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Herausgegeben von Klaus von Heusinger, Gereon Müller,
Ingo Plag, Beatrice Primus, Elisabeth Stark und Richard Wiese

Carola Trips

Lexical Semantics and Diachronic Morphology

The Development of -hood, -dom and -ship
in the History of English

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List of Abbreviations and Acronyms

A	Adjective
achiev.	achievement
B	Base
BNC	British National Corpus
BT	Bosworth & Toller
DCE	Dictionary of Contemporary English
demonstr.	demonstrative
DM	Distributed Morphology
DOE	Dictionary of Old English
dyn.	dynamic
ENE	Early Modern English
ENHG	Early New High German
F	French
GG	Genitive + Genitive
GD	Genitive + Dative
GA	Genitive + Accusative
GVS	Great Vowel Shift
IDE	Indo-European
LEME	Lexicons of Early Modern English
LF	Logical Form
l	listed
M	Meaning
+/- mat.	+/- material
ME	Middle English
MED	Middle English Dictionary
MHG	Middle High German
ML	Middle Latin
ModE	Modern English
ModG	Modern German
N	Noun
nl	not listed
NN	Noun + Noun
nonvol.	nonvolitional
ODEE	Oxford Dictionary of English Etymology
OE	Old English
OHG	Old High German
OS	Old Saxon
OTeut.	Old Teutonic
PPCEME	Penn-Helsinki Parsed Corpus of Early Modern English
PPCME2	Penn-Helsinki Parsed Corpus of Middle English 2
PG	Proto Germanic
Pl.	Plural
Sg.	Singular
T	Token
YCOE	The York-Toronto-Helsinki Parsed Corpus of Old English Prose
YCP	The York-Helsinki Parsed Corpus of Old English Poetry

1 Introduction

Ye knowe eek that in forme of speche is chaunge
With-inne a thousand yeer and wordes tho
That hadden prys now wonder nyce and straunge
Us thinketh hem: and yet they spake hem so
And spedde as wel in love as men now do.

Chaucer, Troilus and Criseyde, Prologue to Book II

It is a standard assumption of historical change that many of the morphological elements we find today are derived from originally independent words. For example, the Modern English (ModE) suffix *-hood* used to be the free morpheme *hād* ‘office, rank, status, person’ in Old English (OE) which functioned as nominal head in a syntactic phrase and could be modified by a preceding nominal genitive or an adjective:

- (1) þæt hē þær onfenge **ærcbiscopes hāde**.
 that he there received archbishop’s office

(Bede_3:21.248.11.2540)

- (2) ... Þætte Cynred Mercna cyning & Offa Eastseaxna cyning on [[_{Dat}
 that Cynred Mercians’ king and Offa Eastsaxon king in
 [munuclicum] hādum] to Rome becom, ...
 monastic rank to Rome came

(BedeHead:5.24.12.137)

On its way to becoming a bound element *hād* was used as the second element of compounds. Thus, a syntactic collocation developed into certain types of compounds (Noun + Noun and Adjective + Noun), and due to the frequent occurrence of this pattern the second element *hād* was gradually reanalysed as a derivational suffix building abstract nouns (see also Anderson 1992). This development is an instance of morphologisation, where a syntactic structure loses its syntactic properties and develops into a morphological structure. The word formation rules for derivations with the suffix *-hood* in ModE are a reflex of that syntactic structure (see Trips 2006). With his quite radical statement “Yesterday’s syntax is today’s morphology” Givón (1971) was one of the first linguists working within the framework of generative grammar to point out that the internal structure of morphological complexes derives from syntactic structure, thus clearly placing great importance to the historical development of language. The insight that the synchronic state of a language is the result of a complex interplay between universal principles and historical developments of language has only recently been established in modern linguistics. If language is surveyed from this point of view, phenomena of language change can provide cues to the internal structure of language systems and contribute to develop an adequate theory of linguistic structure.

Surprisingly, in the field of generative morphology this insight has been neglected for a long time (much longer than in the fields of phonology, syntax and semantics). The questions and problems that have received the most attention in generative morphology in the

last years are what formal realisations must be assumed for morphological categories (morphemes, words), which constructs have to be assumed in a morphological module and if and to what extent these constructs interact with each other (Borer 1988, Roeper 1988, Toman 1988, Anderson 1992, Lieber 1992, Borer 1998, Plag 1999, Bauer 2001, Ackema & Neeleman 2001). As noted above, these questions and problems were predominantly explored from a purely synchronic perspective. From a diachronic perspective, the focus lies on the following questions: what happens to morphology through time, or more explicitly, what can change in the morphological component, where does morphology come from, which are the factors triggering change in the morphology? Although diachronic word-formation has a long tradition in the study of English and a number of traditional studies exist (see Martin 1906, Koziol 1972, Carr 1939, Jespersen 1942, Kastovsky 1976, Kastovsky 1982, Bammesberger 1984, Kastovsky 1992, Sauer 1992, Faiß 1992), not much attention has been paid to the diachronic study of word-formation so far. The studies cited here predominantly survey some aspects or some isolated phenomena of word-formation or merely list types of word-formation without giving a detailed description and analysis of the development of these types (Sauer is the exception here). What does not exist is a current, comprehensive study of English word-formation from a diachronic and synchronic perspective within the generative framework. The only comprehensive, synchronic study of word-formation that considers the diachronic perspective in some respects is Marchand's (1969) excellent work *Categories and types of present-day English word-formation*. Since it surveys compounding and derivation under both the synchronic and the diachronic perspective, it also considers the development of suffixes discussed above. Marchand is one of the few authors who explicitly deals with this development, albeit only briefly.

According to Marchand there are two ways in which a suffix may come into existence: 1) the suffix was once an independent word but no longer is one; 2) the suffix has originated as such, which usually is a result of secretion. In English, most of the native suffixes building abstract nouns developed from free morphemes into derivational suffixes via a stage where these elements acted as heads in compounds. The process of this development is illustrated here with OE *hād* (Proto-Germanic (henceforth PG) **haidu-z*), Middle English (ME) *hōd* and ModE *-hood*:

- | | | | | | |
|-----|---------------|---|---------------------|---|-----------------------|
| (3) | free morpheme | → | compound | → | derivative |
| | OE <i>hād</i> | | ME <i>child hōd</i> | | ModE <i>childhood</i> |

This process presents a situation where an autonomous word gradually develops into a bound word with the function of deriving words. It has been assumed (e.g. Ramat 2001) that these elements gain grammatical character, and thus fall under Meillet's (1912: 131) definition of grammaticalisation: "[...] l'attribution du caractère grammatical à un mot jadis autonome". The question then is how the grammatical character of a derivational suffix can be defined and whether this development falls under the same kind of grammaticalisation process that results in grammatical forms like, e.g., clitics. In more general terms, the question is whether this process is a case of grammaticalisation in Meillet's terms or whether it has to be defined differently. In the wealth of literature on grammaticalisation (see e.g. Hopper 1991, Traugott & Heine 1991, Pagliuca 1994, Lehmann 1995 Hopper & Traugott 2003) it has also been claimed that derivational affixes are different from grammatical affixes because they have a function on the word-level only. Hopper & Traugott (2003: 58) suggest that the development of suffixes is an instance of lexicalisation because "the effect seems to be primarily on the lex-

icon, not the grammar, [...]”. Before we can decide whether the development of suffixes is a process of grammaticalisation, lexicalisation, or other, we need to understand the difference between grammatical and lexical categories. According to Lehmann (2002: 14), “lexical” (category) refers to having a specific, concrete meaning. In contrast, “grammatical” (category) refers to having an abstract, functional meaning. According to these definitions *green*, *ball* and *house* are lexical items because they have lexical content and describe things, actions, and qualities. This term refers to word classes such as the main lexical categories noun, verb, adjective and adverb, which are also an open class because new words can be added. In contrast, *the of* and *it* are grammatical items because they have the function to indicate relationships between words, to link sentences, and to indicate whether entities in a discourse have already been identified. This term refers to word classes like auxiliaries, prepositions, conjunctions, determiners and pronouns. They are also called closed-class items because they consist of finite sets of words which can be exhaustively listed, and they do not admit new members. Although this distinction appears to be clear-cut at first sight, it is sometimes not so clear where to draw a boundary, or whether there is a boundary at all. In Government & Binding theory for example, prepositions are lexical, in theories of grammaticalisation they are grammatical. Moreover, the class of prepositions does not seem to be homogeneous, some prepositions appear to be more lexical/grammatical than others (*of* is grammatical: *The painting of the artist*, *with* is more lexical: *I am writing with a pen*). Although sometimes it is not clear whether an element belongs to the class of grammatical or lexical items, a distinction with respect to meaning and function makes sense nevertheless, because it cannot be denied that some elements are (more) grammatical and others (more) lexical. Therefore, it seems to be justified to draw a distinction between processes of grammaticalisation and lexicalisation. If we try to assign the development of derivational suffixes to either one of these processes, we find, as noted above, that in the literature there is no agreement. According to Ramat (1992: 558f) the development of Old High German (OHG) *haidus* into Middle High German (MHG) *-heit* is a “fine example of grammaticalisation” just like the development of OE *dōm* into ModE *-dom*. In line with Ramat, Hopper & Traugott (1993: 130f) cite ModE *-hood*, *-dom*, *-ly* as examples of reanalysis which lead to the creation of new, productive affixes and claim that French *-ment* is a “straightforward instance of grammaticalisation” because a new grammatical formative develops from a formerly autonomous word. The assumption that derivational affixes are grammatical formatives is problematic, and the problem arises from the formal distinction made between category-changing and non category-changing suffixes that leaves aside the semantic properties of these elements. It will be shown in chapters 4 and 6 that it is exactly the semantics that has to be taken into account to gain an adequate analysis of this development. There are also a number of authors who assume this development to be an instance of lexicalisation. Lehmann (1989: 12) for example notes that the development of OHG *haidus* into MHG *-heit* is the development of “ein ehemaliges Lexem zum Derivationsaffix” and therefore a case of lexicalisation. Blank (2001a: 1602) sees OE *hād* ‘state of N’ into ME *-hood* ‘collectivity of individuals in state of N’, and late Latin *mente* ‘in that manner (ablative)’ into French (F) *-ment* as instances of lexicalisation because new affixes develop that may become productive in derivational processes. According to Brinton & Traugott (2005: 32), the development of derivational suffixes includes the processes of compounding and the process of derivation. Since both processes are ordinary processes of word-formation they can be subsumed under lexicalisation because new lexical items come into being. At this point, we are confronted with another problem, namely the definition of lexicalisation. In the

literature, the definitions of this process are far from clear and often incompatible because the process is seen both from a synchronic and diachronic perspective. What is more, even within the diachronic perspective incompatible definitions can be found, depending on the field of linguistics (word-formation or grammaticalisation) that has dealt with this phenomenon (see also Brinton & Traugott 2005: 20f). Synchronically, lexicalisation refers to the coding of conceptual categories (Talmy 2000, Jackendoff 2002). Diachronically, we find intuitive definitions where the term refers to adoption into the lexicon: “[...] a process by which new linguistic entities, be it simple or complex words or just new senses, become conventionalized on the level of the lexicon” (Blank 2001b: 1603) or “In a simple way of speaking, we may say that grammaticalisation pushes a sign into the grammar, while lexicalisation pushes it into the lexicon.” (Lehmann 2004: 13). Another type of definition stresses the result of this process, namely that a lexicalised form can no longer be accounted for by regular grammatical rules: “[...] a lexeme takes on a form which it could not have if it had arisen by the application of productive rules” (Bauer 2002: 48). What these definitions nevertheless have in common are the following aspects: 1. they define a process by which elements become permanently incorporated into the mental lexicon of speakers, 2. the process they define affects elements which have the properties of lexical items (see above), 3. the process they define may result in idiosyncrasies at least on the phonological, morphological and semantic level. In the following, I will use the term lexicalisation defined on the basis of exactly these three aspects, i.e., whenever I claim that an element is lexicalised it has the property that it is part of the mental lexicon, that it is a lexical item and that it is prone to idiosyncrasy. Coming back to the definitions given above, and to their assignment to the development of suffixes, we need to consider two processes: the process of compounding and the process of derivation. It was noted above, that Brinton & Traugott (2005: 32) both processes are ordinary processes of word-formation which can be subsumed under lexicalisation because new lexical items come into being. This definition comes closest to Blank’s and Lehmann’s definitions the latter of which clearly states where the outcome of the process is located. Since derivational suffixes, at least those investigated here, develop from lexemes and hence reach the status of a new lexeme used to form new words, they are part of the lexicon and result from lexicalisation. What has also been shown in the literature on grammaticalisation and lexicalisation is that they have a number of factors in common like e.g. morphologisation/fusion, reanalysis, coalescence, and metonymisation (Lehmann 2004, Brinton & Traugott 2005). The development illustrated with the examples in (1) and (2) and described in (3) shows a stage of fusion or morphologisation. The outcome of the development is an element that can be used to build new word-formations. A prerequisite for this process is the repeated use of syntactic constructions that gradually turn into morphological complexes losing lexical autonomy. In our case it is the frequent use of a modifying noun or an adjective with a head noun that leads to morphologisation. Although it has been noted that suffixes come into being via this process, there is no empirical study investigating this process in the history of English. Moreover, processes of grammaticalisation and lexicalisation have so far predominantly been explored by looking at structural changes, often completely ignoring the semantic aspects of these developments. Since lexical units bear meaning, and since meaning is a substantial part of words and of the speaker’s use of words, it is plausible to assume that the semantic change of word meaning will shed light on the pathways of grammaticalisation and lexicalisation. Hence, the investigation of the development of suffixes presents a field of study where a number of crucial questions for morphological theory arise: 1. What is the structural and semantic dif-

ference between compounds and derivations? 2. What is the trigger for the development from free morpheme to bound morpheme? 3. Is the lexical-semantics of these elements responsible for this development? 4. How can lexical units (simplexes and complexes) be adequately described in a lexical-semantic framework by taking into account the diachronic perspective? 5. Is this development an instance of grammaticalisation or lexicalisation, or does it show that this distinction is not needed? The aim of this book is to describe and analyse the development of suffixes building abstract nouns in Modern English to gain new insights into these questions. We will explore the nature of morphological complexes, especially the difference between compounds and derivations and we will see that frequency and productivity play an important role in defining and demarcating both types of word-formations. It will also be shown that it is the semantics that allows elements to develop into suffixes, i.e., it is the trigger for this change. A lexical-semantic approach accounting for this change is needed and will be introduced in this book.

The organisation of the book is as follows: Chapter 2 presents a discussion of criteria found in the literature to define compounds and derivatives (suffixes). This discussion will serve to obtain a number of formal and semantic criteria (those criteria that have been discussed most prominently in the literature) that will be used to determine the status of *-hood*, *-dom* and *-ship* during their development from free to bound morpheme. Since frequency and productivity are phenomena also playing a role in word-formation and hence also in the development of elements of word-formation, in chapter 3 both phenomena will be discussed from a synchronic and diachronic perspective, and a criterion (relating to productivity) to demarcate compounding from derivation will be proposed. In chapter 4 the criteria obtained in chapter 2 and 3 will be applied to the data. More precisely, the development of *-hood*, *-dom* and *-ship* will be traced through the several stages of English by conducting an empirical investigation with the largest annotated diachronic corpora available at present, for Old English, Middle English, Early Modern English and Modern English. The process of morphologisation will reveal that syntactic phrases have properties different from morphological phrases, that word-formation is not a part of syntax and hence a lexical account is needed to adequately analyse this process (see also Trips 2006). Chapter 5 deals with the so-called rivalry of suffixes. A semantic analysis will be presented for the nominal and adjectival bases occurring with the three suffixes and it will be shown that the alleged rivalry of these formations in ModE can be explained with the diachrony of the once free elements. Based on the findings from chapter 4 and 5, chapter 6 presents a lexical-semantic analysis (based on Lieber, 2004) of the suffixes and formations with these suffixes by taking into account the diachronic perspective. Hence, my analysis presents a new account of the lexical semantics of morphological complexes. Chapter 8 summarises my findings and draws a final conclusion.

2 The development of suffixes

2.1 Introduction

In this chapter I will give an overview of the literature dealing with the development of suffixes. Although there is a wealth of literature on the classification of morphological elements like words, morphemes, compounds, suffixes and the like there is not much to be found that describes the development of these elements from a diachronic perspective. Thus, the linguist trying to investigate this matter is almost completely left alone. Whereas nineteenth-century linguistics with its mainly historical orientation paid quite a lot of attention to morphological issues, they are almost absent in the literature on current morphology. This matter reflects the status morphology has as a field of research in modern linguistics. The question of why morphology is neglected will not be discussed here, but the reader should keep this in mind in the following, because this fact bears on the organisation of this chapter. First, traditional nineteenth-century works on morphology will be discussed before these observations will be compared with those found in the current literature. In this way, I hope to attain a formal and semantic description of the development of suffixes and of the several stages of this development, that will serve as a tool to describe the diachronic data in chapter 4.

2.1.1 From free to bound morpheme

One of the few linguists who dealt with the development of suffixes explicitly is Hermann Paul (1995). In his famous *Prinzipien der Sprachgeschichte* he devotes a whole chapter to the development of word formation and inflection (chapter 19). Although his work dates from 1880 and reflects the traditional nineteenth century framework, many of his observations are still valid and the reader is sometimes surprised by his modern (structuralist) assumptions. This also applies to his insights into the development of suffixes and that is why his observations will be discussed here.

First, Paul notes when investigating the development of new word-formations and inflections that there are three ways in which “etymologische Wortgruppen” (etymological word groups), as he calls them, can develop from single words that stand in no relation with each other. One is, according to Paul, the “normal” development of all form, compounding. He notes that this type of word formation is very common in the Indo-European languages and claims that compounds develop “durchgängig aus der syntaktischen Aneinanderreihung ursprünglich selbständiger Elemente” (1995: 326) (from syntactic concatenation of originally independent elements). There are many patterns of compounding, e.g., the combination of the genitive with the governing noun as in German *Hungersnot* ‘famine’, or the combination of the attributive adjective with the noun as in German *Edelmann* ‘noble man’. Paul further assumes that the transition from a syntactic entity to a compound is gradual and that therefore no strict, clear-cut demarcations can be observed. In the following Paul tries to define some factors to distinguish between a syntactic entity and a compound. He claims that a prerequisite for this development is the interpretation of the underlying syntactic entity of a com-

pound as a uniform concept meaning that the determinant has only a non-referential, generic, interpretation and not a referential one as is the case with syntactic phrases. Here, Paul mentions a semantic criterion that is also used in modern classifications (see Meyer 1993, Demske 2001). He illustrates this criterion with the comparison of the compound *Mannesmut* ('man's-courage') and the syntactic entity *des Mannes Mut*. In the former case *Mannes* can only have a non-referential interpretation whereas in the latter case it has a referential interpretation, emphasised by the definite article *des*. Another criterion more crucial for the development (he actually calls it "das eigentlich Entscheidende für die Entstehung eines Kompositums") is isolation. Paul claims that the development depends on the fact that the element as a whole has to be isolated in some way compared to the elements it is composed of. The level of isolation needed for compounds to develop cannot be defined in general terms. However, it seems to be clear that isolation of meaning as well as isolation of form are relevant here. In the following Paul deals with the process of isolation during which compounds are built. The first step is that the syntactic entity gains a meaning that is different from the meaning of the single elements it is composed of. We could say that the Principle of Semantic Compositionality (or Frege's Principle¹) is violated. The result is that the single elements as such are not recognised any more which also affects the form of the entity. In this way the entity becomes isolated semantically and formally (the latter includes phonological and syntactic aspects). As concerns syntactic isolation, Paul observes that as soon as the syntactic entity is isolated to a certain degree it does not allow inflection "in the middle of the entity" any more (what he means here is that the first element of the compound must not be inflected any more). Further, he observes that at this stage new words can be built in analogy to the pattern the compound shows (one example would be German *Hausfrau* ('house-wife') built in analogy to *Hausmann* ('house-man'); see also below). With respect to semantic isolation Paul discusses syntactic phrases where the head noun is preceded by an adjectival, genitival or other attribute. He notes that the conjunction of attribute and noun gains a richer and more specific meaning than the elements in isolation, i.e., in a syntactic phrase. Here, one salient meaning of the attribute semantically defines the whole element and thus does not show all the meanings it has in a syntactic phrase. Paul gives a plethora of examples, one being French *man age* which denotes a certain period of time (era) but this specific meaning is not contained in the attribute as such (compare German *Mittelalter* or English *Middle Ages*). If we further trace the development of compounds evoked by syntactic isolation we observe that with respect to the pattern Noun_{genitive} + Noun this development only takes place when the genitive precedes the head noun. Paul claims that isolation does not occur with post-nominal genitives since in this case inflection would occur word-internally. Moreover, he notes that this pattern exhibits the same stress pattern as real compounds² (to illustrate this point he gives the Old High German (OHG) *táges stèrro = tágostèrro*, as opposed to *stèrro des táges* "day star"). This would be another formal criterion on the prosodic level. Another observation of Paul that might serve as a further structural criterion is the use of the article in these constructions. He mentions that in older stages like OHG we frequently find the Noun_{genitive} + Noun construction without an article, and he claims that this construction served as a pattern for new constructions of the same type. As concerns the construction Adjective + Noun Paul claims that at least for German the uninflected use of the adjective paved the way for the fusion of adjective

¹ In the literature, it has been noted that it is not so clear that the principle can be attributed to him. For a thorough discussion see Pelletier (2001) and (2004).

² Paul refers to the IDE. type of Noun + Noun compound.

and noun. He illustrates this with examples like Middle High German (MHG) (*ein edel man* “(a) noble man” (if this applies also to the corresponding forms in OE will be investigated in chapter 4) and suggests that a number of Adjective + Noun compounds developed in this way and served then as pattern for analogical formations. This pattern became so productive that Adjective + Noun compounds were even built in those constructions where the adjective still showed an inflectional ending (e.g., *Langeweile* “boredom”, *Blindekuh* “blind man’s bluff”).

In § 238 Paul discusses phonological changes resulting in isolation. He observes that those changes separating the compound from the simplex word also separate different compounds with the same simplex (as first or second element) as part of the compound which results in the fact that the simplexes the compound is composed of lose their autonomy. Unfortunately, he does not give examples here. Another aspect that is crucial for this development is according to Paul the fact that one of the elements disappears as simplex (e.g., the OHG noun *gumo* occurring in *Bräutigam* (‘groom’) has disappeared). As noted above, the operation of analogy can also be assumed in the development of suffixes. At the stage where the syntactic entity has become isolated due to the semantic and formal criteria discussed above we can speak of compounds. And it is at this stage that compounds may serve to build analogical forms under the condition that the compound pattern is productive. Paul (1995: 346) expresses this point as follows: “Die Lebendigkeit des Gefühls für die Komposition zeigt sich besonders in der Fähigkeit eines Kompositums, als Muster für Analogiebildungen zu dienen.” He claims that many of the nominal compounds are built in analogy, evidence of this assumption would be the genitive *-s* inserted in compounds like *Regierungsrat* (‘government-councillor’) that originally do not have it (the grammatical genitive form is *der Regierung Rat*). Paul describes the last stage of the development as follows:

Wird die Grenze überschritten, bis zu welcher das Kompositum dem Sprachgefühl noch als solches erscheint, so macht das Gebilde, von den eventuellen Flexionsendungen abgesehen, entweder den Eindruck vollkommener Einfachheit oder den einer mit einem Suffix oder Präfix gebildeten Ableitung. (Paul 1995: 346, §239)

Here, words that once were compounds like *Wimper* (OHG *wint-brawa*, ‘eyelash’) are analysed as simplexes by the speaker³, and the final syllable in words like *Nachbar* (MHG *nachgebur*, ‘neighbour’) is analysed as a derivational ending as *-ung* in *Rechnung* (‘bill’). Paul states

Hier sind wir beim Ursprunge der Ableitungssuffixe und Präfixe angelangt. Dieselben entstehen anfänglich stets so, dass ein Kompositionsglied die Fühlung mit dem ursprünglich identischen einfachen Worte verliert. (Paul 1995: 347, §240)

What this means is that in our case the head of the compound cannot be identified as the original simplex word it once was (e.g., ME *-hōd* in *kinghōd* is no longer identified as the free morpheme *hād*). According to Paul, this is a necessary condition for suffixes to develop. Another condition is that the other element, the determinant, can still be etymologically associated with other related words. Further, the “suffix” has to occur in many words and always with the same meaning. If these two conditions hold then new words can be formed according to this pattern.

Paul (1995: 347) suggests another crucial condition affecting the meaning of the “suffix”:

³ In the literature, former morphological complexes that are analysed as simplexes due to their semantic and phonological opaqueness are also called obscured compounds (“verdunkelte Komposita” in German), see e.g. Faiß 1978.

Es muss dann aber drittens noch die Bedeutung des betreffenden Kompositionsgliedes entweder schon im Simplex eine gewisse abstrakte Allgemeinheit haben (wie Wesen, Eigenschaft, Tun) oder sich innerhalb der Komposition aus der individuelleren, sinnlicheren des Simplex entwickeln.

Thus, the abstract meaning of the head noun is an important aspect in this development. Paul cites the PG **skauniz haiduz* 'schöne Eigenschaft' ('beautiful property') that developed into OHG *sconheit* 'Schönheit' ('beauty'). The head noun *haiduz* disappeared as simplex and could in virtue of its abstract meaning develop into a suffix.

Paul further notes that as soon as words are formed in analogy that could not exist as compounds there is evidence that the second element has turned into a suffix. Thus, words like *fruchtbar* ('fertile') or *wunderbar* ('splendid') still show the original meaning of *-bar* ('tragend, bringend' ('bearing')); the same is true of the OE cognate). But in *magetbære* "jungfräulich" ('maiden') or *meienbære* "zum Mai gehörig" ('belonging to May') the connection to this original meaning has been lost. Paul (1995: 348) notes

Vollends entschieden ist der Suffixcharakter, wenn die Analogie zum Hinübergreifen in ganz andere Sphären führt wie in *vereinbar* [...], die nur als Ableitungen aus *vereinen* [...] gefasst werden können.

What he means by "ganz andere Sphären" (completely different spheres) is that at this stage the suffix can take bases of categories other than nominal ones. In the case of the suffix *-bar* we originally find only nominal bases, or better, a nominal determinant. As soon as the second element *bar* has developed into a suffix verbal bases appear. In general, Paul claims that the "nominal derivation" is the starting point in the development of suffixes and that derivations with verbal bases of the same suffix are a diagnostics for its status as a suffix.

Concluding, Paul observes that there is a correlation between the rise of new suffixes and the demise of old ones. He defines the latter ones as those that no longer build new formations. The explanation for this correlation is determined by the need to substitute the old suffix (weakened in form and meaning) for the new one that is characterised by a full form and clear meaning. Schema 2.1 (p. 10) presents a summary of Paul's semantic and formal criteria:

Messing (1917a and b) also discusses some interesting aspects of the development of suffixes. In his study on the German suffix *-schaft* (cognate of ModE *-ship*) he presents some interesting observations pertaining to the development of this suffix. In line with Paul's assumptions he postulates the following prerequisite for the development of a suffix:

Die ältesten *scaf*-Zusammensetzungen müssen, wenn in ihnen *-scaf* nomen actionis sein soll, zurückgehen auf syntaktische Verbindungen mit "schaffen", die als Einheit empfunden, daher substantiviert werden können. (Messing 1917a: 189)

This implies that the occurrence of syntactic constructions with *schaffen* ('create') as verb and a preceding noun is a prerequisite for the occurrence of compounds of the type Noun + *-scaf*. He further stresses this point by noting

Läßt sich zu mehreren *-scaf*. Zuss. noch die entsprechende syntaktische Verbindung nachweisen, so ist auch da, wo nur das Kompositum belegt ist, das *Ansetzen* einer entsprechenden Verbindung berechtigt, ja notwendig, um das Auftreten der Analogie zu klären. (Messing 1917a: 189)

Thus, even if only the compound is proven to exist for some combinations, the occurrence of the syntactic constructions in the other combinations suffices to assume that this is the

Underlying syntactic entity		
Prerequisite: underlying syntactic entity of compound has a uniform concept (determining element has a non-referential interpretation)		
↓		
Compound		
Semantic criteria	Formal criteria	
	Phonological	Syntactic
Isolation • Violation of Principle of Semantic Compositionality • Salient meaning of attribute	Isolation • Syntactic phrase and Noun + Noun compound • Same stress pattern	Isolation • Loss of inflection • Omission of article • Analogical formations • Simplex disappears
↓		
Suffix		
• Abstract meaning	• Loss of relation to free element	• Simplex cannot be identified as such • Determinant is still etymologically associated with other related words • Occurrence of “suffix” in many words • Other categories as bases

Table 2.1: *Formal and semantic criteria in the development of suffixes (Paul: 1880)*

first stage of the development of the suffix *-schaft*. He illustrates this assumption with the OHG compound *wini-scaf* (OE *wine-scipe*) with the meaning ‘Freundschaftung’ (literally ‘friend making’) and the coexisting syntactic construction *sich einen (zum) Freund machen* (‘to make friends’) evidence of which is the existence of OHG *wini-scaffender*. The same applies to compounds like OHG *vriuntscaf* (OE *frēond-scipe*) ‘friendship’ or *bruoderscaf* (OE *brōðorscipe*) ‘brotherhood’. Messing’s observation describes the beginning of the development of suffixes like *-schaft*, OE *-scip* and others, and therefore seems to serve as a further formal criterion. In chapter 4.4 we will come back to his study.

In her paper “Zur Typologie der Suffixentstehung” Stein (1981) presents a typological classification of French, English and German on the basis of the development of suffixes. She uses Coseriu’s theory of word-formation the terminology of which unfortunately is more than confusing and not very helpful. She also notes that although the development of suffixes is mentioned in several works on word-formation it is hardly ever discussed comprehensively. For English she notes that there are three different types of the development of suffixes: 1. formations like *dolldom* developed from a “spezifische Komposition” (specific composition) into a “generische Komposition” (generic composition). What is referred to here is the development whereby the composition of two bases develop into a composition of one true base as first element and one element that cannot be identified with an existing base in the language; 2. formations like *falsehood* developed from a “spezifische Komposition” into a “Entwicklung” (development). What is meant with the term “Entwicklung” is that during the process of formation the category of the input is changed (from adjective to noun in this case); 3. for-

mations like *beggardom* developed from a “spezifische Komposition” into a “Modifikation” (modification). The term “Modifikation” defines a homogeneous process since the category of the input is not changed (*beggar* is a noun and so in the whole formation *beggardom*). Apart from the aforementioned fact the terminology lacks clarity and is confusing, e.g., it is entirely unclear why *dolldom* exhibits a development different from *beggardom*: both have a noun as first element and *-dom* as second element, and both are non-category changing. Moreover, the typology is predominantly based on formal aspects like categories, lexemes, etc. However, as will be shown in this book, it is the semantics that predominantly determines the development of suffixes.

In his invaluable work Sauer (1992) discusses the rise of nominal compounds in Early Middle English (EME). He notes that two crucial questions have to be answered: 1. which criteria do we find to demarcate syntactic phrases from (nominal) compounds; 2. what is the relation between compounding and affixation. With respect to the latter point he notes that both processes show similarities and that is why it is so hard to demarcate them from each other. This applies to the development of those suffixes arising from elements that were used as second elements in (nominal) compounds (e.g., *-ful*, *-dom* etc.). As concerns the former point Sauer states that in ModE it is not easy to determine whether a complex form is a (nominal) compound or a syntactic phrase (showing the same elements), and this uncertainty is reflected in inconsistent stress patterns and spelling variants. This point is also reflected in the theoretical literature, because we find highly diverse assumptions on this aspect. The only property assumed consistently for compounds is the property of being isolated somehow as opposed to syntactic phrases. Criteria found in the literature to determine isolation are spelling, stress, morphological shape, morpho-syntactic and semantic structure (see also above) but it has turned out that none of these criteria alone serves to describe and determine (nominal) compounds adequately. In the next section on the nature of compounds Sauer’s assumptions on these criteria will be discussed in detail.

Although Paul is the only one thoroughly describing the development of suffixes there is, as mentioned above, a plethora of literature on the nature of compounding and suffixation. In order to attain a list of criteria for the analysis of the diachronic data as extensive as possible, these works will be discussed in the following before a final list of these criteria is suggested.

2.1.2 The nature of compounds

Jespersen (1942: 134f) provisionally defines compounds as “a combination of two or more words to function as one word, as a unit”. Citing Brugmann (1900) he notes that isolation, which could be defined as “a difference in sense from that held by a free combination of the same elements”, has always been considered as being one crucial semantic factor. He claims, however, that it would be better to have a formal criterion too, a good candidate of which would be the occurrence/non-occurrence of inflection. Jespersen gives the following Old English examples:

- (1) a. *heahfæder* ‘high father’
- b. *heahne fæder* ‘high_{Acc} father’

The a. example has the status of a compound because the element as a whole shows accusative case whereas the b. example has the status of a phrase since the adjectival modifier shows the

accusative case ending *-ne*. He further notes that this criterion can of course not be applied to ModE which is illustrated with (2):

- (2) a. blackbird
b. black bird

Another criterion Jespersen considers is stress. According to Bloomfield (1935) stress can well define compounds because “wherever we hear lesser or least stress upon a word which would always show stress in a phrase, we describe it as a compound-member”. Thus, *ice-cream* with primary stress on the first noun and secondary stress on the second noun (level-stress in Bloomfield’s terms) is a compound whereas *ice cream* with primary stress on the first and second element is a phrase, although there is no difference in meaning (and therefore, meaning cannot be a criterion). Jespersen notes that this assumption is problematic, however, because many such combinations which have always been attributed to the class of compounds would have to be refused like *stone wall*. Moreover, sometimes two nouns can be combined with different stress patterns but then differences in meaning are observed:

- (3) a. glass-case (level-stress; ‘to keep a glass in’)
b. glass case (primary stress on first and second element; ‘made of glass’)
(Bauer 2002: 103)

This implies that, on the one hand, stress is not a clear-cut criterion and that, on the other hand, meaning plays a role here. Jespersen concludes that formal criteria (like stress and inflection) fail to define compounds - at least in ModE – and that we have to take into consideration semantics. He suggests that we can speak of a compound “if the meaning of the whole cannot be logically deduced from the meaning of the elements separately” (1942: 137). The question then is why speakers prefer to use compounds instead of free syntactic combinations of the same elements. Jespersen claims that the merit of compounds lies in their conciseness (e.g., *a railway-company* as opposed to syntactic phrases, e.g., ‘a company running a railway’). Further, compounds express a relation between two objects or notions but it is not at all clear what that relation is. It must be inferred from the context and thus leaves room for many different interpretations. If they become established in the vocabulary of a language they lose their polysemous status. These elements build a class of unproductive compounds as opposed to productive ones that still have the semantic capacity of being interpreted in different ways.

Another work that must be mentioned here is Marchand (1969). In his book *The categories and types of Present-Day English Word-Formation* he gives the following definition for a compound: “When two or more words are combined into a morphological unit on the basis of a determinant/determinatum relation we speak of a compound” (1969: 11). He assumes that the principle of compounding arises from “the natural human tendency to see a thing identical with another one already existing and at the same time different from it”. He illustrates his assumption with the example *steamboat* where the identity is expressed by the determinatum *boat* and the difference by the determinant *steam*. For him, linguistic elements on the basis of a determinant/determinatum relationship are syntagmas and as such they should also be defined in grammatical terms. Thus, grammatically speaking, the determinatum is the element which is dominant because it can stand for the whole syntagma. This relation is the “morphologic structure” of a compound based on the syntagmatic pattern “determinatum determined by determinant” (Marchand 1969: 54). In line with the “sentential source hypothesis” of word-formation (Lees 1960) Marchand claims that composites,

being syntagmas, must be explainable from an underlying sentence whose syntactic relations they reflect. He calls this underlying grammatical relationship “grammatical deep structure”. Thus, the word combination *dining room* is explainable from the sentence ‘(we) dine in the room’. The underlying grammatical relationship assumed here is closely tied up with its semantics, i.e., the syntactic relations between elements like predicate-object, subject-predicate are largely predicted by the semantic content of the constituent morphemes. Here, types of reference and selectional patterns of information come into play. In compounds with a verbal element like *apple eater* the underlying sentence ‘(we) eat apples’ with the grammatical parts of the sentence subject, object, verb) are known and therefore each type of reference indicates which part of the sentence functions as determinatum of the compound. Compounds lacking a verbal element can have two types of underlying sentences, the copulative sentence (“A is B” where A is the subject and B the predicative) and the rectional sentence (which contains a verb that governs the other element by the principle of rection). Although this classification seems to be clear-cut and seems to cover all possible cases, Marchand notes that

[...] these descriptions are not complete. The semantic element of the compound [...] must also be stated, insofar as they are typical. The semantic additions clearly lie outside the syntactic structure expressed by the underlying verbal nexus and the information concerning the type of reference states only that one definite part of the sentence becomes the determinatum of the compound. The specific lexical meaning of the compound is embedded in neither and must therefore be explained from the compound at its surface level.⁴

Apart from the morphological structure, the grammatical deep structure and the reference type of compounds, Marchand also discusses the criterion of stress. He argues against Jespersen’s assumptions and claims that stress should be maintained as a criterion, but only for certain types of compounds. Here, the condition that the compound be morphologically isolated from a parallel syntactic group has to be fulfilled. Thus, the morphophonemic stress pattern in *bláckbird* signals morphological isolation whereas the double stress in *bláck márk-ét* signals phrasal status. In these cases stress is a criterion according to Marchand. However, he admits that there are exceptions, e.g., compounds with participles as second element like *mán-máde*. They must be considered compounds because their first elements could syntactically never act as modifiers. The same applies to the type *grass green*. In these cases, the grammatical conditions seem to overrule the prosodic conditions.

Marchand further assumes that the morphological status of all Noun + Noun compounds is established by the morphophonemic stress pattern (Marchand also calls it forestress), and this pattern is tied up with the semantic structure underlying a compound (the copulative and the rectional type). Examples like *stóne wáll*, on the other hand, show a syntactic phenomenon which Marchand calls transposition, because in these cases “any substantive may be used to determine another substantive, thereby being transposed from the position of head [...] to that of modifier [...]”. With respect to this type he further notes that the grammatical relation between A and B, where B is the underlying subject and A is the underlying predicate, determines the nature of the composition as two-stressed syntactic group. This assumption also explains why Noun + Noun compounds with morphophonemic stress all have rival types in two-stressed syntactic combinations. Hence, special semantic relations between two elements A and B determine its permanent lexical relation whereas a mere syntactic relation is expressed in two-stressed syntactic groups. A *súmmer-hòuse* is not just a house inhabited in

⁴ This assumption is also discussed in, e.g., Fanselow (1981).

the summer time but also a house with special properties (style, construction) that make it suitable for inhabiting in summer. A *súmmer résidence* is just somebody's residence in the summer, nothing more. For Marchand, this implies that as soon as one substantive is determined by another denoting time or space the whole element has to be defined as syntactic group.

Finally, Marchand claims that another, external, factor that determines forestress in Noun + Noun compounds is frequency. He suggests that second elements occurring quite frequently give compound character to combinations with such words (*milkman, policeman, postman*). Forestress of these compounds is due to implicit contrast, so the examples with *-man* as second element given here show primary stress on the first element to distinguish the combination from others of the same series.

From Marchand's clear distinction between true Noun + Noun compounds and two-stressed syntactic phrases it could be concluded that stress is indeed criterial. Lutstorf (1960: 154) makes another distinction between compounds with different stress patterns. He calls those with main stress on the first element "fast compounds" and those with double stress "loose compounds". However, he comes to the conclusion that

there is now a large, and probably growing, class of compounds that have no fixed stress pattern. In all such cases it depends entirely on the speaker's judgement whether he prefers to regard a compound as loose or fast.

Faiß (1978) agrees with Lutstorf that stress is not criterial and lists three criteria to define compounds (where the head is a noun): First, in line with the sentential-source hypothesis he assumes that underlying determiners must be deleted at surface structure. This is illustrated with the following example:

- (4) a. we draw the bridge
 b. draw bridge vs. *drawthebridge (Faiß 1978: 24)

Second, independent of the stress pattern, modifications pertaining to the surface structure refer to the whole compound AB and not only to one part (A or B):

- (5) a thick [bláck bird] (Faiß 1978: 24)

So the adjectival modifier *thick* in (5) refers to the whole compound *blackbird* and not only to one of its parts *black* or *bird*. Therefore, modifying adverbs are not allowed:

- (6) a. *an extremely bláck bírd (compound)
 b. an extremely bláck bírd (sentence) (Faiß 1978: 24)

The third criterion Faiß suggests is a semantic restriction that could be described as a higher level of specificity compounds have as opposed to syntactic phrases. Thus, the *White House* is not merely a white house in the general sense but a specific building in Washington, and the *black market* not a black market in the general, original sense. This higher grade of specificity does not allow adverbial modification as shown in (5). Moreover, syntactic consequences arise because it does not permit substitution of one modifier for the other: *black* in *black market* cannot be substituted for *common* etc. without changing the meaning of the whole complex (and also its status as compound). This, however, is clearly possible in syntactic phrases. This criterion could also be explained with semantic compositionality: in the cases

listed by Faiß it is not possible to define the meaning of the whole compound by defining the meaning of its parts. It also seems to be clear that processes typical of semantic change like metaphorisation and metonymisation play a crucial role. We will come back to this point in chapter 5. Faiß concludes that if these criteria are met then the complex is a nominal compound, if not, then it is a syntactic phrase.

Apart from defining criteria for compounds, Faiß (1978: 28) also tries to give a classification. He distinguishes several reference types:

1. subject type: example *shipowner* ‘s.o. owns a ship.’
2. predication type: example *sunrise* ‘The sun rises.’
3. object type: example *drawbridge* ‘s.o. draws the bridge.’
4. adverbial complement type: example *whetstone* ‘we whet with this stone.’ (here instrumental)

It should be kept in mind that this classification is based on the assumption that compounds are derived transformationally from sentences. Although this assumption is outdated in several respects it may still give some insights into the nature of compounds. Therefore, we will come back to this classification in chapter 4.

In line with Faiß, Bauer (2002) notes that in the literature there has been much debate whether stress can really be seen as a criterion to define compounds. The assumption underlying Marchand’s (and others’) classification is that a given speaker will be consistent in assigning a stress pattern to a given compound. That is, it is assumed that a speaker who uses compounds like *tea cup* or *headmaster* with a certain stress pattern on one occasion will also do so on other occasions. Moreover, it is further assumed that this consistency is found not only in the individual speaker but in an entire speech community. Finally, the assumption that stress is criterial is based on another assumption, namely the pronunciation of the compound in isolation. If it is embedded in an utterance, it is likely to exhibit different stress patterns for a number of reasons. First, Bauer mentions contrast (as Marchand actually also does). So, in compounds like *únderwriter* and *úndertaker* we find primary stress on the first syllable. However, in a sentence like

- (7) *Are we talking about the undertákers or underwriters now?*
(Bauer 2002: 103)

stress is likely to be on the second elements, *taker* and *writer* to emphasise the contrast. Moreover, it can be observed that there is a stress shift in compounds of the type Adjective + Noun depending on whether the adjective is used attributively or predicatively. Thus, the adjective in the examples below changes its stress pattern:

- (8) a. *She was wearing a péacock blue dress.*
b. *Her dress was péacock blúe.* (Bauer 2002: 103)

Apart from these observations, it has been shown by a number of studies that speakers, either in actual use or in experiments, are not consistent in assigning stress to compounds. Speakers pronounce the same compound with different stress patterns on different occasions, and,

moreover, there is disagreement with respect to the “right” stress pattern of compounds between speakers of a speech community. What has been said so far considerably weakens the assumption that stress is a criterion. In the following, it will be shown that according to Bauer single and double stressed compounds cannot be distinguished from one another, nor is there a semantic difference between these types of compounds that could function as a criterion here. To illustrate this let us look at the following examples from Bauer:

- (9) a. *bánkrate*.
b. *bánk hóliday*.
- (10) a. *gárden party*.
b. *gárden cítý*.
- (11) a. *stríp-show*.
b. *stríp póker*. (Bauer 2002: 104)

Contra Marchand, Bauer assumes that both the a. and the b. examples are compounds, because they behave alike with respect to the following criteria: a) positional mobility, b) interruptibility, c) internal stability⁵. This is shown with the following examples:

a) Positional mobility

- (12) a. *The wíng commánder saw the stríp-show*.
b. *The stríp-show was seen by the wíng commánder*.

b) Uninterruptability

- (13) a. *líbrary book* vs. **líbrary boring book*.
b. *cítý óffice* vs. **cítý big óffice*.

c) Internal stability

- (14) a. *ármchair* (order AB), *cháir-arm* (order BA).
b. *gárden cítý* (order AB), *cítý gárden* (order BA).

Therefore, he concludes that stress is not a criterion for distinguishing between compounds and syntactic phrases, and that there are single stressed and double stressed compounds the latter of which present a subgroup of compounds and show a lexically conditioned stress pattern.

As mentioned above, Sauer (1992) is a comprehensive description, classification and analysis of compounds in EME. Since his work is also diachronic in nature he discusses differences between the classification of ModE compounds and OE and ME compounds. One of the criteria proposed to determine the status of compounds is stress as we have seen above. This is a criterion that can be dealt with (more or less satisfyingly) in ModE but it is sometimes quite hard to do so with diachronic data. How problematic this classification is can be seen in the Oxford English Dictionary (OED) and the Middle English Dictionary (MED):

⁵ These criteria are standardly assumed to judge the wordness of an item; according to Marchand the a. examples would have to behave more word-like than the b. examples.

compounds either occur as main entry (only few cases) or they occur subsumed under the entry of the first or second element (most cases). Apart from linguistic criteria the criterion of frequency of occurrence is taken to decide whether a compound appears with its own entry or not. According to Sauer, it is not always clear which criterion is decisive, and sometimes even different classifications are found for the same element in the OED and MED. Moreover, it is not clear when an element is classified as “compound” or as “compounds and combinations” or “compounds and phrases”. Especially in the OED we find a general classification of the first elements as attributes implying that the complex elements are not compounds but syntactic phrases. Sauer notes that the criteria proposed in the literature have to be applied to the diachronic data to gain a more consistent picture of these elements in OE and ME. The first criterion he discusses is spelling. For ModE we find many inconsistencies, and that is why this criterion has the weakest force to determine compound status. This applies to OE and ME to an even higher degree: Although we find spelling in separate words, sometimes it is hard to decide whether a scribe wrote two elements as one or not since the spacing between words or letters was not very regular at that time. And although the hyphen is an element known by OE scribes it is not used very often. Moreover, the criteria to separate words from each other were different from today: in a number of studies it was found that writing was determined by prosodic criteria like stress. In his study, Sauer found different tendencies (not rigid rules) showing that spelling, more precise the separation of words from each other, was not regular in OE and ME times and that therefore spelling is not a criterion that can be applied to determine the status of compounds in OE and ME.

Apart from spelling, Sauer discusses stress as a further criterion. As concerns stress in OE and ME he notes that theoretically matters are more straightforward since it can be assumed that most types of nominal compounds showed compound stress (primary stress on the first element). He gives the following reasons for this assumption:

1. Clear evidence for phrasal stress in nominal compositions is available only as late as ENE
2. In OE and ME a number of completely lexicalised compounds started to arise; the second element lost secondary stress and was phonologically reduced
3. In his study on four ME alliterating poetic texts, Tamson (1898) has shown that almost all nominal compounds showed compound stress

Although a number of studies have also shown that compounds sometimes show primary stress on both elements (especially in alliterating poetry) they still have the status of compounds. In general the criterion of stress is hard to determine for diachronic data and is therefore one that is less important in defining compounds.

Apart from these criteria Sauer (1992: 75) discusses a morpho-syntactic criterion also mentioned above, the criterion of loss of inflection, or as he calls it “nicht flektiertes Erstelement” (non-inflected first element). He notes that this criterion is crucial for the type Adjective + Noun and Noun + Noun to distinguish between syntactic phrases like OE *mid wildum deorum* ‘with wild animals’ or *þære wiccan craft* ‘the witch craft’ and compounds like OE *mid wilddeorum* or *se wiccecraft* (just as it is in Modern German (ModG) to distinguish between *Wildwasser* ‘wild water’ and *wildes Wasser* etc.). Due to the well-known loss of inflection in the history of English this criterion only holds for ME to a limited degree. This applies also

to the criterion of agreement, in Sauer's terms "Bezug von Artikel, Pronomina und Adjektiven". Thus, a case like *þine nesche childes limes* shows agreement between the modifiers *þine*, *nesche* and the complex *childes limes* and has to be analysed as compound with the meaning 'our limbs which are tender like a child's limbs' (and not 'the limbs of your tender children'). In some texts, like *Layamon's Brut* we find deviations between different hands that are reflexes of the OE article declination. Thus, in the C hand *bi þere sæ brimme* 'by the sea shore' would have to be a syntactic phrase since *þere* agrees with and refers to *sæ*, whereas in the O hand *bi þan see brimme* the article *þan* agrees with *brimme*. These deviations could also well show the transitional stage during which syntactic phrases develop into compounds (especially since they occur quite frequently).

Coming back to the example *þine nesche childes limes* we find a Noun + Noun complex that shows the genitival ending *-es* on the first noun. Since it is a morphological inflection marking genitive case we would have to assume that complexes like *childes limes* are syntactic phrases where *-es* still has a grammatical function. However, we have also seen above that the modifiers only agree with the second part of *childes limes* and that semantically they refer to *limes*. Thus, when interpreting these elements it is crucial to distinguish between syntactic phrase and compound. Sauer notes that for most cases in OE and ME the genitival relation between the first noun (with *-(e)s* ending) and the second noun holds, and therefore the *-(e)s* element has to be analysed as genitive morpheme⁶. Due to the breakdown of the inflectional system in EME complexes where the first element shows an *-e* ending occur that could be the original inflectional element, a gender marker or a kind of linking morpheme. Sauer notes that these cases are hard to determine. We will come back to this problem in chapter 4.

Finally, Sauer deals with semantic criteria to determine the status of compounds. In line with Paul (1995), Jespersen (1942) and Marchand (1969) he states that a compound is semantically isolated, it shows a lack of semantic compositionality. For him, semantic isolation is tantamount to lexicalisation or idiomatisation. One example would be the EME syntactic phrase *leof mon dear man*⁷ and the compound *leof-mon* with a lexicalised meaning 'lover'. As with the other criteria discussed above, Sauer states that this criterion cannot in general serve to distinguish syntactic phrases from compounds for the following reasons: 1. semantic isolation is gradual, and often it is not clear when semantic isolation starts; 2. there are compounds that are not semantically isolated (e.g., EME *chirche-song*); 3. there are also semantically isolated syntactic phrases (e.g., EME *witte-sunnedai* 'Whitsunday'). Sauer concludes that compounding is a complex phenomenon that can only adequately be described if a number of criteria from all levels of language are taken into consideration (see also Kastovsky 1982, Lipka 1983).

Plag (2003b) defines a compound as a modifier-head structure where the head is the most important unit modified by the other member of the compound. What we have so far defined as the relation between determinatum and determinant is defined here in more modern terms under Williams' (1981b) Right-hand head rule:

- (15) In morphology we define the head of a morphologically complex word to be the right-hand member of that word. (Williams 1981b: 248)

⁶ There are some exceptions like *almes-mon* 'bedesman' where the *-s* is part of the base.

⁷ Sauer notes that in OE sermons we often find *leofe men* 'dear folks' with a transparent semantic meaning.