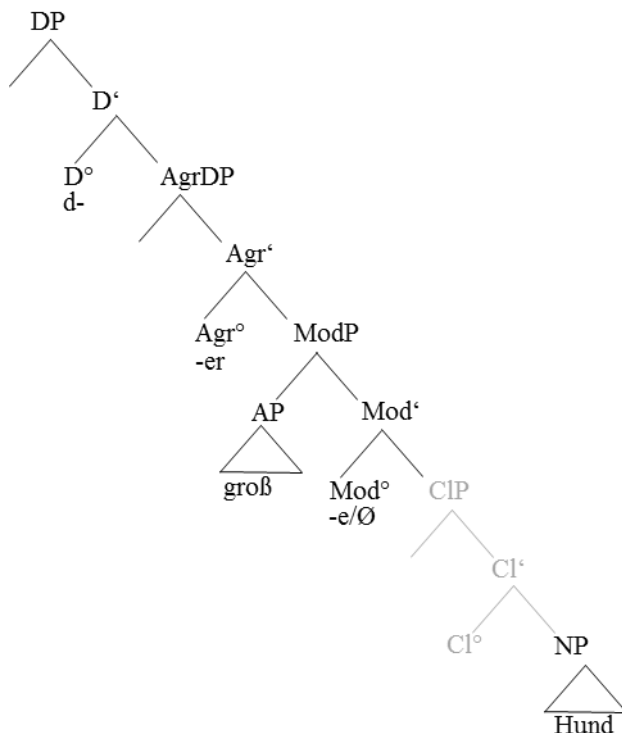


Figure 50: Singular DP without number marking on the noun

Despite the fact that CI° is empty in Figure 50, I will argue that it is the correct structural representation for German modified DPs. In the next section I will show that it is the adjective itself that entails the projection of CIP. Remember that nouns which are commonly interpreted as count can receive a mass interpretation. The relevant examples from BORER (2005), given in (217), are reproduced as (274) below.

- (274) a. there is dog/stone/chicken on this floor
 b. that's quite a bit of table/carpet for the money
 c. (too) much dog/chicken, (too) much stone
 d. a lot of dog/chicken

This possibility for grammar to override a count reading seems to be considerably weakened in the presence of an adjective. When the above examples are combined with modifying

adjectives, they do not seem to work very well. This was tested with a small group of informants with German examples constructed along the lines of the ones given in Borer.

- (275) a. #there is cute dog/ small stone on this floor
b. #that's quite a bit of round table/ ?green carpet for the money
c. #(too) much dangerous dog, (too) much heavy stone
d. ?a lot of brown dog

Based on this observation I will argue that the projection of ModP – regardless of any inflection on the noun or the adjective - always entails the projection of CIP.

5.2.3.1 The scalar notion of mass-division and the role of adjectives

The reasons for adjectives to only be present when CIP is projected might not seem to be intuitive at first sight but it follows from their semantics. This view is compatible with exo-skeletal assumptions as adjectives are the only category that are specified as such in the lexicon and have inherent properties they bring with them when merged.

The crucial point when discussing the ability of adjectives to entail CIP is the fact that the mass count distinction does “not constitute a binary opposition” (GHOMESHI & MASSAM 2012, 3). In other words: it is not either mass or count but the distinction is more fine grained as is e.g. argued for in ZHANG (2012) based on Chinese and also in GRIMM (2012) based on cross-linguistic evidence from languages belonging to different families.

Syntactically, mass division always includes the projection of CIP. Semantically this division does not always correspond to a count reading. This difference is overt in Chinese as there are different classifiers corresponding to different ‘levels’ of mass division. The following data, reproduced from ZHANG (2012, 234), illustrate this point.

- (276) a. *san zhong yang* [kind CL]
three CL sheep
‘three kinds of sheep’
b. *san die shui* [individuating CL]
three CL water
‘three drops of water’
c. *san qun yang* [collective CL]
three CL sheep
‘three groups of sheep’

d. *san pian xigua* [partitive CL]

three CL watermelon

‘three slices of watermelon’

c. *san ben shu* [individual CL]

three CL book

‘three books’

ZHANG makes another very important point by showing that certain nouns can combine with adjectives like *round* but others cannot (round furniture - *round wine). She therefore suggests a distinction of nouns into *count*, *non-count non-mass* and *mass* based on two features: dimension and numerability. Table 45 reproduced from ZHANG (2012, 225) illustrates the pattern.

Possible combinations of [± numerable] and [± dimension]			
	[numerable]	[dimension]	Example
count	+	+	apple
count	+	-	noun
non-count, non-mass	-	+	furniture
mass	-	-	oil

Table 45: The mass-count distinction in ZHANG (2012, 225)

An even more fine grained notion of mass division is argued for in GRIMM (2012) who points out that mass division is scalar. He provides cross-linguistic evidence for this assumption from languages belonging to different families (e.g. Welsh, Turkana, Dagaare, Maltese) which shows, that the scalar notion of mass-division is present in a variety of languages (if not all). GRIMM proposes that

„(...) the different factors related to individuation of an entity imply a set of individuation types which can then be organized in a scalar fashion, giving rise to a scale of individuation.“ (GRIMM 2012, 53f)

GRIMM (2012, 69) proposes the following scale of individuation:

liquids/substances < granular aggregates < collective aggregates < individuals.

The scale is based on the various ways number marking is organized across different languages as well as different semantic factors (e.g. function of an object) that have an impact on whether a noun is interpreted as count, collective or mass.

It is shown that languages differ w.r.t. the morphosyntactic realization of the different levels of individuation. However, psycholinguistic and acquisition studies also reveal that world knowledge and the function an object is ascribed has an impact on the way it is interpreted (as substance, collective, count). *Rice* and *sand* are thus more individuated than *mud* even though all three are often subsumed under the term mass noun. The morphological realization of the scalar representation of mass-division varies across different languages but is based on the individuation types listed above (GRIMM 2012, 72).

The question remaining open is whether the scalar notion of individuation is represented in the syntax or if the scale can only be determined on semantic grounds.

A syntactic scale of mass-division

A similar view corresponding to a more fine grained notion of mass division than suggested in BORER (2005) is put forth in HACHEM (2015) based on diachronic data from German. Unlike GRIMM, HACHEM follows BORER's original assumption of all nouns being interpreted as mass by default but she elaborates it further. It is well known that German distinguishes masculine, feminine and neuter nouns. This gender-distinction is often regarded as an arbitrary lexical feature on nouns.

(277) a. *Die Axt*

The.FEM.SG. axe

b. *Der Kuchen*

The.MASC.SG. cake

c. *Das Brot*

The.NEUT.SG. bread

HACHEM notes that diachronically the three genders in German corresponded to different levels of mass division - similar to the different types of classifiers in the Chinese examples in (271) or the different levels of individuation on the scale argued for in Grimm. Mass used to be expressed by neuter (unbounded mass), individuation was expressed by masculine (bounded mass) and collective interpretation was expressed by feminine gender. Empirical evidence for this former function of gender is also given in LEHMANN (1958). The Sanskrit example in (278) illustrates the three-way distinction HACHEM makes reference to. The root is the same in the three examples below. However, the suffix brings different readings with it, corresponding to count, mass, and collective. LEHMANN argues that this distinction is at some point realized by the three-way gender distinction that we still find in present day German. This is also reflected in the fact that the definite article in OHG is much more frequent with

masculine nouns than with feminine or neuter ones (LEISS 2000). In OHG gender variation on nouns is still rather common and it comes as no surprise that the definite article occurs most frequently with masculine nouns which are mostly count but it is less frequent with feminine (collective and abstract) or neuter (mass) ones (LEISS 2000, 168f).

- (278) a. hima-h³⁹ → winter
 b. hīma-m → snow
 c. himá-s → cold, frost (LEHMANN 1958, 191f)

Remnants of this function of grammatical gender can still be found in present day German as the examples (279) to (282) from HACHEM (2015, 104) show. Example (279) and (280) both contain the lexeme *See* which can either mean *sea* or *lake* depending on the gender specification on the article. In the meaning *sea* the lexeme appears with feminine gender reflecting a collective reading as it includes all the seas that are traditionally distinguished. In the meaning *lake* the lexeme appears in masculine and receives an interpretation as bounded mass as it can receive singular or plural interpretation and can be counted. Example (281) and (282) contain the lexeme *Erbe*, which also receives a different interpretation depending on whether it combines with an article specified for neuter or masculine. When the noun appears with an article specified for neuter it is interpreted as mass (in the meaning of inherited property). When *Erbe* combines with an article specified for masculine the reference is to the “person that gets the heritage” (p. 104) and appears as a count noun.

- (279) *der See*
 the.MASC. lake
 (280) *die See*
 the.FEM. sea
 (281) *das Erbe*
 the.Neut. heritage (inherited property)
 (282) *der Erbe*
 the.MASC. heir

There is quite a number of German nouns that still reflect certain semantic oppositions HACHEM (2015, 105) notes. Therefore, she convincingly argues for a split CIP into the projections given in Figure 51. Not all projections are always present, HACHEM points out, as this would lead to all nouns being plural. However, following a nano-syntactic approach, it is

³⁹ As is noted in HACHEM (2015) based on insights and the examples from LEHMANN (1958) the actual word-form is *himā*, because the *-h* represents the visarga.

assumed that every higher phrase “presumes the presence of every phrase below it” (HACHEM 2015, 109).

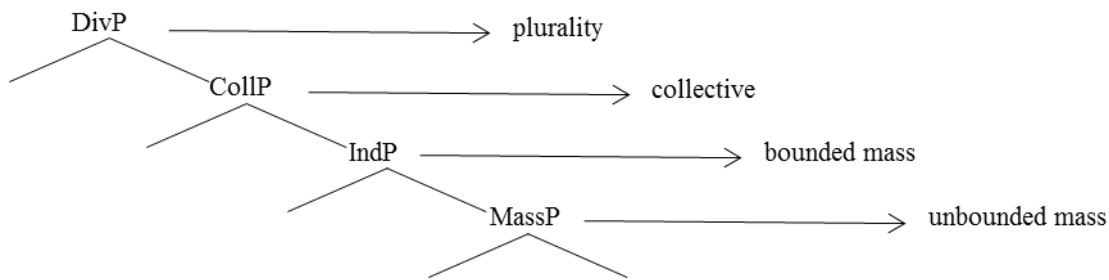


Figure 51: Split CIP (HACHEM 2015, 108)

The question that immediately arises is in what way the syntactic split of mass division structurally represented in the split CIP above is compatible with the scalar representation of individuation proposed in GRIMM.

It is evident that HACHEM’S proposal already matches the individuation-scale quite well. Mass, collective and count are represented. One aspect of the hierarchical ordering must be considered in more detail though. Directly above MassP there is IndP which corresponds to bounded mass in HACHEM’S proposal. IndP used to be realized by masculine gender and masculine gender resulted in a count reading. However, IndP and DivP (plural) are separated by CollP. This representation is not compatible with the scale proposed in GRIMM. Collective interpretation is assumed to be closer to mass whereas HACHEM assumes that individuation is a prerequisite for a collective reading which is then a prerequisite for plural. The part that is unclear here is: If IndP is bounded mass and corresponds to count, why can it not be plural? Is IndP the representation of singular? This is not clear from the structure or the discussion. From the structure in Figure 51 it follows, that singular is represented low in the structure but plural very high even though both are count readings.

In order to determine whether collectivity should be closer to mass than to count in the syntactic representation German does not provide the relevant insights. If a split CIP is indeed on the right track and if the higher projections entail the presence of the lower ones we should find languages that spell out more than just one layer of the split CIP.

This is borne out. GRIMM (2012, 30f) presents data from Welsh and Breton (cited from STOLZ (2001) and PRESS (2009)) in which singular morphology combines with plural morphology resulting in an individuated reading.

- (283) a. *grawn*
 grain
 ‘grain’
 b. *gron-yn*
 grain-SG
 ‘a single grain’
 c. *gron-ynn-au*
 grain-SG-PL
 ‘grains’

- (284) a. *deil*
 leaf
 ‘leaves’ (collective)
 b. *deli-enn*
 leaf-SG
 ‘leaf’
 c. *deli-enn-où*
 leaf-SG-PL
 ‘leaves’ (individualized)

The structure in Figure 52 captures number marking in Breton. CollP is zero and is not morphologically marked. Singular is realized higher in the structure and corresponds to a more individuated reading than collective. Since singular can be combined with plural and plural is realized as the rightmost element we can conclude that plural is higher in the structure than singular.

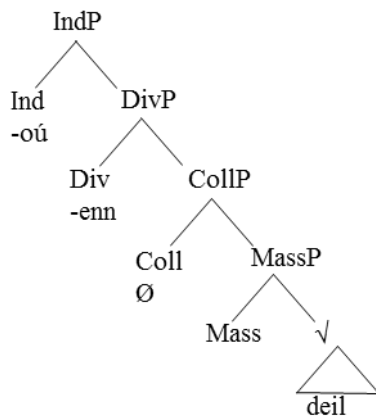


Figure 52: Split CIP for Breton

A split CIP for current German varieties?

Unlike Breton or Welsh German does not have a particular morphosyntactic form for a collective reading and singular and plural cannot co-occur. The relevant question at this point therefore is, if a split CIP that can be assumed for OHG or Breton is still the best representation to capture mass-division in present day varieties of German.

There is no one-to-one mapping of number specification and a clearly individuated reading either. The fact that nouns like cattle or furniture can be interpreted as being individuated in some sense is obvious as the individuals forming the collective can be counted (WIESE 2012). The number specification varies, as is evident from (285) and (286). The German word for cattle is singular whereas the German word for people is plural.

(285) *Zähl das Vieh.*

Count the.SG. cattle

(286) *Zähl die Leute.*

Count the.PL. people

Number morphology on the noun is not always associated with a count reading as the example in (287) illustrates. Depending on the context a count reading is possible though. The examples below clearly illustrate that there is no one to one mapping of countability and number marking in the languages under consideration (cf. WIESE 2012).

(287) Sarah has brains. → collective

(288) Where can I get brains for my research? - Sarah has brains. → count

Semantically the full scale of individuation is available in German or English, morpho-syntactically it is less obvious.

There are two ways to syntactically realize the different aspects of individuation i) the same functional elements (e.g. number morphology, articles) can realize different positions of the split CIP or ii) German has a less fine grained split CIP than e.g. Breton and therefore the ambiguity arises.

Consider the following examples from WIESE (2012, 70f).

(289) a. *Ich trinke Tee.* [substance]

I drink tea.

‘I am drinking tea.’

- b. *Zwei Tee, bitte.* [portion coercion: object]
 Two tea, please
 ‘Two teas, please.’
- c. *Die besten Tees kommen aus Indien.* [sorter coercion: object]
 The best teas come from India
 ‘The best teas come from India.’

The types of coercion combine with different ways of number marking. The example in (289) b. shows that the noun combines with the numeral *two* but does not bear plural morphology. The reading is not mass but not count either. The noun is individuated but grouped with other collective nouns. In c. the noun is clearly individuated and bears plural morphology. The examples reflect the fact that mass-division requires number marking somewhere in the DP. In (289) this is realized with the numeral two but an article can also fulfill this function⁴⁰:

- (290) *Ich hätte gerne einen Tee.*
 I would like a tea.

Based on these observations I propose a three-way syntactic split of mass-division: mass, bounded mass (a conflation of CollP and DivP) and count. ‘Bounded’ in this respect is not to be mistaken with an object having a clearly defined shape but I use the term in the sense of a boundary that does not (necessarily) have a particular contour. This notion is similar to the different types of coercion distinguished in WIESE. The following split CIP can be assumed to hold for German:

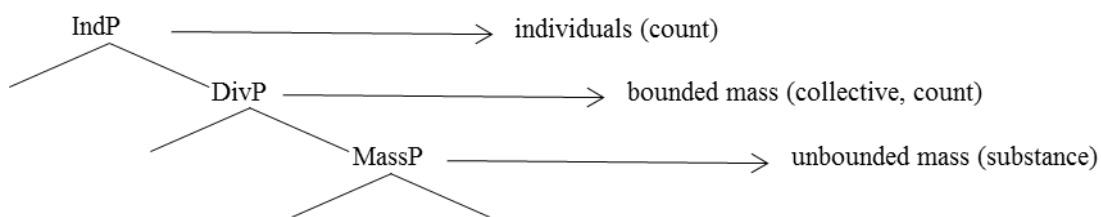


Figure 53: Split CIP in current varieties of German

The projection of IndP results in a count reading and is headed by number morphology. When IndP is projected the interpretation is unambiguously count. This is e.g. the case with most pluralized nouns (teas, apples, dogs). The projection of DivP represents bounded mass and

⁴⁰ One may wonder at this point why it is not possible to use the plural definite determiner in such a context - a question I have no answer to at this point:

- (1) ??*Die Tee werden gebracht.*
 The.PL. tea are brought

includes collectivity. A count reading is potentially available when additional functional elements (numerals, determiners) are added.

(291) a. *Möbel aus Holz*

Furniture from wood

‘Furniture made from wood.’

b. *Verkaufe zwei Möbel.*

Sell two furniture

‘I sell two pieces of furniture.’

c. *Ich brauche ein Möbel für mein Telefon.*

I need a furniture for my telephone

‘I need a piece of furniture for my telephone.’

This is of particular importance when considering the role of adjectives in mass-division. I will discuss this in more detail in the next section.

Adjectives entail mass-division

Despite the various interpretations nouns can receive, the original insight from BORER applies: All nouns are interpreted as mass by default and mass division is structurally represented.

In the following, I will show that certain adjectives block a mass-reading of nouns and therefore entail an interpretation of the noun as bounded mass and the projection of DivP.

When combining BORER’S examples given in (217) with adjectives, a mass reading is no longer available. The relevant examples are reproduced as (292) below.

(292) a. #there is cute dog/ small stone on this floor

b. #that’s quite a bit of round table/ ?green carpet for the money

c. #(too) much dangerous dog, (too) much heavy stone

d. ?a lot of brown dog

Crucially, this does not hold for all adjectives but only for some adjective classes - a fact that seems to challenge the assumption of ModP to generally entail CIP, a point I will discuss in more detail in the next sections.

Adjective classes and mass-division

It is very important to make a distinction between the different semantic classes adjectives can be grouped in as not all of them entail mass-division in the same way. I will consider the four

basic adjective classes identified in DIXON (2004, 4) that can be found even in languages with only few adjectives.

Dimension: round, big

Value: good, bad

Age: old, young

Colour: black, white

First, I want to motivate mass-division based on the distinction [\pm dimension] made in ZHANG (2012). Adjectives of the class ‘dimension’ bring, of course, [+ dimension] with them, which immediately results in a non-mass reading (not necessarily count, though). ZHANG only defines dimension in terms of space but there is of course also a dimension of time corresponding to the adjective class ‘age’ above. Again, a mass reading is no longer available when the dimension of time is added:

(293) ??There is old dog on the floor.

Similarly, this holds for the class of ‘value’ containing adjectives that are often termed ‘relational adjectives’.

(294) ??There is lovely dog on the floor

The class of colour adjectives is an exception. Colour does not bring a relation or a dimension in space or time with it. Colour adjectives are therefore compatible with a mass reading and do not entail mass-division.

(295) There is black dog on the floor.

Substances behave differently from other nouns and it is grammatical to combine adjectives of colour as well as value or age with them.

(296) a. *Da ist gelbe Mayonnaise auf der Tischdecke.*

There is yellow mayonnaise on the table cloth.

b. *Da ist heißer Teer auf dem Straßenabschnitt*

There is hot tar on this part of the street.

b. *Ich brauche frische Milch.*

I need fresh milk.

c. *Wir haben nur noch schimmliges Brot.*

We have only PRT mouldy bread.

The question is, whether we can still assume that ModP and the merging of these adjectives has the effect of a bounded mass reading then. This is not obvious at first sight.

GRIMM notes that substances are characterized by the fact that when adding them up it is still the same element. If water is added to water we still have water. Individuating a noun and adding e.g. one cow and another cow, the result is two cows. If we apply this test to the examples above and add bread to mouldy bread, we still have bread but the result is not mouldy bread. Adding milk to fresh milk, the result is not necessarily fresh milk. The reading is no longer unbounded mass but bounded mass and comes closer to GRIMM'S notion of a granular or collective aggregate⁴¹. This is also reflected morphologically in German. The adjective obligatorily inflects marking phi-features and case - including number. Number marking is singular in all cases above. The reading is similar to the notion of 'portion coercion' in WIESE (2012). Comparing the examples a. and b. in (297), tested in a small online questionnaire, the first one is interpreted by most participants as some undefined amount of spilt mayonnaise but a reading as 'a jar of mayonnaise' is also available. The second sentence is generally interpreted as a jar of mayonnaise but not as a stain or spilt portion of it - even though such a reading can also be motivated. The availability of the two readings is probably not a syntactic difference but much rather a pragmatic one clearly depending on the context in which the sentence is uttered.

(297) a. *Da ist Mayonnaise auf dem Tisch.*

There is mayonnaise on the table.

b. *Da ist frische Mayonnaise auf dem Tisch.*

There is fresh mayonnaise on the table.

The singular marking on the adjective in the examples in (296) parallels the number marking with collectives in German that appear together with singular marking on an article as in (298). Furthermore, substances can also combine with the indefinite article in German, which also gives rise to a bounded mass reading as the indefinite article brings mass-division with it as in (299).

⁴¹ Colour adjectives behave special again. If a substance and colour are added the result may be a new colour. Adding yellow paint and blue paint results in green paint. A similar 'mixing' might be achieved with hot and cold resulting in warm. Adding hot soup and cold soup may result in warm soup. These adjectives should be considered in more detail w.r.t their semantics and their impact on the individuated interpretation of the noun they modify.

(298) a. *Das Vieh ist auf der Weide.*
The.SG. cattle is on the field.

b. *Das Besteck ist gespült.*
The.SG. cutlery is washed.

(299) a. *Hon ihr an Schnea ghet?* (Alemannic)
Have you a snow had?

b. *dô was ein snê gevallen* (GL, VII, 4 Middle High German)
There was a snow fallen.

There is one open question though: why can adjectives of different classes combine with substances without requiring an additional article but other nouns denoting animals or objects cannot?

(300) *Da ist frische Mayonnaise auf dem Tisch.*
There is fresh mayonnaise on the table.

(301) *Da ist *(ein) kleiner Hund vor der Tür.*
There is a small dog outside the door.

The reason is a semantic one. Substances, even in a bounded reading, do not have a particular shape and are still lower on the individuation scale. When a noun like dog combines with an adjective, bounded mass corresponds to a particular shape, which requires a clear individuation and is not compatible with an aggregate interpretation. This difference between substances and other nouns is part of our world knowledge but it does not receive a syntactic representation, at least not in German.

In order to recapitulate the main point of this section let us consider the simple case in (302). In example a. only a particular subset of wine is liked, namely good wine. The adjective ‘good’ here entails that there is also wine that is not good or even bad corresponding to an abstract notion of bounded mass. A point that illustrates that relational adjectives are also intersective in a broad sense. In example b. of the unbounded mass *wine* a particular subset of the stuff is disliked, namely wine that is bad. This also corresponds to bounded mass and good/bad wine as an entity is marked for singular on the adjective. It differs from bounded mass in 45 c. in the property that wine cannot be of a particular shape (cf. ZHANG 2012). There is good wine but there is no such thing as round wine. There is good furniture but also round furniture. Bounded mass does not mean that the stuff can be of a particular shape but it does not exclude it either. The combination of certain adjectives with only certain nouns is a

matter of our world knowledge and the properties we ascribe a certain object as has been briefly discussed above. Figure 54 and Figure 55 illustrate the division of stuff by intersective and relational adjectives.

- (302) a. I like good wine
- b. I don't like bad wine
- c. We own a round table
- d. We own a small round table
- e. We own a small square table



Figure 54: Relational adjectives

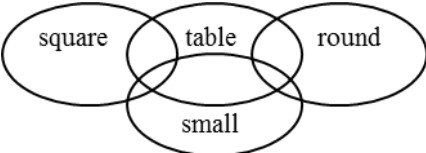


Figure 55: Intersective adjectives

It has been pointed out in this paragraph, that colour adjectives differ from other adjective classes because they are compatible with a mass reading even when combining with animals or objects. Colour adjectives do not seem to entail mass-division. However, they can also function as as an intersective adjective. The difference between dog as mass combining with a colour adjective and dog as an individuated object combining with a colour adjective is illustrated in Figure 56. The question is, of course, how is it possible for a color adjective to be compatible with both a mass and a count reading? The special properties of color adjectives will be briefly addressed in the next paragraph.

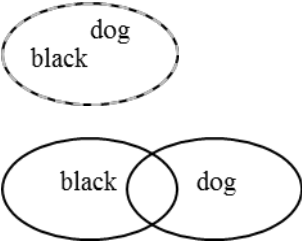


Figure 56: Color adjectives

Why color adjectives are different

Color adjectives, it was argued, differ from the other semantic classes because they are compatible with a mass reading. If this is indeed the case and ModP always entails the projection of CIP and thus mass-division are color adjectives not in SpecMod? In order to answer this question we need to try and understand what it is that makes color adjectives different from all others. If it is indeed the case that there is something ‘special’ about them, are there other areas in which color adjectives differ from the rest?

It will become clear in this short paragraph that color adjectives have indeed special properties (at least in German) and that based on these properties they are best analysed as roots.

In section 2.3.1, I briefly discussed BORER’S assumption of adjectives as being ‘born as such’ in the lexicon due to their categorial inflexibility. Adjectives cannot as easily function as noun or verb, whereas for other lexical elements such a variability is (more) common.

- (303) a. FORM → the form → to form
b. BIG → *the big → *to big

This observation also extends to German. Only a small number of adjectives shows a certain categorial flexibility as they can function as nouns. This group includes the entire class of color adjectives and a small group of “lexicalized nouns” WEINRICH (2005, 986). This behavior illustrates again that color adjectives differ from the rest as conversion is not a productive means for other adjective classes.

- (304) *ein dunkles Rot*
a dark red

- (305) *im Dunkel der Nacht*
in-the dark of the night

In normative grammars, the example below is also analysed as containing a nominalized adjective.

- (306) *Ich habe zwei Schwestern, eine jüngere [e] und eine ältere [e].*
I have two sisters, a younger [e] and an older [e].

However, the sentence in (306) is actually an instance of ellipsis whereas the one in (304) is an instance of a truly nominalized adjective. Truly nominalized adjectives are neuter⁴² and they do not inflect. The adjectives in (306) show regular adjectival inflection and the feature specification is dependent on the feature specification of the antecedent. I will discuss NP ellipsis in more detail in section 5.4.1.

As mentioned above, color adjectives can function as regular nouns in which case they cannot inflect and are neuter. The examples in (307) illustrate such nominalized color adjectives. Like any other noun, they can be modified by an adjective and appear in both definite and indefinite DPs. Adjectives of other classes cannot be nominalized in this way but must be derived in order to allow nominal use as exemplified in (308).

- (307) a. *das Grün der Insel*
 The green the.GEN. island
 ‘The green of the island’
- b. *das Rot dieser Wand*
 The red this.GEN. wall
 ‘The red of this wall’
- c. *Das ist ein schönes Blau.*
 ‘This is a nice blue.’
- d. *Ein helles Gelb macht sich gut.*
 A bright yellow makes itself good
 ‘A bright yellow looks good.’
- (308) a. **das Hoch des Hauses*
 The high the.GEN. house-GEN.
 The high of the house
- b. *die Höhe des Hauses.*
 The high-e the house
 ‘The hight of the house’

Based on this observation, I propose that color terms are roots. The root-status of color terms explains why they are compatible with both a mass-reading and an interpretation as an intersective adjective. Forming a complex root with another lexical element the construction as a whole can be interpreted as mass in the absence of CIP as in (309) below.

⁴² There are few exceptions among the group of lexicalized nouns as e.g. ‘der Stolz’ (the pride) which is masculine as noted in WEINRICH (2005). However, among the examples listed only two of them are non-neuter.

(309) *Da ist schwarz-er Hund auf dem Boden.*

There is black dog on the floor.

The question regarding the above example is the status of adjectival inflection. The adjective must inflect but CIP is not projected because the reading is mass. Adjectival inflection in this case probably serves as a kind of ‘linker’ in order to prevent the building of a compound.

(310) *Da ist Schwarzbrot auf dem Boden.*

There is coarse bread on the floor.

(311) *Da ist schwarz-es Brot auf dem Boden.*

There is black bread on the floor.

If it is indeed the case that adjectives are roots, then it is also clear why they can also function as any other intersective adjective. Since they are not categorially specified they can merge in SpecModP but they can also combine to a complex root or they can function as a regular noun.

In the next section, I will shortly discuss the consequences of the assumptions put forth in this paragraph w.r.t. the placement of uninflected adjectives in the structure of the DP.

5.2.3.2 Uninflected adjectives in the structure of the DP

With the insights from the previous sections in mind, we can now return to the issue of uninflected adjectives in the structure of the DP. In 5.2.3 it was noted that they pose a problem as the article cannot be assumed to be merged in CIP since ModP intervenes and can be headed by adjectival inflection. It was also pointed out that the suffix of the definite article cannot be merged in CIP either, because it would also have to remerge in Mod^o and the adjective would then always inflect pronominally.

The problem was to account for mass-division without having an overt element in CIP. In the previous section it was shown that adjectives (except for the class of colour adjectives) entail a bounded mass reading which makes a count reading potentially available. The adjective can remain uninflected and an article that bears the relevant number marking can be merged higher in the structure. At this point, the question arises how concord of noun and article works if we do not have an uninterrupted agreement-chain within the DP. This is related to the question of how the derivation in a bottom up fashion works when assuming that ModP entails the projection of DivP. This is briefly addressed in the next section.

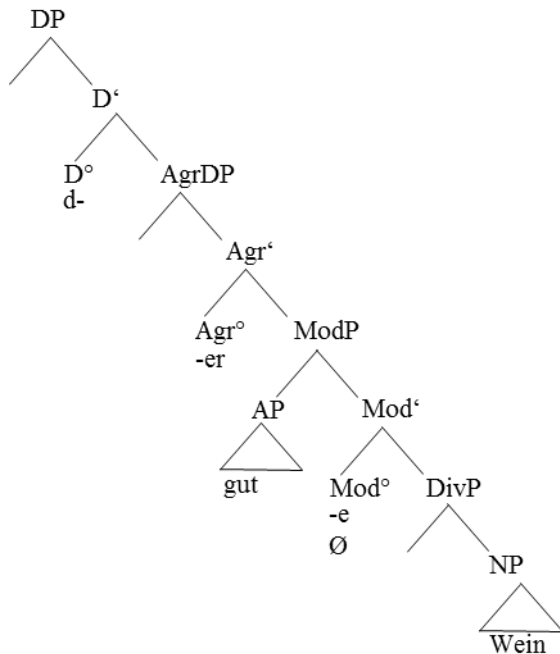


Figure 57: Uninflected adjectives in the DP

Concord in German DPs

The traditional view on the multiple representation of phi-features within the DP, generally termed concord, is that the noun brings inherent features with it and that these features are inherited and represented in an ‘agreement-chain’ in the DP (cf. BAYER 2015; OLSEN 1991).

The question w.r.t. to the structure proposed is in what way the derivation proceeds and how concord is accounted for. Based on diachronic data it has been shown in this chapter that nouns can bear an inherent gender feature but that this is not the case for all nouns. Diachronically, nouns were gender-variant and gender was a feature that represented different levels of mass-division. For this reason, concord can not (generally) work in a bottom up agreement-chain. Furthermore, if we always had such an agreement chain, it would be expected that the indefinite article appears in its inflected form in all cases, however, it appears mostly uninflected in Nominative and Accusative.

(1) Nominative: Ein-*(es) klein-(es) Kind läuft über die Straße.

A small child crosses over the street.

Accusative: Ich habe ein-*(es/en) klein-(es) Kind getröstet.

I have a small child comforted.

D° and art° probe for the relevant features and inflect for number (and sometimes gender and case) depending on presence of a CIP. Elements that can be merged between N and D, do not necessarily bear agreement-morphology.

The crucial point is that the elements in between (adjectives, certain quantifiers) **can** agree and when they agree the feature specification must either be the same as on the noun and the

article or the inflection must be weak and thus be compatible with the feature specification on the other elements. Agreement-morphology that does not match the gender and number features realized in CIP and D is not grammatical - but there is variation. As has been mentioned in chapter 3, it was e.g. also possible to have double strong marking on article and adjective in the diachronic development. For adjectival inflection, this means that adjectives can of course appear inflected but they may also remain uninflected. In the latter case they do not ‘block’ agreement of article and noun/CIP because Mod^o is empty and does not intervene.

Another question that might be asked is, whether it does create some kind of look-ahead problem when assuming that ModP entails mass-division and the projection of DivP, as we would have to know that an adjective is merged and thus merge an empty DivP.

I follow the nano-syntactic assumption here, of partial trees being built which then merge with the rest of the structure. This means that in the absence of number morphology ModP cannot merge with the root. It first merges with DivP and the partial tree consisting of both ModP and DivP then merges with the root⁴³.

5.2.3.3 DPs without articles

In chapter 4, it was shown that in modified DPs without an article the adjective obligatorily inflects. This was related to the obligatory marking of number and oblique case. Since ModP can be empty and its morpho-phonological realization is irrelevant for the interpretation of the DP in current varieties of German, how can adjectival inflection mark the relevant features in the absence of an article?

In 5.2.2.1 it has been argued that AgrDP cannot appear without d- when an NP is present following WILTSCHKO (1998). In the previous section, it has been shown that in the presence of an adjective (except for colour adjectives) DivP is projected and the adjective is marked for singular. Since number marking is obligatory, the pronominal inflection must be in AgrDP, where it is interpreted. Since it is ungrammatical for AgrDP to occur without the d-component when an NP is present, the adjective moves to SpecAgrDP and appears inflected.

⁴³ This assumption is similar to ideas put forth in NUNES and URIAGEREKA (2000) and NUNES (2004) for the copy-theory of movement. It is assumed that a copy merges with an element in a different workspace (W_2) (sideward movement) and is then re-merged in W_1 .

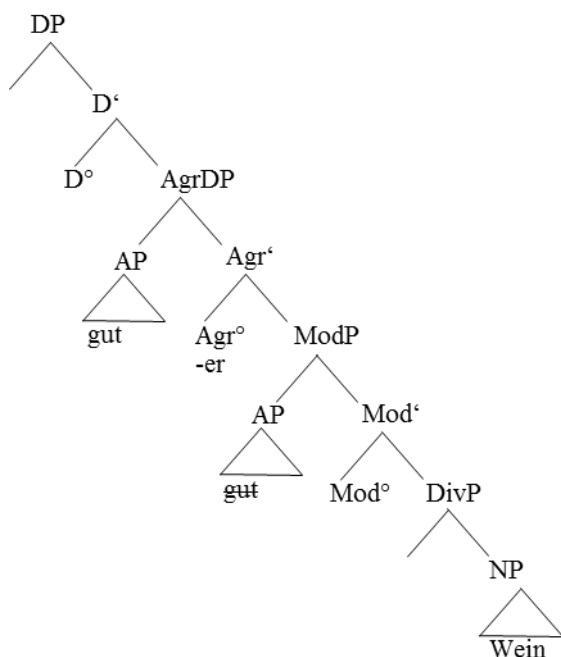


Figure 58: Modified DP without an article

The argumentation in the previous sections accounts for the fact that adjectives can occur uninflected as the adjective itself requires CIP to be projected and therefore number morphology is not required for range assignment to CI° . But recall: Adjectives **can but never have to be uninflected**. Since CIP is obligatorily projected in the presence of an adjective, morphology is and must always be grammatical! The observed optionality as discussed in the previous chapter is due to a particular diachronic development in German. It is therefore expected that this optionality is not necessarily found in other languages that have undergone a different development.

5.3 Interim Summary

At the beginning of this chapter, I gave a brief introduction to BORER's exo-skeletal model, focussing on the DP-structure she suggests. I essentially follow the assumption of a syntactic account to mass-division represented by the projection of a Classifier Phrase above NP, the presence of a Quantifier Phrase labelled #P above CIP and a universally present DP-layer.

I depart from BORER by suggesting a split DP as well as a split CIP based on empirical insights from German and the richer morphological system it has, compared to English. I argued that the case-suffix that is also specified for number appearing on singular nouns in Genitive or Dative occupies CI° and therefore the articles (definite and indefinite) are not generally based in CI° but can merge higher.

The different referential properties of the weak and the strong definite article was taken as evidence for a split DP-approach. The strong article is composed of the *d*-component heading DP and the phi-component heading AgrDP (d-er - the-NOM.MASC.SG.). The strong article can be anaphoric and can be used pronominally unlike its weak counterpart. For the weak definite article it was therefore argued that the DP is split into DP and artP. When a weak article is merged only artP is projected which accounts for the restricted referential properties.

Since the definite article (in its strong form) consists of the *d*-component and the pronominal paradigm, I argued that the *d*-part heads DP - whereas the suffix which marks number and case merges in Cl^o and reemerges in AgrD^o.

It was pointed out that this assumption is problematic when ModP is projected, because the pronominal inflection would have to move through Mod^o and the adjective would always inflect pronominally then. It was argued that adjectives (except for the class of color adjectives) entail mass-division and can appear uninflected. The number specification is realized with an article higher in the structure. The empirical motivation for this assumption is the fact that in the presence of an adjective, nouns can no longer receive a mass-interpretation but the noun is interpreted as bounded mass (**there is old/cute dog on the floor*). The argument also follows insights from GRIMM (2012), ZHANG (2012) and HACHEM (2015) who argue for a more fine grained notion of mass-division than the originally proposed dichotomy into mass and count in BORER (2005). Structurally, this is represented with a split CIP similar to HACHEM'S proposal.

5.4 Uninflected adjectives in nominal ellipsis, coordination and comparison

In the remainder of this chapter, I will discuss some contexts in which uninflected adjectives can appear but which have not been discussed in chapter 4. These contexts include nominal ellipsis (2), coordination (3) and comparison (4).

- (2) *Was für a Dasch dät dir gfalla? – A roat-Ø wär schee!*

Which for a bag would you like? – A red was nice

‘Which bag would you like? – A red one would be nice.’

- (3) *Ich habe ein rot-(es) und grün-(es) Hemd gekauft.*

I have a red-(Nom.Neut.Sg.) and green (Nom.Neut.Sg.) shirt bought.

‘I bought a red and green shirt.’

- (4) *Der kälteschd-Ø Monat isch bei uns dr Januar.*

The coldest-Ø boy month is at us the January

‘The coldest month here is January.’

Regarding nominal ellipsis there are two questions that will be addressed: 1) Does adjectival inflection play a role in the licensing of ellipsis and 2) Is nominal ellipsis in Alemannic an instance of PF-deletion or is the NP headed by *pro*? It has been claimed in the literature that adjectival inflection is crucial for the licensing and identification of nominal ellipsis. Alemannic data will however provide evidence for the contrary: Adjectival inflection does not take part in the licensing of ellipsis.

W.r.t. the coordinated noun phrases the question is whether the lack of inflection has an impact on the interpretation of the DP. Since in the absence of a determiner adjectival inflection is obligatory, it is expected that the presence or absence of inflection in coordinated DPs with only one article, has an interpretive effect reflecting whether the examples are interpreted as containing one or two DPs.

Compared adjectives are interesting because there is an effect on the acceptance of uninflected adjectives. Acceptance increases when adjectives are compared. A similar observation can be made for derived adjectives. The higher acceptance of compared and derived adjectives seems to be related to the fact that in both cases the adjective is unambiguously marked as adjectival with a suffix.

5.4.1 Elliptical NPs and uninflected adjectives

In chapter 4, it was shown that in Alemannic adjectival inflection is optional and uninflected adjectives are neither subject to an areal nor a morpho-syntactic distribution. The only exception are noun phrases without an article, because number and Oblique case have to be obligatorily marked. In the absence of an article, these features are marked on the adjective, which is why zero inflection is ungrammatical in these cases.

- (5) *a guat-(s) Buach*
a good-(NOM.NEUT.SG.) book
- (6) *von am ald-(a) Mo*
of an.DAT.MASC.SG. old-(WK) man
- (7) *guad-*(er) Wei*
good-*(NOM.MASC.SG.) wine

Uninflected adjectives in elliptical NPs were also part of the empirical study but I did not discuss them in chapter 4. Elliptical constructions are a complex topic (see e.g. VAN CRAENENBROECK and MERCHANT (2013) for an overview of various ellipsis phenomena) and I will only focus on one particular type of elliptical construction, namely nominal ellipsis with adjectival remnants of the type in (8).

(8) *Welches Bild gefällt dir? - Ich mag das große* [NP]

Which picture do you like? - I like the big [NP]

Uninflected adjectives in elliptical contexts are interesting, because there are approaches to nominal ellipsis (NPE) which assume adjectival inflection to play a role in the licensing of NPE, e.g. CORVER and VAN KOPPEN (2011); KESTER (1996); LOBECK (1995) or OLSEN (1987).

Let us have a closer look at the relevant Alemannic data. Alemannic allows for NPE with uninflected adjectives as the examples in (9) and (10) illustrate.

(9) *Was für a Foto suchsch du? - I suach a ald von oserm Urlaub.*
 What for a photo search you? - I search a old of our holiday.
 ‘Which picture are you looking for? -I’m looking for an old one from our holiday.’

(10) *Schreibsch du mit dem alda Füller? - Noi, i schreib mit am nui.*
 Write you with the old pen? - No, I write with a-DAT.MASC.SG. new
 ‘Are you writing with the old pen? - No, I’m writing with a new one.’

The results of the empirical study w.r.t. acceptance/rejection of uninflected adjectives with NPE are summarized in Table 46. Acceptance of uninflected adjectives with NPE is as high as in contexts with an overt nominal. Uninflected adjectives in definite DPs receive a higher acceptance than indefinite ones, a result that does not come as a surprise as the same effect could be found with DPs containing an overt nominal (cf. chapter 4). Despite this difference, uninflected adjectives are also accepted to quite an extent in indefinite DPs. 19,06% rate the sentences with 1 (natural) and 15,97% with 2 in Nominative and Accusative. Acceptance is even slightly higher in the Oblique case.

Uninflected adjectives in nominal ellipsis						
Nominative & Accusative singular						
Judgement	1	2	3	4	5	x
Indef (n=2198)	19,06	15,97	14,47	16,52	28,07	5,91
Def (n=591)	54,99	19,29	7,95	5,58	5,58	6,60
Oblique singular						
Judgement	1	2	3	4	5	x
Indef (n= 1072)	22,29	17,26	13,15	16,42	28,64	2,24
Def (n=591)	30,46	15,74	12,01	12,86	16,92	11,84

Table 46: Results for uninflected adjectives in NPE in %

In order to account for the Alemannic data, I will have a look at different approaches to NPE and try and identify the role of the adjective and its inflection. The data already suggest that adjectival inflection does not play a role in NPE but it will become evident that adjectives themselves do. In the next section I will first look at two prominent approaches to ellipsis in general, namely the assumption that the elided material is subject to PF-deletion vs the assumption that the elided part is replaced by a pronoun that is overt in some languages but does not have phonological content in others. This view is based on examples like the one in (11) a. and b. In the German example the NP is headed by an unpronounced pronoun, which is assumed to be licensed by inflectional material on the adjective whereas in the English example an overt pronoun must surface. This requirement has been attributed to the absence of inflectional material (cf. KESTER 1996).

- (11) a. Sarah kaufte ein rotes Auto und Sue ein grünes [NP pro]
b. Sarah bought a red car and Sue a green [NP one].

5.5 PF-deletion or pro - two competing accounts

The literature on ellipsis is rich and I will not be able to give an overview of all the accounts that have been proposed. I have picked the approaches I will discuss based on the type of analysis that is pursued (*pro* or PF-deletion) and based on whether morphology and/or adjectives are discussed. The two theoretically competing approaches I want to discuss is the assumption of *pro* heading the NP on the one hand and the assumption of PF-deletion of the relevant material on the other. The former account has been argued for in LOBECK'S (1995) influential work on elliptical constructions and is also pursued in KESTER (1996); OLSEN (1987) or LÓPEZ (2000). A PF-deletion approach to NPE is e.g. pursued in MERCHANT (2001) and for NP ellipsis in SAAB and LIPTÁK (2016). In the following, I will briefly introduce both types of approaches and then continue with applying them to the Alemannic data.

The pro-approach

I will first briefly introduce LOBECK'S (1995) account to ellipsis and discuss KESTER'S (1996) analysis of NPE who applies LOBECK'S original insights to a wider range of NPE constructions.

Lobeck provides a unified analysis of VP-ellipsis, sluicing and NP-ellipsis by assuming that in all three types of elliptical construction the elided part is replaced by non-arbitrary, non-

referential *pro*⁴⁴. The three different types of ellipsis that are discussed are illustrated in example (12) to (14) taken from LOBECK (1995, 3f). In the following, I will however focus on NPE only.

- (12) Because [_{IP}Pavarotti couldn't [_{VP} e]], they asked Domingo to sing the part.
(VP Ellipsis)
- (13) We want to invite someone, but we don't know [_{CP} who [_{IP} e]]. (Sluicing)
- (14) Although [_{NP} these [e]] were pretty good, those books will never be bestsellers. (NP ellipsis)

LOBECK argues that the elided part is best analysed as an empty pronominal because the elliptical constructions show behavior similar to other pronouns. She lists several criteria to illustrate the parallel behavior of pronouns and ellipsis and three of them are illustrated below, together with the corresponding examples (all taken from LOBECK 1995, 25ff). The first example is always the one containing a pronoun whereas the second is a similar example containing ellipsis:

- a) Both pronouns and ellipsis occur across utterance boundaries.
- a. Does Sue eat fish? - Yes, but she hates it.
 - b. John caught a big fish. - Yes, but Mary's [e] was bigger.
- b) Both pronouns and ellipsis obey the Backwards Anaphora Constraint
- a. Because she doesn't like meat, Sue ate fish.
 - b. *She doesn't like meat because Sue hates killing animals.
- a. Because Sue didn't [e], John ate meat
 - b. *Sue didn't [e] but John ate meat.
- c) Both pronouns and ellipsis can have a 'split' antecedent.
- a. Jack proposed to Jill [PRO to help each other]
 - b. John bought three books and Mary bought a few magazines. Six [e] were too boring to read all the way through.

LOBECK follows the Government and Binding framework in which empty categories are subject to formal licensing and identification. She argues that in all three types of ellipsis the elided part must obey the *Empty Category Principle* (ECP). She also argues that the two

⁴⁴ The property of being non-referential distinguishes *pro* in ellipsis from referential subject *pro* in pro-drop languages. It is probably also the same property that distinguishes *pro* from other pronouns in German:

(1) **Der große er/einer/dieser*
Der große *pro*
The big *he/*one/*this

processes - licensing and identification - are independent of each other. The ECP as formulated in LOBECK (1995, 4) is reproduced in (15).

(15) Licensing and identification of *pro*

An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X-0 specified for strong agreement.

W.r.t NPE it is argued that there are two functional heads that are able to license nominal ellipsis, namely Det and Num (corresponding to D° and $\#^{\circ}$ in the current proposal). What counts as 'strong agreement' is language specific. In English, [+Plural] (example (16)) and [+Poss] (example (18)) count as strong. This means, that neither the definite nor the indefinite article are able to license NPE. The demonstrative 'these' (example (17)) is specified for strong agreement and thus licenses NPE. The following examples, all reproduced from LOBECK (1995, 42ff), illustrate the contexts in which ellipsis is (not) allowed in English.

(16) The students attended the play but [most/some/all/each/two [e]] went home disappointed

(17) Although she might order [these [e]], Mary won't buy those books on Egyptian art.

(18) The fact that [John's[e]] was poorly presented made the committee adopt Mary's analysis.

(19) *A single protester attended the rally because [the [e]] apparently felt it was important.

(20) *Mary toyed with the idea of buying a windsurfer, then decided she didn't want [a [e]] after all.

(21) *Although John doesn't like [this [e] that he bought at Sears], he likes that new air conditioner that Mary got at K-Mart.

(22) John called out the children's names, and [many/few/each/all/both/some *every [e]] answered.

(23) *Although she might buy [these bestselling [e]] Mary probably won't purchase those less popular novels.

For English, LOBECK assumes the structures in Figure 59 to Figure 61 in which either Num, when filled, or Det, when specified for Poss or Plural, license and identify *pro* as illustrated. The structure in Figure 62 is ungrammatical, as the definite article is not specified for any of the relevant features.

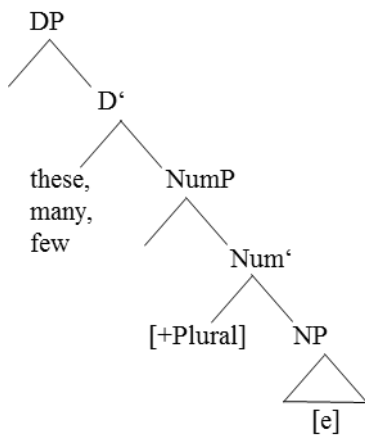


Figure 59: Licensing by strong agreement

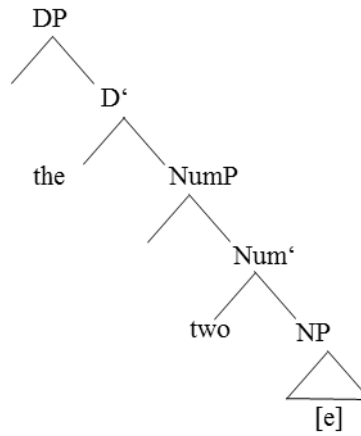


Figure 60: Licensing by Num

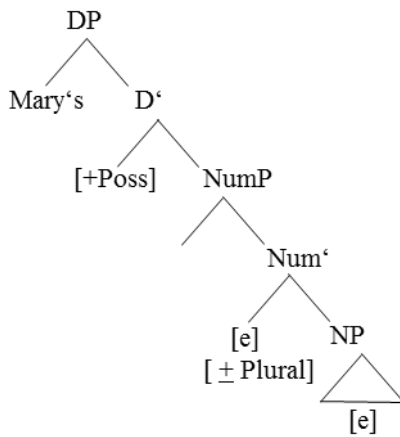


Figure 61: Licensing by Poss

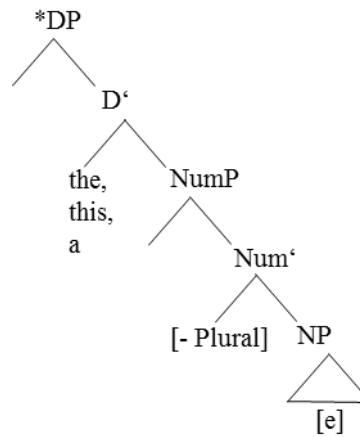


Figure 62: Licensing fails, no strong agreement

LOBECK does not consider cases with *one* insertion as in (25) a. as nominal ellipsis but she assumes NPE in English not to be possible with prenominal adjectives. She discusses the relevant examples for German, as in (24), though.

(24) Ich habe ein rotes Auto gekauft und Sarah ein grünes [e]

(25) a. I bought a red car and Sarah a green one.

b. *I bought a red car and Sarah a green [e].

LOBECK analyses adjectives as heads, because in her approach they would not be in the correct configuration to license and identify an empty NP when appearing in specifier position. This problem does not arise in the current proposal, because adjectival inflection is not in the specifier together with the adjective, but it heads ModP. For German, it is assumed that elements in Det, Num and AP can be specified for strong agreement and thus license NPE.

To summarize, LOBECK assumes the presence of *pro* in the case of ellipsis including the three contexts introduced in (12) to (14). She argues that *pro* has to be formally licensed and identified. Licensing of *pro* requires proper head-government and identification requires ‘rich’ agreement. The governors Det and Num, relevant to NPE, are specified for strong agreement so they do not only license but also identify *pro*.

KESTER (1996) follows the main insights of LOBECK’S analysis and applies the approach to NPE with adjectival remnants in English and other Germanic languages. KESTER attributes the difference between English and e.g. Dutch and German as illustrated in (26) (all examples from KESTER (1996)), to the presence vs absence of adjectival morphology. She argues that adjectival morphology licenses non-referential *pro* and since English adjectives never inflect, an overt dummy-pronoun is required. Only when *pro* has inherent features, it is also grammatical in English. This is only the case in the Human Construction (example (27)), which was already discussed in chapter 3.

- (26) a. das rote Auto und das Grün-e [NP *pro*] (German)
 b. de rode auto en de groen-e [NP *pro*] (Dutch)
 c. the red car and the green [NP one]
 d. * the red care and the green [NP *pro*]
- (27) the young [NP *pro*] and the old [NP *pro*]

If KESTER’S and LOBECK’S analysis of NPE are on the right track, uninflected adjectives should not be possible in elliptical constructions in German.

However, the Alemannic data summarized in Table 46 clearly show that adjectives do not have to inflect in elliptical NPs. The two examples given in (9) and (10) are reproduced here as (28) and (29).

- (28) *Was für a Foto suchsch du?* - *I suach a ald von oserm Urlaub.*
 What for a photo search you? - I search a old of our holiday.
 ‘Which picture are you looking for? -I’m looking for an old one from our holiday.’
- (29) *Schreibsch du mit dem alda Füller?* - *Noi, i schreib mit am nui.*
 Write you with the old pen? - No, I write with a-DAT.MASC.SG. new
 ‘Are you writing with the old pen? - No, I’m writing with a new one.’

In order to analyse the data correctly, it might be helpful to consider another Germanic language that has both inflected and uninflected adjectives. Uninflected adjectives in NPE can

be observed in varieties of Dutch, as discussed in CORVER and VAN KOPPEN (2011). They show that Asten Dutch has a three-way gender distinction on adjectives of which zero-inflection is one. This is reflected in the fact that the inflectional behavior is the same in elliptical and non-elliptical DPs.

- (30) [Talking about cars...]
 Hij het pas ne nij-en gekocht. (masculine singular)
 He has recently a new-*en* bought
 ‘He has recently bought a new one.’
- (31) [Talking about cows...]
 Hij het pas een *bont-e* gekocht. (feminine singular)
 He has recently a multi-colored-*e* bought
 ‘He has recently bought a multi-colored one.’
- (32) [Talking about rabbits...]
 Hij het pas een *zwart* gekocht. (neuter singular)
 He has recently a black bought
 ‘He has recently bought a black one.’
- (33) [Talking about cars] (masculine singular)
 Ik wil zo’n *grote gele*, nie zo’n *grote gruune*.
 I want such a big-*e* yellow-*e*, not such a big-*e* green-*e*
 ‘I want such a big yellow one, not such a big green one.’
- (34) [Talking about candies] (neuter singular)
 Ik wil zo’n *groot geel*, nie zo’n *klein geel*.
 I want such a big yellow, not such a small yellow
 ‘I want such a big yellow one, not such a big green one.’

From The data above, CORVER and VAN KOPPEN (2011) conclude, that Asten Dutch makes use of the ‘agreement-strategy’, which means, that adjectival agreement takes part in the licensing and identification of *pro*. The adjective without an inflectional suffix is not considered to be uninflected, but to be inflected with a zero-suffix. In other words, the zero-variant is part of the inflectional paradigm of adjectives. The examples thus fit the analyses of KESTER and LOBECK, which is sketched in the structure below.

[DP [D een [ModP [AP *zwart/ bont*][Mod -Ø/-e [NP [N *pro*]]]]]]

It is evident that the assumption of a zero-suffix that marks gender and/or number does not extend to German. It was shown in chapter 4 that uninflected adjectives appear with all three

genders as well as singular and plural nouns. The same holds for ellipsis. The antecedence in (28) is a neuter noun whereas in (29) it is a masculine noun, so there is no element in ModP.

[DP [D a [ModP [AP ald][Mod [NP [N pro]]]]]]

Uninflected adjectives are truly uninflected and ‘zero-inflection’ is not paradigmatic in German.

This raises the question whether the assumption of *pro* heading elliptical NPs modified by an attributive adjective is the correct analysis, if *pro* must be licensed and identified in the way LOBECK and KESTER argue, and if adjectival agreement takes part in it. An alternative to the assumption of *pro* in NPE is a PF-deletion approach. Since in this case the lexical element is present and deleted at PF, the Alemannic data may be accounted for. In the next section, I will thus review the PF-deletion approach to NPE that is proposed in SAAB and LIPTÁK (2016).

A PF-deletion approach to NPE

PF-deletion refers to the assumption that the elided material is present but not pronounced, whereas in the *pro*-approach the elided material is replaced by a pronoun. Therefore, the structure of an elided VP or IP differs from its non-elliptical counterpart as the complete VP/IP/NP is replaced by *pro*. In a PF-deletion approach the full structure is available and the relevant material is subject to deletion at PF (MERCHANT 2001).

SAAB and LIPTÁK (2016) provide such a PF-deletion approach to NPE mainly based on data from Hungarian and Spanish. They show that inflectional morphology does play a role in nominal ellipsis, however, in a completely different way than in the above mentioned approaches as will be shown below.

They set their account in the framework of Distributed Morphology (DM) and the basic idea is, that certain morphological operations are triggered by ellipsis for reasons of convergence at PF (SAAB & LIPTÁK 2016, 67). The relevant observation is that in Hungarian DPs number is marked on the noun and in elliptical contexts on the last remnant as is illustrated in (35). In Spanish, an inflected determiner must be realized in elliptical contexts, which is illustrated in (36). Both examples are cited from SAAB and LIPTÁK (2016, 68).

(35) *Mi a János mellett-i szék-ek-en ültünk. Ők a Péter mellett-i-[_]-ek-en.*

we the János next-ADJ chair-PL-ON sat they a Péter next-ADJ-PL-ON

‘We sat on the chairs next to János. They on the chairs next to Péter.’

(36) *¿Qué/ cuáles libros de Borges y *que/ cuáles [__] de Bioy te gustan?*

what/which.PL. books of Borges and what/ which.PL. of Bioy you like
'Which books of Borges and which of Bioy do you like?'

They assume that ellipsis is PF-deletion of the relevant material and in the case of nominal ellipsis the deleted noun leaves a stranded number affix behind.

SAAB and LIPTÁK (2016) identify two strategies to rescue the stranded affix. In agglutinating languages like Hungarian the affix leans on to the preceding lexical material, which explains why it is the last remnant it attaches to.

In inflectional languages, the situation is slightly different as the 'rescue' mechanism w.r.t. the stranded affix is deletion of the number affix and not morphological merger/displacement. The example in (37) (p. 99) shows that an article inflected for number is required in the elliptical part. Concord for number in these cases allows the stranded affix to be deleted - an option that is not available for Hungarian.

- (37) ¿(Qué/cuáles) libros de Borges y (*qué/cuáles) ~~libros~~ de Bioy te gustan?
what/which.PL books of Borges and *what/which.PL ~~books~~ of Bioy CL like
'Which books of Borges and which of Bioy do you like?'

It is obvious that this analysis can be easily applied to German in which both the definite and the indefinite article are always specified for number and should thus be able to allow deletion of a stranded affix as proposed in SAAB and LIPTÁK.

German/Alemannic NPE - PF-deletion or pro?

Applying the two theories to the Alemannic data, it seems that LOBECK'S or KESTER'S approach work for StG but they cannot account for the Alemannic data. Since uninflected adjectives are possible even in elliptical NPs, *pro* would not be licensed or identified.

In the PF-deletion approach of SAAB and LIPTÁK (2016) adjectives and their inflection do not play a role in the licensing of NPE and it seems to be easily applied to StG as well as Alemannic. Concord of the determiner with the number feature of the noun allows deletion of the stranded affix.

However, a closer look at some German cases of ellipsis reveals that the PF-deletion approach cannot account for all instances of NPE - to be more precise, it does not rule out certain contexts, which do not allow for NPE. SAAB and LIPTÁK are right in assuming that adjectival inflection does not play a role in the licensing of NPE, however, it will become evident that the adjective itself does.

5.5.1 Empirical arguments against a PF-deletion approach for German NPE

In section 5.2.2.1, the distinction of weak and strong articles in both StG and Alemannic has been introduced based on the studies by SCHWARZ (2009) and STUDLER (2011). The strong article, that can also be used pronominally, is anaphoric whereas the weak article in its suffixed or free form requires the referent to be uniquely identifiable. Unlike its strong counterpart, the weak article cannot license ellipsis. The relevant examples to illustrate this difference are given in (38) to (41), reproduced from SCHWARZ (2009, 22).

(38) *Peter hat bei dem Mann angerufen.*

Peter has by the_{strong} man called

‘Peter called the man’

(39) *Peter hat bei dem angerufen.*

Peter has by the_{strong} called

‘Peter called him’

(40) *Peter hat beim Bürgermeister angerufen.*

Peter has by-the_{weak} mayor called

Peter has called the mayor

(41) **Peter hat beim angerufen.*

Peter has by-the_{weak} called

‘Peter called him’

Assuming a PF-deletion approach to NPE it is not clear why the weak article is not able to license nominal ellipsis. PF-deletion essentially refers to the fact that the noun is present but not pronounced. Under this assumption there is no obvious reason for DPs with weak articles not to allow NPE.

Considering the particular type of PF-deletion approach as proposed in SAAB and LIPTÁK the weak article should allow for NPE in their approach as it is specified for the relevant number feature that allows deletion of the relevant part(s) of the NP in inflectional languages. The same holds for the indefinite article which always marks singular - but just like the weak article it cannot license NPE. This is illustrated with an Alemannic example in (42), as in Alemannic the form of the indefinite article differs from that of the pronoun.

- (42) **Han ihr no an Hod?* - *Ja, mir hen no an.*
Han ihr no an Hod?. - *Ja, mir hen no oin.*
 Have you PRT a dog? - Yes, we have PRT *a/one.
 ‘Do you still have a dog? - Yes, we still have one.’

A PF-deletion account does not seem to be able to rule out the ungrammatical cases of NPE. In the particular account of SAAB and LIPTÁK (2016), it is noted at some point that adjectives cannot and do not play a role in the licensing of ellipsis, because they are specifiers and thus not in the right configuration to do so. In the current proposal adjectives would be in the right configuration, as the relevant inflectional material is in Mod°. However, Mod° can be empty or headed by the weak inflection and therefore, adjectival inflection cannot play a role in the licensing of ellipsis even though it can be said to be in the right configuration. If we look at examples (43) to (46) adjectives do seem to play a role in ellipsis. It was shown above that both the weak and the indefinite article cannot license NPE - however, when an adjective is present they can. The question to be answered is: What exactly is the role of the adjective in NPE in these particular cases?

- (43) *Der Neue Bund wird sowohl im Alten [e], wie auch im Neuen Testament erwähnt.*
 The New Covenant is both in-the old-wk [e] as also in-the New Testament mentioned.
- (44) *Da stieg ich auf den dritten und auf den vierten Baum. Beim fünften [e] spürte ich, daß (...).*
 There climbed I on the third and on the fourth tree. At-the fifth [e] felt I, that (...)
- (45) *Ich habe ein neues und ein altes Buch zum Lesen und ich blättere gerade ein wenig im neuen [e].*
 I have a ne wand an old book to read and I browse PRT a little in-the new [e].
- (46) **Liesch du grad ois vo dene nuie Biacher?* - *Ja, ds [e] do.*
Liesch du grad ois vo dene nuie Biacher? - *Ja, ds blaue [e].*
 Read you PRT one of the new books? - *Yes, the here/ Yes, the blue.

A pro-approach to German NPE

In the following, I will argue in favor of a *pro*-approach along the lines of LOBECK and KESTER. I depart from their approaches in assuming that adjectival inflection does not play a

role in the licensing of NPE. Adjectives in Alemannic can be uninflected even in elliptical DPs. W.r.t. the formal conditions allowing non-referential *pro* in elliptical constructions, I adopt the theory-neutral definition given in VAN CRAENENBROECK (2010, 167). He defines the following three requirements for the licensing and identification of *pro*:

- (47) a. *pro* has to be in a local relation with a syntactic head,
 b. this head has to have the ability to link *pro* to its antecedent,
 c. this head is marked with ‘rich’ morphology.

It is evident from these requirements that the strong article fulfills all these requirements. It is in a local relation with *pro*, it provides the relevant link to the antecedent as it provides the link to the discourse and it is also marked with ‘rich’ morphology, because it marks phi-features and case.

- (48) *Welche Tasche gefällt dir? - Mir gefällt [DP die [e]]*
 Which bag do you like? - I like [DP this.NOM.FEM.SG. [e]]
 ‘Which bag do you like? - I like this one.’

A simplified structure is given below. Since *pro* can also have a mass-noun as an antecedent (EGUREN 2010), I assume *pro* to only replace NP but not CIP.

[DP [D d [AgrP [Agr as [CIP [Cl as[NP [NP *pro*]]]]]]]]

Let us now look at the weak and the indefinite article. Both elements behave alike when it comes to NPE. They cannot license an elliptical NP unless an adjective is present as was shown above.

W.r.t. the three requirements listed in (47) both articles only fulfill them partially. They are, strictly speaking, not in a local relation with *pro*. However, locality cannot be a strict requirement within the DP, because if it was uninflected adjectives should not be able to appear in NPE. Number is the only phi-feature that must be marked obligatorily, therefore, both articles may also be said to fulfill the condition of bearing ‘rich’ morphology. The problematic point is b. Both the weak and the indefinite article do not seem to be able to link *pro* to its antecedent. The two elements are in a position that provides a link to the discourse (artP) but they cannot provide a link to the antecedent in the particular elliptical construction under discussion.

If we use the two mechanisms that are traditionally said to be independently involved in ellipsis, namely licensing and identification, *pro* is licensed as D° (and I also assume art°, as it

is a layer of the DP) is a possible licensor, but *pro* fails to be fully identified. The feature specification of the weak articles would be sufficiently rich, but the referential power is reduced and therefore they cannot provide the necessary link to the antecedent. In the case of the weak article we need a referent that is uniquely identifiable. In the examples presented we have a set of referents though and unique identifiability is not given.

This problem is solved by adding some ‘additional semantic content’ that provides information to pick out one referent of the set. This can be an adjective or an ordinal number, which is able to help to uniquely identify the antecedence out of the set given. The same holds for the indefinite article. A particular referent must be picked out, because otherwise the indefinite article cannot provide the relevant link to the antecedent. Just like in the case of the weak article, additional information is needed. This condition is thus less a syntactic but much more a semantic requirement.⁴⁵

(49) *Da stieg ich auf den dritten und auf den vierten Baum. Beim fünften spürte ich, daß ich nicht mehr weiter konnte.*

I climbed onto the third and onto the fourth tree. At-the fifth I felt, that I could not go on.

(50) *Was für a Dasch dät dir gfalla?- A rot wär schee.*

What for a bag would you like? - A red was nice.

The structure for NPE of the type discussed may look like the ones in Figure 63 and Figure 64.

As already mentioned above, the article is not really in a local relation with *pro* because of the intervening ModP, however, since Mod^o is empty, the article seems to be nevertheless able to license *pro*.

⁴⁵ LÓPEZ (2000) argues that the elements that license ellipsis must be in a position that is discourse linking. This is certainly the case for the articles in DP or artP. However, since the adjective is obligatory to provide the requirement of unique identifyability in the case of the weak definite article, we may assume that it should also be linked to the discourse even though ModP is not discourse linking. A better understanding of the interplay of weak/indefinite article and modifiers in NPE would thus be desirable.

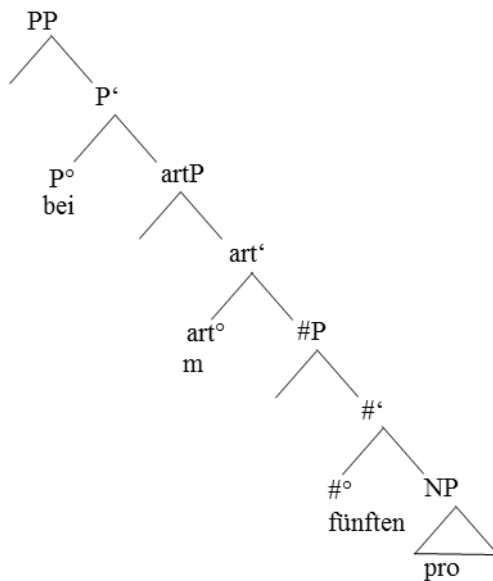


Figure 63: Suffixed weak article in NPE

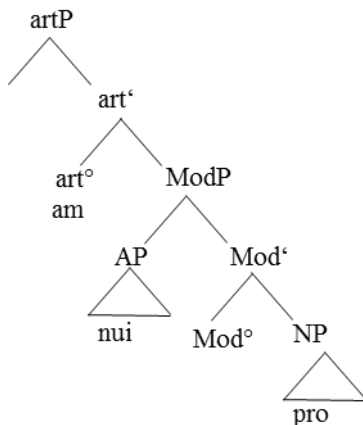


Figure 64: Indefinite article in NPE

Only pro?

It has been argued in LOBECK (1999); VAN CRAENENBROECK (2010) and also MERCHANT (2014), that languages may have both the *pro*-strategy as well as PF-deletion when it comes to ellipsis. In this section, it has been shown that adjectival inflection (or its absence) together with the weak-strong distinction of the definite article can provide a means to decide between the two available strategies. For German NPE the *pro*-approach seems to be better suited to explain the ellipsis data given in this section.

5.6 Coordinated noun phrases and uninflected adjectives

In this section, I will briefly discuss coordination. The construction I will discuss is given in (51).

(51) *Ich habe ein rotes und grünes Hemd gekauft.*

I have a red and green shirt bought.

The interesting aspect about the coordinated part is the fact that there are two interpretations available, namely i) it is just one shirt that is both red and green and ii) there are two shirts, one is red and the other one is green. This is because there is only one article realized and the reading is thus ambiguous. Such an ambiguity would of course not arise when a second article is merged.

(52) *Ich habe ein rotes und ein grünes Hemd gekauft.*

I have a red and a green shirt bought.

The question w.r.t. the coordinated part in (51) is, whether adjectival inflection on one or both adjectives has an impact on the interpretation of the DP as involving one or two referents. We tested the following combinations:

(53) a. *Ich habe ein rot-es und grün-es Hemd gekauft.*

b. *Ich habe ein rot-Ø und grün-es Hemd gekauft.*

c. *Ich habe ein rot-es und grün-Ø Hemd gekauft*

d. *Ich habe ein rot-Ø und grün-Ø Hemd gekauft.*

The results show that generally both interpretations are available but there is a preference for one of the readings depending on the inflection of the adjectives. The results are summarized in Table 47 below. The first line gives the acceptance of the sentence on the scale from 1 to 5 that was already introduced in chapter 4. The second line shows whether the participants interpreted the sentence as involving one or two shirts.

The highest acceptance receives the version with two inflected adjectives in (53) a. The preferred interpretation in this case is the one with two referents involved. The sentence in (53) b., in which only the second adjective inflects, is also well accepted. Unlike the sentence in a. the majority of the participants interpreted this version as involving only one referent. The test-sentences in which only the first adjective inflects, (53) c., shows high rejection and both interpretations are equally accepted. The sentence in (53) d., in which both adjectives are uninflected, does also not receive very high acceptance rates but they are higher than for (56) c. Despite the low acceptance the results show a clear preference for interpreting (56) d. as involving only one referent.

Uninflected adjectives and coordination						
Both adjectives inflected: ein rot-es und grün-es Hemd						
Judgement	1	2	3	4	5	x
(n=591)	46,02	23,35	10,49	2,54	4,74	12,86
Interpretation	two referents	66,5	one referent	19,12	no answer given	14,38
Only the second adjective inflected: ein rot-Ø und grün-es Hemd						
Judgement	1	2	3	4	5	x
(n=591)	27,58	21,32	14,55	9,14	11,51	15,91
Interpretation	two referents	26,57	one referent	51,27	no answer given	22,17
Only the first adjective inflected: ein rot-es und grün-Ø Hemd						
Judgement	1	2	3	4	5	x
(n=591)	9,46	11,34	14,38	16,58	31,47	16,58
Interpretation	two referents	27,07	one referent	30,46	no answer given	42,30
Both adjectives uninflected: ein rot-Ø und grün-Ø Hemd						
Judgement	1	2	3	4	5	x
(n=591)	14,04	12,01	11,34	13,71	30,29	18,61
Interpretation	two referents	21,49	one referent	39,93	no answer given	38,58

Table 47: Results for adjectival inflection in coordination in %

The differences in interpretation are not surprising when we have a closer look at the construction itself, as the difference in interpretation is reflected by a difference in syntactic structure.

Regarding the syntactic structure of coordination, the idea of a construction specific syntactic category is often pursued, e.g. in JOHANNESSEN (1998). She proposes that a Co(njunction)P(hrase) is involved in coordination that is headed by the conjunction. In a more recent approach, ZHANG (2010) rejects the idea of a ‘special’ syntactic category. She argues that the category of the coordination is always that of one of the conjuncts, to be more precise, the category is determined by the element in the specifier of the complex, which she calls external conjunct. This element in the specifier ‘shares’ its category with the structure as a whole. The element in the complement position is termed internal conjunct. The category of the internal conjunct does not have an impact of the categorial specification of the

construction as a whole. The structures proposed in the two approaches are given in Figure 65 and Figure 66.

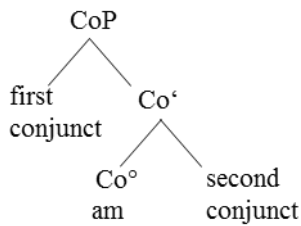


Figure 65: Coordination in JOHANNESSEN (1998, 109)

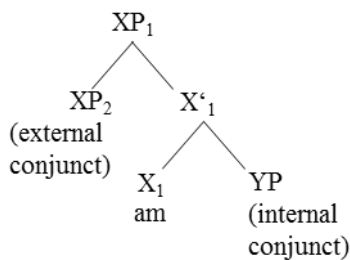


Figure 66: Coordination in ZHANG (2010, 55)

For the discussion in this short paragraph, it is not of major relevance whether one follows one or the other theory, because the aim is not to provide new insights on coordination as such. The aim is to highlight the particular impact adjectival inflection has in coordination. I will nevertheless briefly return to the issue of deciding between the two approaches above for the current purpose. The point of relevance at this point is, that a truly coordinated structure, in which two DPs are involved, also involves two referents.

- (54) a. Mary and John are going to the cinema.
 b. A red and a green shirt are lying on the floor.
 c. The man and the child are crossing the road.

Only in the particular construction in (51) above, two different interpretations are available. The coordinated part can be interpreted as involving one referent only, which means that the underlying structure cannot be that of two coordinated DPs. In order to understand the results given in Table 47, we must identify the role of the conjunction and also the role of adjectival inflection in the examples above.

The reason for the conjunction *und* to be present lies in the fact that we have two adjectives involved that belong to the same semantic class. It seems, that they cannot be stacked as is normally the case with adjectives. This restriction is also noted in BHATT (1990, 80), who

provides the example in (56) a. However, this example is only excluded because *round* and *square* are two dimensional adjectives whose properties exclude each other - if this is not the case, it is possible to combine adjectives of the same semantic class without any additional element linking them. The examples in (56) b. to e. illustrate this. The adjectives are picked following a list of adjective classes in DIXON (2004, 3f).

- | | |
|---|-----------|
| (55) # <i>Das rote grüne Hemd</i> | colour |
| The red green shirt | |
| (56) a. # <i>Der runde quadratische Tisch</i> | dimension |
| The round angular table | |
| b. <i>Der lange ovale Tisch</i> | dimension |
| The long oval table | |
| c. <i>Der große tiefe ovale See</i> | dimension |
| The big deep oval lake | |
| d. <i>Unser neuer junger Hund</i> | age |
| Our new young dog | |
| e. <i>Unser perfekter niedlicher guter Hund</i> | value |
| Our perfect cute good dog | |

Just like in the case of mass-division as argued in section 5.2.3.1, we can observe that color terms behave different. They cannot be stacked like other adjectives of one class (cf. (55)) even though it is perfectly fine for an object to be e.g. both red and green. In order to combine color-adjectives in German, they must either form a compound as in (57) a. or they must be coordinated as in (57) b. Compounding of this type is not available for other adjectival classes, illustrated in (58).

- | | |
|-----------------------------------|--|
| (57) a. <i>Das rotgrüne Hemd</i> | |
| The redgreen shirt | |
| b. <i>Das rote und grüne Hemd</i> | |
| The red and green shirt | |
| (58) # <i>Der langovale Tisch</i> | |
| The longoval table | |

The results given in Table 47 already hint at the influence of adjectival inflection w.r.t. the interpretation as a truly coordinated structure or as linking two adjectives of the color-class.

BOSQUE (2006) discusses coordinated adjectives in Spanish and I follow his assumption, that the construction involves ellipsis. This means that in fact not the adjectives are coordinated but two DPs with adjectives and one which is elliptical. The structure for the example in (51) reproduced here as (59) can roughly be represented as the one in Figure 67.

- (59) *Ich habe ein rotes und grünes Hemd gekauft.*
 I have a red and green shirt bought.

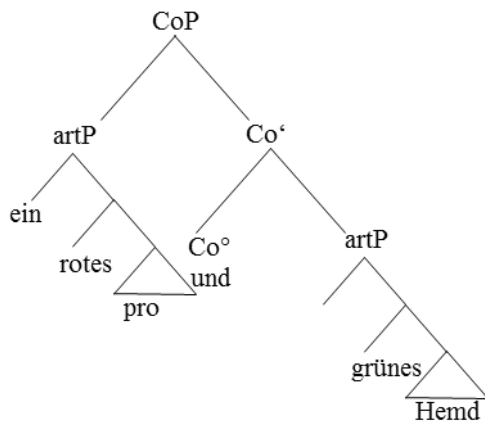


Figure 67: Coordination involving ellipsis

In chapter 4, it was shown that in the absence of an article, the adjective must inflect. For this reason, it is expected that the preferred interpretation for the coordinated structure involving two inflected adjectives, is that of two referents. This is illustrated in (60).

- (60) [_{ConP} Ein rot-es [_{NP} pro] [_{Con} und [_{DP} Ø] grün-es Hemd]].

We can of course not ignore the fact that 19,12 % of our participants interpret the sentence in (59) as involving only one referent. In this case, we do not have two coordinated DPs but two coordinated ModPs. The assumption that not two APs but two ModPs are coordinated is evident from the fact that both adjectives inflect and the inflection is assumed to head ModP. At this point, I briefly return to the question as to whether we have a particular projection (ConP) involved or not. An advantage of ZHANG'S (2010) proposal is surely that in the case of coordinated ModPs we do not have to assume that ConP has the same properties ModP normally has in the structure of the DP. Adopting her proposal, the construction as a whole is always a ModP, because the external conjunct is one. The structure for two coordinated DPs would thus look like the one in Figure 68. For two coordinated ModPs, we can assume the structure in Figure 69 to hold.

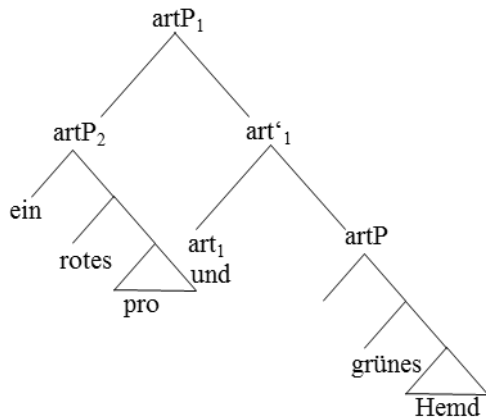


Figure 68: Coordination after Zhang's model

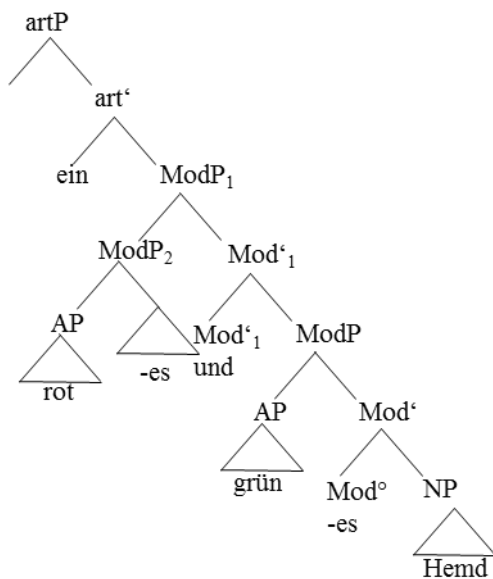


Figure 69: Coordinated ModPs after Zhang's model

Under this assumption, we might assume that the same holds for the example in which only the second adjective is inflected but not the first one as in (61).

(61) [[_{DP} Ein rot-Ø pro] [und [_{DP} Ø grün-es Hemd]]]

The structure in (61) is of course available but it does not represent the preferred interpretation. Table 47 shows that the preferred interpretation is that of only one referent (51,27 %) whereas only 26,57 % interpret the sentence as involving two referents.

I suggest that this is due to the fact that the coordination is interpreted more like a compound rather than involving two DPs. In a compound only the rightmost element can inflect.

(62) Ein rotgrün-es Hemd
 *Ein rot-esgrün-es Hemd
 *Ein rot-esgrün-Ø Hemd

In the case of coordination, the conjunction is thus interpreted more like a linking element and not as a conjunction. This is sketched in Figure 70.

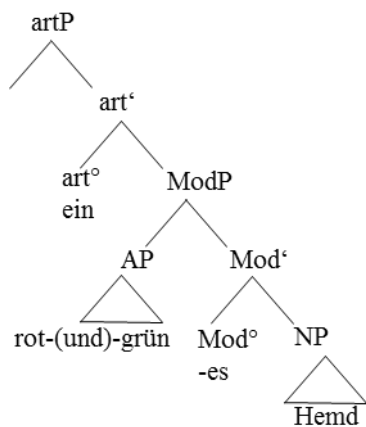


Figure 70: Two adjectives linked with ‘und’

A likely alternative analysis would be to assume that the interpretation and structure is not a compound but involves two coordinated APs. This is certainly possible but additional tests would be necessary to prove this. An option would be to check whether both adjectives can be modified independently when coordinated and still be interpreted as only one DP with one referent. Both examples in (63) sound odd to me and I am not able to give a judgement as to which interpretation might be the preferred one. A larger group of people would have to answer this question.

- (63) a. *Ein rot und sehr grünes Hemd*
 b. *Ein sehr rot und grünes Hemd*
 A (very) red and (very) green shirt.

I therefore do not commit myself to a particular analysis but at this point I assume that both, a compound-analysis and an analysis with two APs is possible. The structure for the latter is given in Figure 71, based on the category-sharing model in ZHANG.

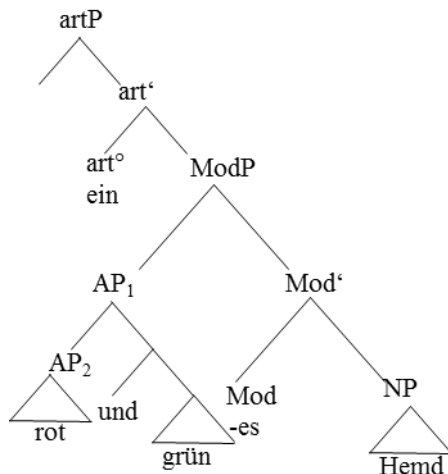


Figure 71: Coordinated APs

The same holds for the example in which both adjectives are uninflected. In this case, the coordinated adjectives behave like a regular adjective on which the inflection is dropped and the two elements are again interpreted as a compound with a linking element (cf Figure 70).

Only in the example in which the first adjective inflects but the second does not, our participants seem to be undecided and there is no clear preference for a particular interpretation. This can be explained when considering the examples in (62) above, reproduced here as (64).

- (64) Ein rotgrün-es Hemd
 *Ein rot-es-grün-es Hemd
 *Ein rot-es-grün-Ø Hemd

Since the first adjective inflects, the two cannot form a compound. The absence of an article preceding the second adjective requires it to inflect in order to get an unambiguously coordinated structure but since the second adjective is uninflected and no second article is merged, the interpretation as well as the underlying syntactic structure are unclear and therefore no clear preference for one of the readings arose.

The data thus show that adjectival inflection triggers a particular interpretation in coordination. Syntactically different structures are available and depending on the distribution of the inflection, a particular structure and interpretation is given preference.

5.7 Compared and derived adjectives

The last variable I want to discuss, is the influence of comparison on the acceptance of uninflected adjectives. We tested both adjectives in comparative (65) and superlative (66) form.

(65) *Das dunkler-(e) Brot schmeckt mir besser.*

The darker-(WK) bread tastes me better

‘I like the darker bread better.’

(66) *Der kältest-(e) Monat ist bei uns der Januar.*

The coldest-(WK) month is at us the January

‘The coldest month here is January.’

The compared adjectives are not only accepted in their uninflected form but acceptance is considerably higher compared to the results of the non-compared adjectives in chapter 4. The results are summarized in Table 48. 50 % of the definite singular examples in Nominative, that contain an adjective in comparative form, are rated with 1 and even the Oblique example receives a very high acceptance with nearly 40 % of the sentences rated with 1. The superlative form in definite singular Nominative receives an even higher acceptance as the numbers in Table 48 show. Acceptance for the plural examples is similar to the non-compared form for the definite example in nominative. Acceptance increases again though for plural in a partitive construction. The example is given in (67).

(67) *Peter ist einer von den größt-Ø in der Klasse.*

Peter is one of the tallest-Ø in the class.

‘Peter is one of the tallest in class.’

Uninflected compared adjectives						
Comparative						
Judgement	1	2	3	4	5	x
Def, Nom, Sg (n=591)	50,42	16,75	10,83	8,97	7,95	5,08
Comparative						
Judgement	1	2	3	4	5	x
Def, Obl,Sg (n=591)	37,73	10,83	11,34	15,23	20,14	4,74
Superlative						
Judgement	1	2	3	4	5	x
Def, Nom,Sg (n=1182)	62,35	12,86	8,12	6,18	6,18	4,31
Superlative						
Judgement	1	2	3	4	5	x
Def, Nom, Pl (n=1182)	25,80	14,00	14,89	14,72	22,67	8,54
Superlative						
Judgement	1	2	3	4	5	x
Partitive, Obl (n=591)	38,92	18,27	13,37	8,63	11,00	9,81

Table 48: Results for compared uninflected adjectives in %

The question that immediately arises is: What may be the cause of this clearly higher acceptance for compared uninflected adjectives?

Before giving a tentative explanation, I want to look at another variable, which has also not been considered so far, namely derivation. Our test-sentences included mono-syllabic underived adjectives but for each variable (definite, indefinite and plural) we included one derived adjective (in the case of plural, we tested two sentences with a derived adjective). Derived adjectives behave similar to the compared ones: acceptance increases compared to underived uninflected adjectives. The results are summarized in Table 49.

An example for a sentences with a derived adjective is given in (68).

(68) *Der lust-ig-(e) Junge von gegenüber geht jetzt auch in die Schule.*

The funny-ig_{ADJ}-(WK) boy from across goes now also to the school
‘The funny boy from across the road is also going to school now.’

We separately tested two non-intersective adjectives, of which both are derived. The examples are given in (69) and (70). The same effect can be observed, they also have a much higher acceptance than the underived adjectives.

(69) *Der ehemal-ig-(e) Bürgermeister kommt heute auch noch vorbei.*

The former-ig_{ADJ}-(WK) mayor comes today also PRT over.

‘The former mayor will come over today.’

(70) *Ein mutmaß-lich-(es) Mitglied von der Bande haben sie verhaftet.*

An alleged-lich_{ADJ}-(NOM.NEUT.SG.) member of the gang have they arrested

‘They have arrested an alleged member of the gang.’

Derived adjectives						
Non-intersective derived adjectives						
Judgement	1	2	3	4	5	x
Def, Nom, Sg (n=591)	64,97	19,29	7,28	3,55	1,86	3,05
Indef, Nom, Sg (n=591)	46,02	20,30	15,23	4,74	9,14	4,57
Intersective derived adjectives						
Judgement	1	2	3	4	5	x
Def, Nom, Sg (n=757)	47,29	22,85	13,08	8,06	4,62	4,10
Def, Nom, Pl (n=1034)	30,37	18,57	15,76	12,38	19,54	3,38
Indef, Nom, Sg (n=757)	29,72	22,85	19,55	9,64	12,15	6,08

Table 49: Results for uninflected derived adjectives in %

The table above shows, that both, derived and compared adjectives, are even more readily accepted in their uninflected form than their non-compared and non-derived counterparts. This is also the case for the plural examples. The only exception is the indefinite example, for which acceptance of the uninflected derived adjective is not higher than for the underived ones.

How can we interpret these results? First, we must identify if there is anything that the two types of adjectives have in common, that may lead to the higher acceptance of the uninflected form.

Derived and compared adjectives have in common that they combine with an inflectional ending that unambiguously marks them as adjective. In the case of comparison, it is the comparative or superlative inflection, because only adjectives can be compared. In the case of the derived forms, it is a derivational suffix clearly categorizing the element as an adjective.

The impact of a categorizing suffix in the above cases is surprising regarding the fact that BORER shows that adjectives are already categorized in the lexicon. An alternative analysis could be to assume a phonological explanation. However, this is highly unlikely because the endings differ in their phonological properties. The suffixes end in a velar stop (-ig, pronounced as /ɪk/), a palatal fricative (-lich /lɪç/), an alveolar stop (-st /st/) or a vowel (-er, in German pronounced as /ɐ/). Admittedly, I cannot give an analysis of the phenomenon at this point and I must leave it to future research. If more derived adjectives of different semantic classes are tested, better insights might be possible.

5.8 Summary

In section 5.4 to 5.7, I looked at three particular contexts in which uninflected adjectives are possible, namely nominal ellipsis, coordination and comparison. I showed that the Alemannic data provide evidence for a *pro*-analysis over a PF-deletion approach to nominal ellipsis in German. The reason is, that a PF-deletion approach cannot rule out certain cases that do not allow NPE, namely with weak and indefinite articles. For this reason, I argued for a *pro*-approach along the lines of LOBECK (1995) and KESTER (1996).

Regarding the examples of coordinated colour adjectives, it was shown that the distribution of uninflected adjectives in such a coordination has an impact on the interpretation when only one article is merged. The construction can involve one or two referents. I therefore suggested that the underlying structures for the preferred readings are either two artPs when both adjectives inflect or two ModPs when only one of the adjectives is inflected.

The last topic I discussed were compared and derived adjectives. The two types have in common that the acceptance of uninflected versions of these adjectives is considerably higher compared to their uncomparing or underived counterparts. A phonological explanation for this phenomenon was excluded. The driving factor might be, that in both cases the lexical element is unambiguously categorized as an adjective. However, this is a surprising factor given the categorial inflexibility of adjectives BORER (2013) illustrates (cf. section 2.3.1). At this point, no satisfactory explanation could be given for the phenomenon and I have to leave it to future research.

6 Conclusion

The goal of the dissertation was twofold: i) Providing an explanation for the occurrence of uninflected attributive adjectives in German by giving an overview of the diachronic development of this lexical element and its inflection and ii) developing a syntactic model that allows uninflected and inflected adjectives in the structure of the DP. Starting point for the investigation was the observation that in German dialects adjectives can occur uninflected in a variety of contexts.

At the beginning of the dissertation, I listed a number of questions related to the phenomenon of uninflected adjectives, which I repeat here:

- 1) Why do adjectives not always inflect?
 - a. What is the function of adjectival inflection in the diachronic development as well as current varieties of German?
- 2) Are uninflected adjectives a remnant of an earlier stage of German?
 - a. Is the phenomenon purely dialectal?
- 3) Why do adjectives inflect obligatorily in Standard German?
- 4) Do uninflected adjectives follow a particular distribution?
- 5) What do the answers to the questions above tell us about the structure of the (German) DP?

Question 1) was given an answer in the second chapter. A closer look at the diachronic development of adjectives and their inflection revealed, that the function(s) adjectival inflection used to have become superfluous once the adjective was clearly distinguished from nouns and the article-system was fully established. Before an article system was established, two functions of adjectival inflection were identified:

- It provided a first morphological distinction of noun and adjective.
- It could provide the relevant feature specification (phi-features and case) before articles took over that function.

The first of the two functions was attributed to the fact that the category adjective did probably not exist in IE and must have developed from nouns. The consequence for nominal modification is, that there must have been a change from modification in CA to attributive modification with an adjective.

The third chapter does not give an answer to question 2) yet, but it provided necessary insights that were needed in order to answer the question in chapter 4. In the further development of adjectives and their inflection, the weak paradigm, a novelty of Germanic, was introduced. This second paradigm led to a complementary distribution that was based on definiteness up to OHG. This particular distribution changed, however, and in MHG the two paradigms were distributed depending on the inflection of the preceding article.

This re-distribution of the paradigms took place parallel to the frequent marking of indefiniteness with an article. At the same time, uninflected attributive adjectives occurred more and more frequent. The reasons for these two developments to take place parallel to the marking of indefiniteness with an article was connected to two factors:

- Avoiding the double marking of phi-features and case on both the indefinite article and the adjective (this is assumed to have triggered the re-distribution of the two adjectival paradigms).
- Feature marking is realized on an article, so when an article is merged, adjectival inflection can be dropped.

Since uninflected adjectives first appeared in MHG and can also be observed in EarlNHG it could be that they are a remnant of this time that is still present in the dialects. However, in the fourth chapter, this assumption was shown not to be correct.

Question 2) to 4) are all answered in the fourth chapter because it provides the necessary data to do so. Based on the empirical study that was presented, it could be shown that uninflected adjectives have spread regarding the contexts they appear in. For this reason, they are not a remnant of an earlier stage of German but their occurrence is progressing development.

Uninflected adjectives were argued to be possible in all varieties of German. The absence of uninflected adjectives in StG was argued to be related to the process of standardization in which uninflected adjectives were successfully eliminated in the attempt to reduce variation in general. The results of the empirical study also revealed that uninflected adjectives do not follow a particular distribution, neither a morpho-syntactic nor a regional one.

The last question was addressed in chapter 5. The syntactic structure I suggested is based on BORER (2005). Following the assumption that all nouns are interpreted as mass by default and that a CIP must be projected, the challenge was to account for modified count and mass nouns. The problem was that either number morphology must head the CIP or an article. In the absence of number morphology the article cannot be based in CIP in the presence of an

adjective though. The reason is that it would have to remerge in Mod°, which is not possible because Mod° can be headed by inflectional morphology. Assuming that the article is merged higher is problematic because no element heads CIP and it is not able to determine its presence. The following structure from the introduction illustrates the problem.

[_{DP} [_D ein [_{ModP} [_{AP} klein][_{Mod} er[_{CIP}[_{CI} [_{NP} [_N Hund]]]]]]]]]

Despite these arguments, I proposed that the above structure is nevertheless correct. It was shown that ModP entails the projection of CIP because a mass-reading of nouns that are normally interpreted as count, is not available when an adjective is merged.

- (71) a. There is dog on the floor.
 b. #There is cute/big/old dog on the floor.

The possibility of substances to combine with adjectives challenges this assumption.

- (72) There is fresh milk on the floor.

However, unlike BORER I do not assume mass-division to be a simple dichotomy into mass and count but I follow the insights of GRIMM (2012) and HACHEM (2015), who argue for a fine grained notion of mass-division that is also represented in the syntax. This allows to interpret examples like the one in (72) as bounded mass that is not of a particular shape though (unlike e.g. *table* or *dog*). This also explains why the adjective inflects obligatorily and number is marked. A mass-reading means absence of CIP and therefore absence of number.

Outlook and Topics for future Research

At the end of the dissertation there are still a number of open questions and issues for future research. The focus in this dissertation was almost solely on German and the Alemannic dialect. The question that arises at the end of this work is, in what way the suggested structure can be applied to other Germanic (and also non-Germanic) languages. The suggested structure is based on the specific diachronic development of German but it should also be possible to apply it to other languages with some modifications.

Besides such cross-linguistic aspects there are also some topics w.r.t. the method and factors tested that also leave room for future research. I made some general assumptions on uninflected adjectives because of the high acceptance rates they received in the contexts we tested. However, it would also be interesting to identify the more subtle factors that sometimes lead to a higher or lower acceptance of individual sentences. It would also be

interesting to focus on phonological and semantic aspects in addition to the morpho-syntactic ones that were already tested.

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German Summary of the Dissertation

Die Dissertation befasst sich mit dem Problem der deutschen (und germanischen) Adjektivflexion mit ihren zwei Ausprägungen (stark und schwach). Die syntaktische Modellierung der Verteilung dieser zwei Paradigmen ist ein vielbeachtetes Phänomen in der Literatur. Eine Untersuchung im Alemannischen Sprachraum hat zudem ergeben, dass neben den beiden bekannten Flexionsparadigmen unflektierte attributive Adjektive eine gleichberechtigte Möglichkeit der nominalen Modifikation darstellen.

- (1) a guat-(s) Buach
ein gut-*(es) Buch
- (2) des lang-(e) Soil
das lang-*(e) Seil

Da diese Möglichkeit eine zusätzliche Herausforderung der syntaktischen Modellierung nominaler Modifikation durch Adjektive bedeutet, sind genau diese unflektierten Adjektive im Fokus der vorliegenden Arbeit. Die Möglichkeit unflektierte attributive Adjektive in Dialekten des Deutschen zu verwenden, wirft die folgenden Fragen auf, die im Verlauf der Arbeit beantwortet werden:

- 1) Warum flektieren Adjektive nicht immer?
 - a. Welche Funktion hat Adjektivflexion in der diachronen Entwicklung und in gegenwärtigen Varietäten des Deutschen?
- 2) Sind unflektierte Adjektive ein ‚Überbleibsel‘ einer früheren Sprachstufe?
 - a. Ist das Phänomen rein dialektal?
- 3) Warum ist Adjektivflexion im Standarddeutschen obligatorisch?
- 4) Folgen unflektierte Adjektive einer bestimmten Distribution?
- 5) Welche Erkenntnisse lassen sich durch die Beantwortung der oben aufgelisteten Fragen für die Struktur der (deutschen) DP ableiten?

Grob zusammengefasst, stellen sich der diachrone Verlauf und die daraus resultierende synchrone Situation in gegenwartsdeutschen Varietäten folgendermaßen dar: In indo-europäischer Zeit existierten Adjektive als eigene lexikalische Kategorie nicht. Das hatte zur Folge, dass nominale Modifikation über enge Apposition zweier Nominalphrasen und nicht über attributive Adjektive erfolgte. Eine Veränderung der morphologischen Eigenschaften bestimmter Nomen führte zu einer Veränderung in der Syntax, die dann attributive Modifikation erlaubte. Diese Veränderungen betreffen die Flexion und die Stammsuffixe. Die Flexion spielt eine wesentliche Rolle, da diese dafür sorgte, dass Nomen und Adjektive ab

einem bestimmten Zeitpunkt morphologisch unterschieden werden konnten, da diese zuvor morpho-syntaktisch identisch waren. Diese Unterscheidung ist insofern von zentraler Bedeutung, als sie dem Sprachlerner die nötige Information gibt, um diese Elemente von den anderen Nomina zu unterscheiden. Aus diesem Grund argumentiere ich dafür, dass sich Adjektive innerhalb einer DP im Spezifizierer einer Mod(ifizierer)P(hrase) befinden und dass sich im Kopf dieser ModP die relevante Flexion befindet.

Da Adjektive zu einem bestimmten Zeitpunkt eine klar vom Nomen unterschiedene Kategorie darstellen, wird diese ursprüngliche Funktion der Adjektivflexion aufgehoben. Mit dem zusätzlichen Aufkommen des definiten und indefiniten Artikels können darüber hinaus die relevanten morpho-syntaktischen Merkmale ab althochdeutscher Zeit an diesen Elementen markiert werden. In der Folge weisen Adjektive nicht länger die vormals obligatorische Flexion auf sondern können ab mittelhochdeutscher Zeit auch unflektiert auftreten. Die Bedeutung des Aufkommens der Artikel für die Adjektivflexion zeigt sich auch daran, dass parallel zu der genannten Entwicklung die beiden Flexionsparadigmen ‚umverteilt‘ werden. Bis ins Althochdeutsche richtete sich die Verteilung des starken und schwachen Flexionsparadigmas nach dem Definitheitsstatus der DP, wohingegen ab dem Mittelhochdeutschen die Verteilung der Paradigmen in Abhängigkeit von der Flexion des vorausgehenden Artikels erfolgt. Darüber hinaus, wie oben erwähnt, können Adjektive auch unflektiert auftreten.

Eine empirische Untersuchung im Alemannischen Sprachraum ergab, dass sich die Kontexte, in denen unflektierte Adjektive auftreten seit dem Mittelhochdeutschen erweitert haben und dass diese weder einer arealen noch einer bestimmten morpho-syntaktischen Verteilung folgen. Die Verwendung unflektierter Adjektive ist dabei keine spezifisch alemannische Besonderheit, sondern, wie die Literatur zeigt, ein Phänomen, das sich in Dialekten in ganz Deutschland, einschließlich norddeutscher Dialekte, findet. Diese Beobachtung deutet zunächst darauf hin, dass unflektierte attributive Adjektive ein dialektales Phänomen sind, da das Standarddeutsche diese nur in wenigen Fällen erlaubt. Es zeigt sich jedoch, dass unflektierte Adjektive in den Anfängen der normativen Grammatik durchaus als Form bekannt und auch akzeptiert waren. Jedoch wurden diese im Laufe des Standardsierungsprozesses ebenso wie Variation generell zurückgedrängt. Auf dieser Beobachtung basierend argumentiere ich, dass die zugrundeliegende syntaktische Struktur im Deutschen generell unflektierte Adjektive ermöglicht, dass diese aber als Variante im Standarddeutschen durch den Einfluss der normativen Grammatik kaum auftreten.

Um die aus dem auftreten unflektierter Adjektive resultierende Variation syntaktisch zu erfassen, argumentiere ich für eine DP-Struktur, die dem Modell von BORER (2005) folgt. Dieses erlaubt eine gewisse Flexibilität und ist daher gut geeignet. Eine entscheidende Annahme der Theorie ist, dass lexikalische Elemente unkategorisierte Wurzeln sind, deren Interpretation als z.B. Nomen oder Verb durch die funktionale Struktur bestimmt ist, unter der diese Wurzeln eingebettet sind. Eine weitere für die hier vorgeschlagene Modellierung wesentliche Annahme bezieht sich auf die Interpretation von Nomen. Diese, so BORER, werden zunächst generell als nicht zählbar interpretiert, also als sogenannte Massennomen. Die Zählbarkeit eines Nomens ist in der Syntax über die Projektion einer Cl(assifier)P(hrase) verankert. Ich erweitere und modifiziere BORERS ursprüngliche DP-Struktur, indem ich die oben erwähnte ModP oberhalb der CIP einfüge. Diese ModP impliziert die Projektion der CIP und somit Zählbarkeit - unabhängig von der Flexion, die im Mod-Kopf realisiert ist. Diese Annahme basiert auf der Beobachtung, dass eine Lesart als Massennomen von konventionell als zählbar interpretierten Nomen nicht mehr möglich ist, wenn diese durch ein Adjektiv modifiziert werden. Somit können unflektierte und flektierter Adjektive in der vorgeschlagenen Struktur integriert werden.

Die im Deutschen beobachtbare Merkmalskongruenz zwischen Artikel, Adjektiv und Nomen, z.B. in Numerus, ergibt sich daraus, dass ein ‚Merkmals-mismatch‘ innerhalb der DP nicht möglich ist - es ist aber nicht notwendig, dass Elemente, die zwischen D und N auftreten eine durchgängige Kongruenzkette bilden! Die einzigen Merkmale, die markiert sein müssen, sind Numerus und obliquer Kasus - geschieht das am Artikel, kann das Adjektiv unflektiert auftreten, geschieht das nicht am Artikel dann erfolgt die Markierung am Nomen oder Adjektiv, welche sich zu diesem Zweck zu der Position bewegen, in der diese Merkmale interpretiert werden (AgrDP oder artP). Diese Tatsache erklärt die obligatorische Flexion am Adjektiv wenn kein Artikel realisiert wird.

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Corpora and Primary Materials

Bonner Frühneuhochdeutschkorpus

Gûdrûnlieder

Muspilli

PROIEL-corpus

Wulfila-Bible

Referenzkorpus Altdeutsch

Notker: Martianus Capella

Otfrid, Evangelienbuch