Philosophische Fakultät
Anglistisches Seminar
Anglistik IV

-ISH / ISH:
ASPECTS OF A SUFFIX TURNED FREE MORPHEME

INAUGURALDISSERTATION
zur Erlangung des akademischen Grades eines Doktors
der Philosophie der Universität Mannheim

Tabea Harris

Dekan der philosophischen Fakultät:	Prof. Dr. Philipp Gassert
Erstgutachterin:	Prof. Dr. Carola Trips (Universität Mannheim)
Zweitgutachter:	Prof. Dr. Jürgen Pafel (Universität Stuttgart)
Tag der Disputation:	25.05.2020

Acknowledgements

A dissertation is an elaborate and long-lasting project that takes patience and dedication. As such, it is not possible to successfully write one without the generous help of others. My heartfelt gratitude goes out to all persons involved, but first and foremost I would like to thank Prof. Dr. Carola Trips for inspiring me to write this thesis. Already as a student I found the topics offered at her department the most interesting and I stayed with diachrony over the course of my studies. After presenting my master's thesis in one of her courses, she asked me whether I wanted to expand on the topic. This was the inception of a very intense but rewarding journey in which I have learned and developed both professionally and personally. I profoundly thank Carola for her guidance and encouragement, the professional opportunities she created and the long talks we had about my project.

I would like to thank Prof. Dr. Jürgen Pafel for readily lending me his expertise in semantics and providing the time and a positive atmosphere to discuss my work. His helpful questions allowed me to approach the subject with a new set of eyes, especially concerning the lexical semantics of the suffix, with which I struggled at the time.

I express my sincere gratitude to my colleagues and the participants of our weekly colloquium Michael Percillier, Juliane Elter and Lena Kaltenbach as well as the reading group for their valuable comments and interest in my topic. I would like to especially thank Mareike Keller who taught me a great deal about life, linguistics and teaching and who has become a dear friend. I thank Petra Urban for her emotional support during the writing process.

I thank my family and friends who have contributed to this work in myriad ways. I give special thanks to Daniela Kuschel for her support and friendship, the joint writing phases and lunch breaks and particularly her help in the final stages.

With my whole heart I thank my husband John. Without your loving support and patience I would have never been able to complete this work. You have been my anchor and solid rock this entire time, continuously encouraged me and helped me focus. Thank you for your love.

I thank God for the guidance He has given me throughout this project.

Abstract

The topic of the dissertation is the Germanic morpheme *-ish / Ish*, which forms adjectives and attaches to a variety of base words in its bound form (*-ish*). Recently, it has detached from host words, now also occurring as a free morpheme (*Ish*). The suffix is a cognate to German *-isch* and is recorded in the English language since Old English. These three aspects of *-ish / Ish* motivate a tripartite distinction of the thesis which investigates them with respect to the following questions: 1) How did the suffix *-ish* develop historically and how has its semantics changed to account for its present-day polysemy? 2a.) How has it developed into a free morpheme *Ish* and how can that development be described? 2b.) What is the status of the independent morpheme? 3a) Which position does the suffix take in a cohort of other adjective-forming English suffixes, and in which respects to the German counterparts of these suffixes differ? Can they be described as rivals?

These questions guide the three parts of the thesis and they are based on several basic hypotheses. First, in early work suffixes have been analysed with respect to their function of transposition into other word classes, but recent work has recognised their semantic contribution to their base words. In order to show that suffixes have meaning, a lexical-semantic analysis is conducted which bases the development of the suffix with different bases on a diachronic corpus analysis. The analysis shows how the suffix gradually develops meaning components which explains its present-day polysemy. In doing so, a novel lexical-semantic feature is proposed, which serves to complement and extend work by Lieber (2004, 2007, 2016b).

Second, the development of the free morpheme is shown to be gradual by classifying its properties on the basis of a corpus analysis. It has been described in the literature with respect to two opposing processes, grammaticalisation and degrammaticalisation and the present investigation points to the latter. Connected to the process is the question of their status and grammaticalisation is frequently considered the process of emergence of discourse markers. Their properties and functions are contrasted with the comparable elements of hedges and the identified properties of *Ish* align it more convincingly with the latter.

Third, similar adjective-forming suffixes are frequently described as rivals which are in competition with each other and which share a common meaning. I show that the previously identified lexical-semantic feature can also be felicitously applied to the English and German comparative suffixes, which highlights their subtle meaning differences and which identifies semantic niches for each, despite some overlap. A comparative corpus analysis sheds light on their respective frequencies and distribution.

TABLE OF CONTENTS

LIST OF TABLES

List of Figures

List of Abbreviations and Acronyms

ADJ	Adjective
ADV	Adverb
BNC	British National Corpus
COCA	Corpus of Contemporary American English
Cosmas II	Corpus Search, Management and Analysis System II
CQP	Corpus Query Processor
CP	Complementiser phrase
DelTCS	Delineation Tolerant, Classical, Strict
DeReKo	Deutsches Referenzkorpus
Det	Determiner
DM	Discourse Marker
DWDS	Digitales Wörterbuch der deutschen Sprache
+/-dyn	+/-dynamic
EME	Early Modern English
eOE	early Old English
F	false
fem	feminine
GEN	genitive
GloWbE	Corpus of Global Web-based English
lat.	Latin
LSF	Lexical Semantic Framework
masc	masculine
+/-mat	+/-material
ME	Middle English
MED	Middle English Dictionary
N	Noun
NP	noun phrase
Num	Numeral
OE	Old English
OED	Oxford English Dictionary
ON	Old Norse
P	Productivity in the narrow sense
PDE	Present-day English
PIE	Proto-Indo-European
pl	plural
PN	Proper name
POS	Part of speech
PP	prepositional phrase
PPCME-2	Penn-Helsinki Parsed Corpus of Middle English 2
PPCEME	Penn-Helsinki Parsed Corpus of Early Modern English
PPCMBE	Penn-Helsinki Parsed Corpus of Modern British English
+/-SA	+/-symmetric association
sg	singular
T	true
TCS	Tolerant, Classical, Strict
V	Verb
VP	verb phrase
YCOE	York-Toronto-Helsinki Parsed Corpus of Old English Prose

PART I

1 Introduction

This thesis is concerned with various aspects of a small element in the English language, the suffix *-ish*, which has existed already in Old English, has a German cognate *-isch*, and which recently developed into the free morpheme *Ish*. The titular aspects concern a) the morphological and semantic development of the suffix from its earliest recorded point of existence to the present day, b) how it evolved from a bound to a free morpheme and the status of this new independent morpheme, and c) the suffix's relationship to several semantically related suffixes in both German and English. These three aspects form the backbone of this work, involve several points of interrelation and are centred around this Germanic morpheme. In addition, they motivate the organisation of the thesis into three parts. I will pursue the central topic with the aim of comprehensively analysing the development and semantics of the suffix *-ish*, providing an account for the free morpheme *Ish*, both in terms of emergence and status, and finally, comparatively investigate the frequencies and semantic contribution of three English and German suffixes each, whose selection is motivated by their treatment in Bauer, Lieber and Plag (2013).

For a long time a view prevailed in the literature that suffixes do not contribute much (or anything) to the bases they attach to but merely transpose words into a different category (e.g. Marchand 1969, Schmidt 1987, Beard 1995). More recent work has countered this claim with detailed investigations into the nature of suffixes and their meaning, both synchronically and diachronically (e.g. Lieber 2004, Trips 2009, among others). What emerged from studies such as these is that suffixes are polysemous which can also be explained by their historical trajectory. It is certainly not the case that suffixes only transpose, if it were so, we could not explain why sometimes the word class does not change, but in forming a complex word, the meaning of the derivative is different to the simplex base (e.g. *tall*$_{\text{ADJ}}$ – *tallish*$_{\text{ADJ}}$), why there are several adjective-forming suffixes which create derivatives with different meanings even though the base remains the same (e.g. *mannish* vs *manlike*, *kindisch* 'childish' vs *kindlich* 'childlike'), or why certain bases are acceptable for some suffixes (*kinglike*$_{\text{ADJ}}$, *kingly*$_{\text{ADJ}}$) but not with others (**kingish*$_{\text{ADJ}}$). While these and other questions have been synchronically addressed with respect

to several suffixes in Lieber (2004) and diachronically with respect to nominalising suffixes in Trips (2009), there is no comprehensive formal study on the lexical semantics of adjective-forming suffixes yet, which are mentioned only in passing in Lieber (2004, 2007). Adjectives generally remain all but marginal in other publications on lexical semantics, whose focus rests mainly on verbs (e.g. Jackendoff 1983, 1990) and nouns (e.g. Pustejovsky 1995). Further, while there is extensive work on the formal semantics of adjectives in general and the vagueness adjectives introduce in particular (e.g. Kamp 1975, Klein 1980, Kennedy and McNally 2005, Kennedy 2007, Burnett 2017, to name but a few), these works analyse the positive or comparative form of simplex adjectives, but have not yet directed their attention to a formal treatment of complex adjectives or word-formation more generally. With the present work I attempt to fill this gap and after introducing the formal and semantic nature of suffixes and adjectives in chapter 2 and reviewing several theoretical accounts to lexical semantics and lexical decomposition in particular in chapter 3, I provide a lexical-semantic analysis for the diachronic development of *-ish* in chapter 4, which is connected to a corpus analysis for all stages of English, from its earliest stage of Old English to the current stage of Present-day English. The corpus analysis will assess the quantitative dimension of the suffix over time and as such it will incorporate questions of frequency and productivity.

The development from a suffix to a free morpheme is rare and only a few cases have hitherto been attested and discussed in some detail (e.g. *-ism* > *ism*/*isms*, *-ology* > *ology*/*ologies*, cf. Ramat 1992). The emergence of the free morpheme *Ish* is relatively recent and has received some attention with respect to individual properties, e.g. semantics in Bochnak and Csipak (2014) or (de-)grammaticalisation in Duncan (2015) and Norde (2009, 2010). However, no detailed study exists which discusses all of *Ish*'s properties, which is what I will do in chapter 5. The data for this study stem from a corpus, which will allow us to further delineate the trajectory from suffix to free morpheme. What is more, conflicting assumptions exist about the emergence of the free morpheme, with grammaticalisation being one avenue and degrammaticalisation the other. However, these paths of development are construed as moving in different directions and cannot possibly both be true at the same time. In order to shed light on this question, I will discuss both processes of change in detail in chapter 6 which will highlight the different assumptions underlying the nature of grammaticalisation (e.g. work by Lehmann and work by Traugott) as well as bringing to the fore the insightful conception of degrammaticalisation as instantiated by Norde (2009, 2010). Chapter 6 will further shed light on the status of *Ish*, whose function of tentativeness makes it similar to elements frequently described as discourse markers. A discussion of these markers is intrinsically linked to their emergence which is predominantly

described as due to grammaticalisation. Thus, if the functions and path of development of such elements can be convincingly attributed to *Ish*, we can establish it as a discourse marker. If such an analysis proves questionable, a different approach is required. This is found in elements which exhibit some similarity to discourse markers and which are sometimes subsumed under them: Hedges. It will be shown that *Ish* can convincingly be described as a hedge by pointing mainly, but not exclusively to the morpheme's semantic contribution, which is a central point of departure from discourse markers. In the second part of chapter 6, I will thus introduce the study of hedges and analyse their properties. In the ensuing discussion, I will offer my own suggestion for classifying discourse markers and hedges, the latter of which are not considered a subgroup of the former.

Lastly, I will extend my lexical-semantic analysis of English *-ish* to comparatively analyse the semantic contribution of three English suffixes (*-ish*, *-like*, *-esque*) and their corresponding German counterparts (*-isch*, *-lich*, *-esk*), which forms the topic of chapter 7. The lexical-semantic analysis will complement the descriptive analysis of these suffixes and both qualitative analyses form a counterpart to the quantitative analysis which sheds light on frequency and discusses productivity. We will see that Lieber's lexical-semantic model is not only suitable for tracing the semantic development of an individual adjective-forming suffix (*-ish*), but it can also provide valuable insights into the nature of a cohort of suffixes which have been hitherto simply described as rivals which are similar in meaning (e.g. Bauer, Lieber and Plag 2013). In addition, it allows us to show that it is an adequate model cross-linguistically with respect to English and German, an analysis which has not yet been undertaken.

In brief, the dissertation is located at the interfaces of morphology and semantics, synchrony and diachrony, quantitative and qualitative analyses, descriptive and empirical approaches and relies heavily on the methodology of corpus linguistics in the empirical parts of chapters 4, 5, and 7. The present thesis seeks to contribute to linguistic theory by descriptively and thoroughly analysing the path of development of the suffix *-ish*, by filling the gap in lexical-semantic work in conducting a diachronic analysis on adjective-forming *-ish* and a synchronic comparative analysis of several adjective-forming suffixes. Further, it suggests a classification for hedges as compared to discourse markers and thereby attempts to disentangle the various conceptions of each. Lastly, it sheds light on issues that appear when comparatively analysing two very different corpora in chapter 7 and discusses the strategies undertaken to overcome these difficulties with a spirit of transparency.

2 Formal and semantic aspects of the suffix *-ish*

2.1 Introduction

In the literature on suffixation and related matters we find a wealth of works dealing with various derivational affixes, e.g. nominalisations in general (e.g. Chomsky 1970, Roy and Soare 2011, Lieber 2016), nominalisations in *-er* (e.g. Levin and Rappaport Hovav 1988; Ryder 1999), *-ee* (e.g. Barker 1998, Lieber 2004, Mühleisen 2010), *-hood*, and *-dom* (Trips 2009), *-ship* (Aronoff and Cho 2001, Trips 2009), *-ity* and *-ness* (Arndt-Lappe 2014), verb-forming *-ise* (Plag 1999), adjectival *-al*, *-ic* and *-y* (Isitt 1983), *-ed* adjectives (Beard 1976), to name but a few. The list is far from exhaustive. A number of works have had an interest rather on the diachronic perspective (e.g. Bongetta 2003 on *-dom;* Ciszek 2005, 2006 on *-schip*(*e*), Lloyd 2007 on *-age*, Trips 2009 on *-hood*, *-dom*, and *-ship*). Thorough encyclopedic treatments of derivation in general and suffixation specifically can be found in Marchand (1969), Bauer, Lieber and Plag (2013), and Dixon (2014).

Interest in *-ish* has been marginal so far and apart from being mentioned on a par with similar adjective-forming suffixes, it has seldomly been discussed on its own. Notable references include Dalton-Puffer (1996) with a brief Middle English treatment, Morris (2009) on the meaning of *-ish*, Ciszek (2012, 2013) with a focus on Middle English and the productivity of the suffix, Sugawara (2012) on the semantics of *-ish*, Traugott and Trousdale (2013) with a brief construction morphological approach, Bochnak and Csipak (2014) who focus on a degree semantics approach and Harris (2020) with a delineation semantics treatment of the semantics of *-ish*.

The following section is divided into two parts which put a focus on formal and semantic aspects, respectively. This binary treatment follows from the comprehensive word-formational reference work of Bauer et al. (2013) in which the authors have shown the merits of such an approach. I do not claim that these two aspects are distinct from each other which might be assumed from their separate treatment. On the contrary, formal and semantic aspects are frequently intertwined and inform each other. I have chosen this method of appearance in order to avoid a cluttered representation of the aspects involved in word-formation in general and derivation with *-ish* in particular.

The formal treatment of *-ish* consists of a general discussion of the properties of suffixation (section 2.2.1), the development of suffixes in section 2.2.2 as well as other word-formational processes relevant for the following corpus analytic discussion of *-ish*, which are briefly considered in section 2.2.3. The discussion continues with semantic aspects of *-ish* adjectives in

section 2.3 with a special focus on two general types of these adjectives (ethnic and non-ethnic, a distinction which will become especially relevant with respect to *-ish* adjectives, see section 2.3.1) and their frequently mentioned link to negative aspects of meaning (section 2.3.2). The chapter is concluded in section 2.3.3 with a discussion of the properties of vagueness that is especially prevalent in adjectives. This section will introduce general semantic types of adjectives frequently discussed in the literature and several approaches that have dealt with vagueness in language. Of the approaches discussed one is located at the semantic level (degree semantics), and two are situated at the interface of semantics and pragmatics (pragmatic halos, delineation semantics).

2.2 Formal aspects

This section commences with the formal treatment of *-ish*, starting first with a brief positioning of derivation in the larger morphological field of word-formation. The first subsection will focus on formal properties of suffixation for obvious reasons. Suffixation as a sub-process of derivation is said to be more prolific than its counterpart prefixation (cf. Bauer 1988: 19). After discussing the origins of suffixes, the section will briefly look at other word-formational processes to complete the formal picture of *-ish*.

Although superficially, words like *citizenry* and *citizens* indicate what seems to be the same conceptual structure in that both are formed by adding an affix to the base and both denote a notion of plurality, there is a chief difference between the two (cf. Marchand 1969: 209). The former involves the process of derivation and pertains to lexical meaning, forming a semantic class of words with the meaning 'group, collectivity of X', whereas the latter is an inflectional suffix indicating the grammatical category 'plural' (cf. Marchand 1969: 209). With derivational suffixes, new lexemes can be derived, frequently changing the word class[1] and the semantic core meaning. Inflectional suffixes like plural *-s* on the other hand do not form new lexemes but provide information about the grammatical function of a word. Consequently, the former would be listed in a dictionary while the latter would not.

1 Note that this is not true for our example of [[*citizen*$_N$]*ry*$_N$]. If *-ery* is accepted as a variant of *-ry*, we do find deverbal forms however: [[*brew*$_V$]*ery*$_N$], which denotes a location. It is rather the norm than an exception that derivatives are polysemous, so these meaning nuances are not surprising.

2.2.1 Suffixation

In morphological theory, "[w]ord-formation is that branch of the science of language which studies the patterns on which a language forms new lexical units, i.e. words" (Marchand 1969: 2). Leaving aside the problems that ensue with the notion of *word* here[2], word-formation is one of the two central areas of morphological study. New words may come into being via different word-formational processes, including derivation, which will be the main focus here, but also conversion, compounding, and a number of other phenomena (for instance, blending or back-formation come to mind here) play a decisive role in forming new words.

As individual linguists have focussed on different sub-areas of word-formation, diverging classifications are the result. For instance, in Booij (2012: 5) derivation and compounding receive equal weight, while conversion is regarded as a sub-area of derivation. This view is not uncommon, and becomes evident in other morphology textbooks as well (e.g. Carstairs-McCarthy 2002 who devotes two individual chapters to derivation and compounding, but discusses conversion within the chapter of derivation). Others (e.g. Bauer 1988, Haspelmath 2002, Aronoff and Fudeman 2011) put emphasis on the distinction of the two areas of study in morphology – inflection and derivation – and treat the various sub-areas to a variable extent. As inflection is concerned with *forms* of lexemes as opposed to *new* lexemes in derivation (cf. Bauer 1988: 73) it will be excluded from further consideration. Equal weight on both sub-areas of morphology, but also on the various forms of word-formation is given in Lieber (2009a).

My goal in this section is to illuminate one particular area of derivation, namely how new derivatives come into being via suffixation. By suffixation we mean the process by which predominantly but not exclusively simplex free morphemes (e.g. [$tall_{\text{ADJ}}$], which cannot be decomposed further), but also complex words like [[$construct_{V}$]-ion_{N}] are appended by a bound morpheme, which both changes the meaning of the input word and often also the word class. In the above examples, if the adjective *tall* receives the suffix *-ish*, the word class will stay the same since *-ish* is an adjective-forming suffix. However, the meaning is slightly altered. If a skyscraper with twenty floors is described as *tall*, one that contains twelve floors might be considered *tallish*, which, however, depends on the context of the height of the surrounding buildings. The problem with relative adjectives like *tall* is that they are already context-sensitive and only in the appropriate context can we determine what the height proportions are and whether the simplex (*tall*) or the complex adjective (*tallish*) is the appropriate one to use. The inherent vagueness of adjectives like these will be subject of section (2.3.3.1) below.

2 See Plag 2003: chapter 1 for a discussion.

Coming back to our example from above, *construction* is already a complex word, which is formed by adding the noun-forming suffix -*ion*[3] to the verbal base *construct*. Not only the meaning changes here (from the action *construct* to the result *construction*), but the word class too. The complex word-form *construction* can be the source for further affixation (e.g. by adding the suffix -*al* to the complex base, resulting in the adjective *construct-ion-al*), which is a characteristic property of derivation.

Throughout this section I have consciously made the choice to use the term *base* to refer to the free morpheme which serves as the basis for affixal derivation rather than *root* or *stem* because the former is the least biased notion available (cf. Trips 2009: 25). The distinction of roots and stems is useful for languages with a larger degree of inflection than English (cf. Lieber 2009a: 34). Some languages do not have free bases available, but require inflections before the words can be used, or as Lieber puts it ”all bases are bound“ (2009a: 34) in these languages. To illustrate this, she introduces a Latin example, which is given slightly altered below:

(1) 1st sg *dic* + *o* 'I say' pl *dic* + *i* + *mus* 'we say'

In the singular, the root *dic* is appended by an inflectional suffix -*o* to indicate the first person. The plural is formed by adding an intermediary morpheme -*i*- after the root *dic*-. Together they form the stem to which the inflectional ending -*mus* is attached (cf. Lieber 2009a: 34f.). Hence the form **dicmus* is ungrammatical. With the poor inflectional system of English, however, such considerations are moot since no intermediary morpheme is necessary and affixes of all kinds are added to the base directly[4]. Affixes are by definition bound morphemes as they cannot occur on their own. The formal distinction free as opposed to bound morpheme does not suffice, however, in determining suffix status. A number of morphemes defy this classification, however, for example the elements -*like* and -*proof* in *statesman-like* and *fool-proof*, respectively (see also Plag (2003: 72f.) for a discussion), which occur also as free variants *like* and *proof* and with a similar meaning. Forms like those are sometimes termed *semi-affix* (cf. Marchand 1969: 357, see also Bauer et al. (2013: 440f.), who analyse respective formatives as compound elements; Dixon (2014: 54-61) for a discussion), which is meant to grasp the intermediary character between a free and a bound morpheme, but is a notion not every linguist is satisfied with. The discussion will become relevant with the German form -*artig* in section 7.5.2.3 below and thus will be deferred here.

---

3 The suffix -*ion* has several allomorphs (-*tion*, -*ation*, among others), which, however, will not concern us here.

4 There are a few cases where English makes use of what Bauer et al. call 'extenders' (2013: 181), i.e. formatives between base and affix that seemingly have no meaning. Examples of these would be -*in*- in *attitud-in-al*, -*e*- in *Caesar-e-an*, or -*u*- in *process-u-al* (cf. Bauer, et al. 2013: 181). These are very similar to 'Fugenelemente' ('linking elements') in German, e.g. -*e*- in *Maus-e-loch*.

Another formal aspect of suffixes, which also distinguishes them from prefixes, is the position they take in a word-formation. Suffixes are word-final, i.e. they are attached after the base. In Marchand's words "[a] suffix is a bound morpheme which in a syntagma AB occupies the position B" (1969: 209). Above we have said that *-ish* is an adjective-forming suffix, i.e. irrespective of the category of the base word, the derivative will be an adjective. This category-determining property of suffixes is predicted in Williams (1981) proposal of the Righthand Head Rule. In effect, it states that the rightmost morpheme of a complex word is the grammatical head of that word, which determines the syntactic category of the whole word (1981: 248). Consider the slightly adapted example from Bauer (1988: 12) below:

(2) $[\text{nation}]_N$ – $[[\text{nation}]_N\text{-al}]_{ADJ}$ – $[[\text{nation}]_N\text{-al}]_{ADJ}\text{-ise}]_V$ – $[[[[\text{nation}]_N\text{-al}]_{ADJ}\text{-is}]_V\text{-ation}]_N$

In example (2), the suffix *-al* is the head of *national*, making the simplex noun *nation* into a complex adjective, *-ise* is the head of *nationalise* and so on. The Righthand Head Rule has been applied not only to affixation, but also to compounding, where the righthand member of a compound determines the grammatical properties of the entire compound, with the exception of coordinative compounds for which this concept is considered problematic (cf. Bauer et al. 2013: 443). It is also not unproblematic in its application to affixation, since some prefixes are word-class changing as well (e.g. *be-* in *bedew*) (cf. Bauer et al. 2013: 635).

With regard to prosodic features in adjective-forming affixes, it has been noted that those of non-native origin are more prone to induce stress shift in the bases they attach to than native affixes (cf. Bauer et al. 2013: 289). Examples can be abundantly found, e.g. *-ous* in *me.ló.di.ous* in which the antepenult carries the stress (compare *mé.lo.dy*) (cf. Bauer et al. 2013: 302) as well as *-ic* and *-ical*, among others (p. 299). Stress shift in non-native affixes is a tendency, not a rule and thus we find a number of suffixes which do not or only rarely exhibit it (e.g. *-ine* does not induce stress shift, *-ive* only very infrequently, cf. Bauer et al. 2013: 296, 300).

The adjective-forming suffix *-ish* is of native origin and does not show stress shift: Compare *wó.man* and *wó.man.ish*. The suffix prefers and is frequently attested with monosyllabic bases, e.g. *boy-ish*, *wasp-ish*, *ap-ish*, *thiev-ish*, but also occurs with di- and polysyllabic bases (e.g. *baby-ish*, *caricatur-ish*). It allows for hiatus to occur much more frequently than other suffixes (compare *freeish*, *heavyish*, *bee-ish, zombie-ish,* etc.), but will render unvoiced labiodental fricatives into voiced ones due to the emerging voiced environment (cf. *thie**f*** – *thie**v**-ish*)[5].

5 Compare the plural form *thieves*. Analogous to but not yet evident in the spelling of Old English, the same pattern can be detected in *wif – wifas*, the latter of which later develops into the Modern English plural form *wives*. In this case, too, the phonological environment determines whether /f/ is voiced or not. In Old English voicing of /f/ did not yet result in a separate phoneme, but the voiced and unvoiced variants were allophones in complementary distribution (cf. Minkova 2011: 32). As a result voicing was not reflected in the spelling.

Spelling is rarely affected by *-ish*, it will, however, delete base-final 'silent <e>' in cases such as *novelett-ø-ish*, *ap-ø-ish*, but will occasionally allow it: *time-ish*, *moreish*. In some cases, both variants are attested: *bluish* and *blueish*, both attested in the *Corpus of Contemporary American English* (henceforth COCA)[6] with differing frequencies. The former can boast 753 hits, while the latter form only exhibits 9 attestations, thus substantiating the preference of *-e*-deletion (Hyphenation does not make a significant difference, as there is only one additional hit found for *blue-ish*, and none at all for *blu-ish*). Like the other native suffixes *-ful*, *-ly*, *-some*, *-y*, etc., *-ish* is equally comfortable on native and non-native bases (e.g. *doomish, fullish* in the former case, and *novelettish, caricaturish* for the latter) (cf. Bauer et al. 2013: 304f.).

2.2.2 Development of suffixes

Turning now to the diachronic aspects of suffixes, i.e. the process of their coming-into-being, it is notable that only a few linguists have investigated this matter in some length (e.g. Paul 1880, Marchand 1969, Stein 1981, Trips 2009), a fact that is noted by Trips as follows:

> 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. (2009: 6)

Although slightly dated, Marchand's (1969) monograph provides a broad overview over diachronic aspects of word-formation that do not find treatment in the current and very extensive work from Bauer et al. (2013) which, in other respects, may be seen as the successor of Marchand (1969). Taking a more synchronically oriented approach, they focus on formal and semantic properties of word-formation, but leave the aspect of development completely aside. Marchand's work will become relevant for the chronology and approximate dating of the different syntactic classes *-ish* has occurred with since Old English.

The most thorough account on the development of suffixes, however, is from a very early source, i.e. Hermann Paul's (1975[1880]) *Prinzipien der Sprachgeschichte*. In chapter 19, he traces the development from syntactic word groups over compounds to the formation of suffixes[7]. The development is epitomised in Givóns well-known aphorism ”today's morphology is yesterday's syntax (1971: 413). Paul identifies three ways in which etymological word groups

6 The corpus will be introduced in more detail in chapter 7. However, I will sporadically make use of it throughout this work as it is a well-balanced, representative current corpus.

7 Not every compound originates in a syntactic word group however. As Paul notes, most compounds are formations on the basis of analogy ('Analogiebildungen', cf. p. 346) from compounds in the narrow sense, i.e. those developed out of syntactic structures. Evidence for his claim comes in the form of genitival *-s* in formations which originally do not have it, e.g. *Bauer-s-mann* (p. 346).

('etymologische Wortgruppen', cf. Paul 1975[1880]: 325) can emerge out of previously mutually unrelated single words, the most common of which is compounding. Cases in which maximally two free morphemes together form a compound are found in abundance and Paul notes twelve different examples. For instance, he mentions compounds which develop from the combination of the genitive and the noun that governs it (cf. German *Hunger-s-not* 'famine', p.326), those that develop from the attributive adjective with the noun (e.g. German *Edel-mann* 'noble man' from Middle High German $edel_{ADJ}$ man_{N}, cf. $edel\text{-}es_{GEN}$ $mann\text{-}es_{GEN}$, p. 326), the coordination of two (ethnic) nouns (cf. *Baden-Wuerttemberg*), or two adjectives (e.g. *rot-gelb*, 'red and yellow' p. 326)[8] as well as the addition of two numerals (*fünf-zehn* 'fifteen', p. 326), among others. Compounds with three or more component elements also comprise phrases which are turned into compounds with the help of metaphor (e.g. *Vergissmeinnicht*, 'forget-me-not', p. 328). This last example can now be regarded as a fixed expression, however.

He notes that the transition from a syntactic structure to a compound is gradual and thus does not entail sharp boundaries, a fact that is linked to many insecurities in the spelling and has led to the introduction of the hyphen in German (p. 328). In English, compounds rarely are written with a hyphen and usually are not distinguishable from phrases on mere orthographic grounds. Spelling as well as stress are thus ruled out in determining whether a given word combination is a compound or a phrase (cf. Paul 1975[1880]: 328). Inflection has been cited as a useful criterion in determining the dividing line between the two. In Booij's (2012: 84) example below, the German word has no word-internal inflection, whereas the Dutch counterpart does:

(3) a. German *Rotkohl* 'red cabbage'
b. Dutch *rod-e kool* 'red cabbage'

(3a.) would thus be classified as a compound with the rightmost member *Kohl* ('cabbage') being the head which determines the part of speech of the whole compound as well as its core meaning (cf. Aronoff and Fudeman 2011: 114). In other words, $Rotkohl_{N}$ is a kind of $Kohl_{N}$. These types of compound are also called endocentric, as they follow the pattern 'AB is a kind of B'. Example (3b.), however, would not be considered a compound due to its internal inflection.

As shown above, German does have a few inflectional remnants in its compounds, e.g. in *Kind-er-garten, Hunger-s-not*. These cases are the result of what Paul calls *Erstarrung* ('crystallisation') (cf. p. 331) of an inflectional form which consequently leads to the complete fusion of the structure, making it a full-fledged compound. Booij notes that in the process of univerbation, these remnant case endings ”might be reanalysed as allomorphic extensions of the first constituent, or as linking elements“ (2012: 263).

8 This formation of two equivalent heads is also frequently called copulative compound, or dvandva.

Another possible way of differentiating a compound from a phrase consists in the insertion of a modifier between the two component elements. Consider the following example by Lieber (2009a: 34):

(4) a. apple pie → *apple delicious pie
b. apple pie → delicious apple pie

In (4a.) the result of the compound-internal modification is rendered ungrammatical. If the modification pertains to the whole compound as in (4b.), however, the modified formation is fully grammatical. Hence the process of modification always ”refers to the whole compound AB and not only to one part (A or B)“ (Trips 2009: 14).

Once a compound has become established, a further development may consist either in the formation of a new simplex or an affix. A compound is thus located in the middle of these two points of development. A new simplex may arise out of a compound when the two elements of the compound are not recognised as such any longer, together with other developments pertaining to opacity in phonology or semantics, for instance (compare German *Welt* 'world', Middle High German *werlt* out of Old High German *wer-alt*, literally 'man-age') (cf. Paul 1975[1880]: 436).

A new derivational affix[9] develops when several conditions are met. As suffixes, many compounds are head-final, i.e. the rightmost element determines the meaning and category of the whole word (cf. Aronoff and Fudeman 2011: 47). When this rightmost element in a compound loses its 'grip' (Paul calls it 'Fühlung') on the originally identical simple word, the first step to a suffix is made (cf. p. 347). Paul notes three further preconditions: 1) The other component element, i.e. the determinant, can still be etymologically associated with related words or word groups, 2) the element in question needs to appear with many other words and with the same meaning (German uses the term 'Reihenbildung' for the phenomenon pertaining to suffixes) (cf. Paul 1975[1880]: 347). This condition entails that the derivative is productive. And finally, 3) the meaning of the pertaining component element needs to be sufficiently abstract and general. This last condition can become crucial when the connection with the simplex is not yet entirely lost (cf. Paul 1975[1880]: 347).

On the basis of German *-lich* '-like', Paul demonstrates the development from the independent simplex (OHG *līh* 'body') to the derivational suffix. The suffix goes back to a proto-Germanic bahuvrihi compound **wiðo-līkiz*, originally with the meaning 'Frauen-Gestalt' (i.e. 'woman form')[10], which developed into 'Frauengestalt habend' (i.e. 'having the form of a woman') via

9 Paul notes that inflectional affixes emerge in the same way as derivational ones (1975[1880]: 349).

10 The present-day German form *Weib* which directly goes back to OHG *wīb* has developed a derogatory meaning in its simplex, and will thus not be used here to avoid confusion. The form survives in a number of derivatives

metaphor (cf. Paul 1975[1880]: 347). The present-day German simplex noun *Leiche* 'dead body' goes back to the same form as the suffix but both forms developed such a strong discrepancy concerning their meaning and later also in terms of phonology that any connection between the two has been removed (p. 347). Further, the more concrete meaning of the simplex noun *Gestalt* 'form' has turned into the more abstract *Beschaffenheit* 'nature of', thus also fulfilling the third condition above (p. 347f.).

Paul notes that similarly to the relation between syntactic word groups and compounds, the borderline between compounds and emerging suffixes is a fuzzy one as well (p. 348). The only possible way to determine whether a new suffix has arisen is when there is evidence of formations which are entirely inconceivable as compounds, especially semantically, as with new forms in German *-bar* ('-able', cf. Old English *-bǣre* 'producing, bearing', from *beran* 'to bear, produce' as in *æppel-bǣre* 'apple-bearing'). Whereas the old meaning of *tragen* 'to bear' is still transparent in *fruchtbar* 'fruit-bearing', it has turned opaque in words such as *begreifbar* 'comprehensible' or *unheilbar* 'incurable', etc. Elements which are halfway between heads of compounds and suffixes are sometimes termed semi-suffixes (cf. Marchand 1969: 210, Dixon 2014: 54-61). The problems with adequately describing this intermediate state and finding appropriate terms will be subject of chapter (7.2.2 with respect to the formative *-like*) below. The process of suffix formation as a whole is not concluded, as Paul emphasises, but will be a productive and repetitive one as long as a particular language continues to exist (cf. 1975[1880]: 348f.).

Marchand (1969) also devotes a section to the origin of suffixes and identifies two possible ways in which a suffix may come into being. First and similar to Paul above, a suffix originates as a free morpheme, which applies to a few native ones and second, the suffix originates as such (1969: 210). The first case is evident in the developmental path of the suffixes *-hood*, *-dom*, and *-ship* which used to be free morphemes and the head of compounds, respectively, before they further developed to their present state as derivational suffixes (cf. Marchand 1969: 210, Trips 2009). An example of the second possible way of origin, according to Marchand, is the suffix *-ling*, an extended form of *-ing* (1969: 210). This case, however, can be regarded as secondary and limited, while the former constitutes the normal development in all probability.

In relation to English *-ish*, we are severely limited in our capacity of determining the concrete path of development from a compound to a suffix, since in the earliest records of English *-ish* only appears in its suffixal form. Going back further than Old English, i.e. Proto-Germanic, will be nearly impossible as pertinent records are lacking. The only other imaginable option is to

without this later negative connotation, e.g. *Weibchen* 'female animal', *weiblich* 'female'.

attempt a comparison-based analysis with the other Germanic languages in which a form of *-ish* occurs, i.e. Gothic, Old Norse, Old Frisian, etc. and see where the path leads[11]. This is not an undertaking that I will be able to carry out in the present work and will thus have to defer this matter to future research.

Starting from Old English, however, we are able to trace the trajectory of *-ish* with its pertinent word classes. As will be shown below, *-ish* is a very productive suffix, coining many new words as well as attaching to a multitude of base categories. The discussion that follows will be mainly based on insights from Marchand (1969), the online version of the *Oxford English Dictionary* (OED online), and, where possible, corroborated with examples found in the corpora that will be discussed in more detail in chapter 4. Together they help establishing an approximate timeline of occurrences.

In Old English *-ish* has been chiefly used for the derivation of ethnic adjectives (*British*, *English*, *Scottish*, etc.). In some of the formations, the vowel of the suffix caused *i*-mutation in the root vowel of the nominal base: Compare *Engl-ish* from *Engle* + *isc*, *Wel-sh* from OE *Wel-isc* (cf. OE *Wealh*, Anglian *Walh* 'foreigner'), *Fren-ch* from OE *frenc-isc* (cf. OE *Franca* 'Frank') (cf. Marchand 1969: 305). As is evident in *Welsh* and *French*, the vowel of the suffix is deleted in some cases. In others, the suffix in its entirety vanishes, cf. *Greek* (earlier *grec-isc*).

Also in Old English, but perhaps a little later than the ethnic forms, *-ish* is tacked onto non-ethnic nominals, e.g. *cild-isc* 'childish', *cirl-isc* (or its variant *ceorl-isc*) 'churlish', *folc-isc* 'common, popular' or *hæþen-isc* 'heathen, pagan', all forms with the meaning 'of the nature, character of' (p. 305). In many of these denominal derivatives a negative connotation has spread and Marchand attributes this to forms such as *ceorlisc* or *hæþenisc* (p. 305), but does not provide evidence for his claim. The first deadjectival attestations denote colour and from Middle English onwards and are dated at 1379 with *yellowish* 'of the nature of yellow, somewhat yellow' (cf. Marchand 1969: 306, OED entry for *yellowish*). From these, *-ish* was extended to other adjectives, which have become very productive (*darkish,* 1398) (cf. Marchand 1969: 306). These adjectives experience abundant growth in the 16th century and denote approximation to the content of the base (p. 306).

The appearance of the first few deverbal derivatives are dated to 1542 (i.e. Early Modern English) with *snap-p-ish* (p. 305). Marchand notes derivatives from pronouns and gives *selfish* (1640) as an example (p. 306). However, the base *self* is not a pronoun unlike the forms *myself*,

11 Hegedüs (2014: 317) discusses the etymological relatedness of the suffixes *-ish* and *-esque*, noting that they both descend from the same Proto-Indo-European (PIE) morpheme **-isko-*. Since PIE is a reconstructed ancestor language, we may only speculate as to the suffixes' actual state of bondedness at that time. The reconstruction is only able to give us some clues that *-ish* (and *-esque*) was a bound element at this early time already. Hegedüs' views will be discussed in more detail in section 7.3 with respect to suffix rivalry.

herself, etc., but in fact a noun (cf. German '(*das*) *Selbst*'), which is confirmed by the respective OED entry (cf. the entry for *selfish, adj. and n.*). The other pronominal base form that he mentions is *it* in *ittish*, which supposedly denotes a recent American word meaning 'sexually attractive'. The OED does not list the form at all, however, and in the *Corpus of Contemporary American English* (COCA), which focuses on American English, no entry can be found either.

A somewhat nebulous base category that is mentioned in Marchand is that of 'particles' to which he gives *uppish* (1678) and *offish* (1830) as examples. These derivatives do not derive from prepositions, however, but from adverbs of the same form. From the base categories available to *-ish*, it is noteworthy that none of them can be classified as functional as prepositions are often considered to be (cf. Aronoff and Fudeman 2011: 42f.), due to their being a closed class where new words cannot easily be coined. By checking the OED, this hunch is confirmed, as it classifies *uppish* and *offish* as deadverbial in both cases (cf. the etymologies in the entries *uppish*, adj., and *offish*, adj.). We can thus rule out prepositions as possible base forms at the time being.

Derivatives with adverbial bases exist as well even though neither Marchand nor the OED has taken note of it[12]. I have encountered the form *nowish* online and once in COCA. Other corpora were checked subsequently, among them one that focuses on web pages from several countries (*Corpus of Global Web-based English* (GloWbE), to be introduced and discussed in more detail in chapter 5) and found four more hits (three from British-based web sites, one from an Australian one). After checking the most recent corpus *NOW* (short for *News on the Web*), which pulls a large number of web pages every day so that its latest entry is dated to 'yesterday', nine further examples were found. The form may still be too novel or too infrequent and has not yet led to an entry in the dictionary. Table 1 below records the first attestation of a deadverbial derivative with *uppish* at 1678. Hence, the first attestation of such a derivative falls in the period of Early Modern English, even though subsequent forms (*offish*, *nowish*) have developed much later in Present-day English.

Both Marchand and the OED entry for *-ish* name recent formations with proper name bases, but neither notes a date for first appearance. The only point of reference is the citation of *Martineauish* found in the OED and dating from 1845 (cf. OED entry for *-ish*, suffix1). Since compounds and phrases are both named as examples for recent coinages as well it becomes impossible from these sources to state exactly when which form appeared. Compounds such as *schoolboyish* and phrases such as *at-homeish* are cited as coinages prevalent in colloquial or journalistic use, together with proper name formations (cf. Marchand 1969: 306, OED entry for

12 Marchand (1969: 306) mentions both *uppish* and *offish* as derived from 'particles'. These would be considered as deadverbial coinages here (cf. the OED entries for both).

-*ish*, suffix1). The dates of first attestation can only be given for the examples illustrating proper names and compounds. When the first such morphological form has arisen is unkown.

Numeral bases seem the most recent source for -*ish* derivatives and are located in the 20th century by Marchand and dated more detailed at 1916 in the OED (1969: 306, OED entry for -*ish*, suffix1). Examples include *elevenish*, *ninish*, *ninetyish*, etc. These coinages are very productive and like the deadjectival derivatives above denote approximation to the base with the meaning 'round about, somewhere near (the time or period of)' (cf. OED online). The OED cites *earlyish* and *latish* as influences for this kind of derivative.

The most recent development with -*ish*, however, will be a major role in part II, chapter 5. As we have seen above, suffixes are by nature bound morphemes, i.e. they cannot occur without a free morpheme to attach to. However, -*ish* has managed to develop a free variant, analogous but different in meaning and form to -*ism* > *ism*/*isms*. The OED notes 1986 as the first occurrence, but in the spoken language it probably was in use earlier than that.

The following table 1 will summarise the trajectory of -*ish* as outlined in this section. And is based on the remarks by Marchand (1969) and the OED. Where several base categories ambiguously fall into one period and it becomes impossible to state whether one particular category was prior to another, both will be marked with *(?)* in the relevant line. The same method will be applied to forms where it does not become clear at all when they were formed and we are left to speculate about their entry into existence.

Table 1. Diachronic trajectory of -ish > Ish

Period	Unit	Examples	First attestation
OE	N_*ish* (ethnic)	*Engl*$_{N}$-*isc*, *Iude*$_{N}$-*isc*	eOE
	N_*ish* (non-ethnic)	*ceorl*$_{N}$-*isc* 'churlish' *cild*$_{N}$-*isc* 'childish'	OE
ME	ADJ_*ish*	*yellow*$_{ADJ}$-*ish* *dark*$_{ADJ}$-*ish*	1379 1398
EME	V_*ish*	*snap*$_{V}$-*p*-*ish* *mop*$_{V}$-*ish*	1542 1621
	ADV_*ish*	*up*$_{ADV}$-*p*-*ish* *off*$_{ADV}$-*ish* *now*$_{ADV}$-*ish*	1678 1830 (?)
PDE	Compound_*ish*	[[*school*]$_{N}$-[*boy*]$_{N}$]$_{N}$-*ish*	1784
	Proper N_*ish*	*Martineau*$_{ProperN}$-*ish* *Heine*$_{ProperN}$-*ish* *Queen Ann*$_{ProperN}$-*ish*	1845 1887 1894
	Phrase_*ish* (?)	[*at-home*]$_{PP}$-*ish*	(?)
	Num_*ish*	*eleven*$_{Num}$-*ish* *ninety*$_{Num}$-*ish*	1916 1950
	Free morpheme *Ish*	…they have a pleasantly happy ending (well, *ish*)...	1986

2.2.3 Other word-formational processes

In this section I will briefly mention other processes of word-formation which play a role in the formation with adjectives in *-ish*. Very briefly I will consider prefixation, the opposite of the derivational process of suffixation discussed above. Further, the process of compounding, which already has played a role in the previous section with respect to the development of suffixes, will be considered in its formal properties to the extent that is relevant for *-ish* and has not already been discussed above. Finally, conversion will be sketched in a little bit more detail.

As said above, prefixation is less common in English than the formation with base-final morphemes (cf. Bauer 1988: 12). By definition they attach base-initially and are bound morphemes which cannot occur on their own. Contrary to suffixes, prefixes seldom are category-changing, so for instance, adding *un-* to the complex adjective *health-y*, will not change the latter's status as an adjective. We have seen above, however, that some prefixes can indeed be category-determining (e.g. *be-*). Similar to compounding, but to a lesser extent, prefixes can be applied recursively in English, e.g. *re-re-make* (cf. Katamba 1993: 53). The reason for their rather marginal applicability is that a great number of recursively attached prefixes will result in

”performance difficulties in working out what exactly *great-great-great-great grandson* means“ (Katamba 1993: 53). The limitation is solely a semantic one and does not pertain to grammaticality, however. Much more common is affixation with both kinds of affixes, e.g. *ultra-styl-ish*, *pro-Jewish*, which indeed are frequently attested. The proper representation of these forms records and reveals their chronological development, however. A complex form such as *ultra-stylish* is formed by *-ish* tacking on to *style* first, then the prefix *ultra-* attaches to the derivative *stylish* (rather than **ultra-style* to which *-ish* attaches).

Compounding has attracted a rather extensive body of research (Marchand 1969; Scalise 1992; Lieber and Štekauer 2009 and the references therein; Booij 2012; Bauer et al. 2013; ten Hacken 2017, to mention only a few). We have established above the methods of differentiating between compounds and phrases and that most compounds are head-final. Many of the compounds with *-ish* are combinations of two ethnic adjectives, e.g. *English-Spanish* denoting an additive (or coordinative) relationship in most cases. Other compounds are much less frequent, with N-N combinations being the most common ones, e.g. *schoolgirlish*. Further combinations of lexical categories include A-N (*white-glovish*) and A-A (*yellow-greenish*). It is not uncommon to find an already derived first element, which modifies the head as in *creamy-yellowish*. The fact that compounds are recursive is seen in very few compounds including an *-ish* suffix and those that can be found are usually comprised of ethnic terms in a coordinative fashion, e.g. *American-European-British*.

Derivatives with *-ish* do not exclusively occur as adjectives, but appear as an appellative of the inhabitants of a particular country or region in which case they are nouns and not in the main focus here. I will, however, briefly describe the derived nouns (as well as the process of their emergence) because it will become crucial in corpus analyses to separate one from the other.

According to the OED the use of the noun *Engle* seems to have followed from a concept of linguistic identity associated with the corresponding adjective *English*. That is, the noun *English* in all likelihood was formed via conversion from the prior adjective as well. The term conversion is preferred over the notion zero derivation here, a practice that is followed by many linguists in recent years (e.g. Katamba 1993, Lieber 2004, 2009a, 2016b). The term conversion does not presuppose a particular framework or linguistic perspective and, like *base*, is unbiased. Instead of an opaque zero morph added to the base like a suffix[13], the idea of conversion boils down to a category change (a *relisting* as Lieber 1992, 2004 calls it) ”without modifying the form of the

13 There is still much controversy around the notion of zero derivation since neither the adjective *English* nor the derived noun has any overt affix marking to account for the category change (cf. Katamba 1993: 55). For many linguists, zero morphs thus remain restricted to inflectional morphology ”where it is supported by the evidence“ (Katamba 1993: 55).

input word that serves as the base (Katamba 1993: 54). The question of direction in conversion is a tricky one and has engaged many linguists (e.g. Lieber 2009a, Aronoff and Fudeman 2011, Booij 2012). How can we know that the adjective *English* was the point of origin for the noun and not vice versa? If we do not only want to rely on the OED entry, what is it that we can do to verify this assumption and support it by evidence? The point is that both, the adjective and the noun *Englisc* (and similar adjective-noun pairs) were already present in early Old English, i.e. we would have to find the earliest text in a given Old English corpus and see whether only one of the derivatives was present at the time, the other one added in a later text. This method, too, has its pitfalls. Since we only have written records, we cannot determine how the linguistic situation looked like in the spoken realm at that time. In other words, if we cannot find crucial evidence in written texts that supports the earlier use of one of the derivatives in Old English, we are left to speculate. A general problem with early texts is that we cannot reliably tell when they were created, but are left to ascribe them to a century as a whole (and sometimes not even that is possible, for instance with many of the verse texts which survive in manuscripts that span several centuries, cf. Amodio 2014: 147). For prose texts, historical records do have some impact on narrowing down the time span, as for example with texts translated by King Alfred the Great (847/848-899) (cf. Amodio 2014: 32, 35). We can thus locate texts whose translations he commissioned somewhere within the 9th century. Two of those, the translations of Pope Gregory the Great's *Pastoral Care* (lat. *Cura Pastoralis*) and Boethius's *Consolation of Philosophy* were briefly searched for hints concerning the problem of conversion with respect to direction. The result was that ethnic nouns as well as ethnic adjectives both already occurred in each of the texts, which thus can tell us nothing substantial about the direction of conversion. Further, one of the earliest written texts of the Old English period, *Caedmon's Hymn*, is a very short poem which does not contain any elements of ethnicity that could help us in this matter.

Plag (2003: 108-111) mentions four further ways of determining the direction of conversion, i.e. next to checking for earliest attestations, he gives greater semantic complexity of the converted word, formal properties such as regularity in inflection, stress, and frequency of occurrence as indicators for determining the direction. Taking the last criterium, frequency, into the equation, we encounter the problem of wrongly tagged words in a corpus which have to be unequivocally determined as either adjectives or nouns before a meaningful statement of each of their frequencies can be made. Stress is difficult to assess in historical texts due to the lack of audio data. Regularity of inflection plays no significant role in our conversions, leaving semantic complexity as another criterium for establishing the direction. The OED's entry for *English*$_{A/N}$ can merely be regarded as a first indication of the direction, but it does not give entirely

conclusive evidence for it[14]. The OED's paraphrase for *English*$_{A}$ is 'of or belonging to England (or Britain) and its inhabitants' (see sense A 1), for *English*$_{N}$ it is 'English (occasionally British) people, soldiers (etc.) considered collectively' (see sense B I.1). A detailed account of the direction of conversion thus needs to make reference to the way in which the sense of belonging precedes the sense of collectivity. The strongest argument will undoubtedly stem from a combination of the criteria mentioned in Plag (2003). In case we do find more conclusive evidence, however, it still needs to be treated with caution for the reasons given above and I will resort to the OED as mentioned above to determine this matter.

2.3 Semantic aspects

It has long been consensus that suffixes are merely transpositional, i.e. that their function only lies in their potential to change words into a different class, but add nothing to the meaning of their bases (e.g. Marchand 1969: 215, Schmidt 1987, Beard 1995).

In recent years, however, sufficient evidence of the meaning of suffixes has been accumulated that the earlier claim of their solely transpositional nature cannot be sustained. Even in Marchand's otherwise very accurate treatment of suffixes, we can still find statements such as the following: ”Unlike a free morpheme a suffix has no meaning in itself, it acquires meaning only in conjunction with the free morpheme which it transposes“ (1969: 215). He rather views suffixes as a means of implying a semantic class whose sole function it is to change a word (or word group) into another word class or semantic class due to their ”large combinatory range“ (p. 215). The fact that some suffixes do not always change the word class or give rise to polysemy (e.g. nominalising *-er*, which creates agent, instrument, and even patient nouns, cf. Lieber 2004: 2) will inevitably call into question such claims.

The solely transpositional view has been refuted in numerous more recent publications (e.g. the references i n Booij et al. 2004, Lieber 2004, 2005, 2009a, 2016b, Trips 2009, Booij 2015, Motsch 2015: 60, among others) in which it is convincingly shown that affixes do in fact have meaning. The stand taken here is that suffixes as well as free morphemes have meaning, which will be a continuous topic in subsequent chapters and also will concern us again in the German-English comparative corpus study in chapter 7.

Bauer et al. state that the semantics of adjectival derivation has not received as much attention as nominal or verbal derivation has (cf. 2013: 306). The semantic description is divided into argument-referencing affixes (e.g. *-able*, *-ive*), event-referencing (e.g. *-ous*, *-ant*) and non-

14 Interestingly, Hopper (1991: 31) considers only verbs and nouns as primary categories and implies that others derive from them.

argumental affixes, to which -*ish* and a cohort of 'similative' suffixes such as -*esque*, -*oid*, or -*y* belong (p. 307-311). The term 'similative' is taken to refer to the meaning paraphrases 'like X, in the shape/style of X, resembling X' (Bauer et al. 2013: 311). When attached to adjectival bases, they receive a slightly different meaning of approximation (cf. Bauer et al. 2013: 313), a fact that is evidenced by the corresponding OED entry for -*ish* as well. I will retain the notion 'similative' here when referring to the cohort of suffixes which share this meaning. As will be shown in chapter 7, not all of the suffixes have an approximative reading. Thus, while the term 'approximative' is felicitous for a type of reading evident in -*ish* derivatives, it is ill-suited to refer to formatives such as -*like*, or -*esque*.

I will identify the basic meanings of -*ish* here, which suggests that the suffix is polysemous. I will not delve too much into the intricacies of the meaning of -*ish* and similar formatives here, but leave the discussion to subsequent chapters (especially chapter 4 which takes up the meaning components identified by Bauer et al. (2013), the OED and others and will discuss them within the lexical semantic framework first formulated in Lieber (2004). In chapter 7, -*ish* will be compared to two of the suffixes of the same cohort, -*esque* and -*like*).

Kuzmack (2007) distinguishes -*ish* when it attaches to nouns, distilling two subtypes from it, 1) -*ish* as a suffix forming ethnic nouns (e.g. *English*), and 2) comparative -*ish* attaching to non-ethnic nouns (e.g. *boyish*). Type 2) for nouns is similar in meaning to a third group, the qualifying use of -*ish*, which forms adjectives out of simplex adjectives, adverbs, numerals, etc. (e.g. *greenish*, *nowish*, *fiftyish*). In both cases (i.e. types 2) and 3)), the derivative involves a comparison to the respective base form, but in the comparative use of the second type, -*ish* puts an emphasis on different degrees of similarity to the base and thus has a function similar the also similative suffix -*like* (e.g. (behave) *like a boy*, (behave) *boyish*). We can, however, note subtle meaning differences between 'behave like a boy' and 'behave boyish' in that the former is neutral in meaning, while the latter primarily expresses the similarity in negatively tinged manner. In a few cases, *boyish* may also be used to express a personal quality in a more amicable way, for example in example (5) from COCA:

(5) ”Tall and lean and handsome, easygoing and cheerful with perfect manners and a **boyish** charm, he got along with everyone“ (COCA, NEWS, San Francisco Chronicle, 2005)

In this case, *boyish* refers to a quality of innocence attributed to children, so here -*ish* does not pick out the negative aspects that might be associated with this derivative in particular contexts. We will come back to this issue in chapter 4, where it will be shown that the referent of the derivative plays a crucial role in determining whether type 2) of -*ish* is interpreted negatively or

not.

In a third type, found with adjectival bases, the use of *-ish* qualifies its base in the form of expressing a non-equivalence to it and in not reaching the standard expressed by the base form (e.g. *green* vs *greenish*, the simplex expresses equivalence to the colour denoted by the adjective, whereas in the derivative, this standard is merely approximated, but not reached completely. Hence, Traugott and Trousdale (2013: 232) call this type of *-ish* 'approximative'. I follow Traugott and Trousdale in terming type 3) 'approximative' instead of 'qualifying' because the former more precisely denotes the meaning of the suffix: It does not merely qualify the meaning of the base, but it does so in an approximative manner. Approximative *-ish* is a crucial one as it is this type which has developed into a free morpheme which I will elaborate on in part II.

2.3.1 Ethnic vs non-ethnic adjectives

Two fundamental different groups exist for *-ish* adjectives, one of which will be the focus of most of the subsequent discussion, while the other will only be mentioned rather briefly in what follows. The two groups were mentioned above and consist in ethnic adjectives on the one hand and their counterpart, non-ethnic ones. Ethnic and non-ethnic adjectives both occur relatively frequently in corpora with a slight preponderance of the former, but only the latter type is still productive. The relationship of frequency to productivity is subject of a methodologically oriented discussion in section 4.2 below. Here it will suffice to say that many new forms are built whose bases are non-ethnic, while the cluster of ethnic adjectives has reached a point of exhaustion.

An ethnic group refers to a social category of people which share the same traditions and history (cf. Peoples and Bailey 2010: 389). Ethnic adjectives were of great importance in the early times of English when new ethnic groups or tribes were established or shifted, for example when a great number of people from one area settled in some other area. To mind comes the Germanic tribe of the Angles settling in what was later to become Northumbria, Mercia and East Anglia, the northern-most of the seven kingdoms of the Anglo-Saxon heptarchy. The suffix *-ish* with ethnic nouns formed ethnic adjectives (and nouns, see above) with the meaning 'of or belonging to'. The OED informs that in earlier use the term *English* was used for those ”inhabitants of England of Anglo-Saxon descent, in contradistinction to those of Celtic, Scandinavian, or Norman descent“ (cf. OED online, entry for *English*). With the derivative it was thus possible to establish a collective meaning and a sense of belonging. It replaced the earlier simplex form *Angles* (or more commonly $Engle_{pl}$), which also denoted a sense of collectivity. The term *Angles*,

however, chiefly referred to only one of the tribes that invaded Britain (compare the names of the remaining two tribes, Saxons and Jutes, the former mainly settling in areas which were to become Wessex, Sussex and Essex and the latter only forming a minority which settled mostly in Kent, thus completing the picture of the seven kingdoms of the heptarchy), whereas (*the*) *English* became the designation for the group as a whole[15], with the suffix providing the above-mentioned meaning 'of or belonging to', which gave the entire group a sense of identity and membership. For more information on the historical setting in Old English, see Baugh and Cable (2002: chapter 3).

Ethnic designations are exhausted quickly, however. For a new ethnic term to be formed, a corresponding ethnic group has to come into being. Today, it is less easy for entire ethnic groups to settle in areas that are not yet occupied by another group which have already established a home there. Consequently, (new) ethnic groups may still come into being, but face more barriers and difficulties than the early settlers. Thus we could say the ethnic form of *-ish* derivatives reaches a point of saturation.

Further, the fact that terms such as *English*, *Irish*, or *Spanish* are complex words has become opaque to most people (or at least to those that are not aquainted with (historical) linguistics). A reason for this may be that words such as those above have come to be used with high frequencies. Lexicalisation and high frequencies correlate as Aronoff (1983) states and Bauer defines the former as the process ”whereby an established word comes to diverge from the synchronically productive methods of word-formation“ (2001: 48). A highly frequent and lexicalised word does not need a rule to be formed and is no longer decomposed in order to be retrieved from the mental lexicon (cf. Plag 2003: 49f.), which results in it gradually becoming more opaque. On the other hand, if a (new) word is repeatedly decomposed upon its retrieval it will stay transparent as its parts are continuously analysed (cf. Trips 2009: 31) and thus remain vivid for a speaker. Since this is not the case with ethnic adjectives like the ones above, their complex character will vanish from an individual's perception threshold. Thus words like *Irish* have been (subconsciously) reanalysed as simplex forms by most speakers.

Many non-ethnic *-ish* adjectives behave in just the opposite way. With continuously new base categories added to the existing stock, the suffix will be analysed each time it is tacked on to one of those new word classes. In doing so, the processing by way of decomposition ensures that the complex character of these words and the suffix itself will stay transparent and salient to speakers. In other words, *-ish* is a productive suffix with respect to forming non-ethnic

15 The term 'Anglo-Saxons' is used chiefly to distinguish the early settlers from today's inhabitants of England. The Jutes were only a rather marginal group and thus do not show up in the name referring to the early inhabitants of Britain.

adjectives.

The concepts of lexicalisation, frequency and productivity and the different processing routes words can take will be more thoroughly discussed in section 4.2 below. For the purposes of this section it suffices to say that ethnic adjectives in *-ish* have become opaque and unproductive, while their non-ethnic counterparts continue to be the opposite. For this reason, I will concentrate most of the remaining discussion on non-ethnic adjectives and will mention ethnic ones in passing, where relevant, for the sake of completeness. In order to conduct a proper diachronic corpus analysis, they will be briefly discussed alongside their productive sisters.

2.3.2 Negative connotation

A number of linguists have remarked that *-ish* attached to a nominal or proper name base will result in a derivative with a negative connotation. For instance, Marchand claimed in his 1969 monograph that since the Middle English period *-ish* "has been used to convey a derogatory shade of meaning" (1969: 305) and assigns this meaning change to denominal derivatives *ceorlisc* 'churlish' and *hæþenisc* 'heathen-like'. Similarly, but in a more elaborate manner, Dixon (2014) compares several adjective-forming suffixes, among them *-ish, -like*, *-l y* and *-y*. He observes that denominal adjectives with the same base but different suffixes show meaning nuances that need to be attributed to the additional meaning the suffix in question provides. Example (6) is from Dixon (2014: 237), example (7) from his page 240.:

(6) *man-ly* vs *man-n-ish*

(7) *summer-ish* vs *summer-y*

In Dixon's example (6) the meaning difference in the two derivatives becomes apparent when (a little) more context is given. That is, *manly behaviour* refers to behaviour that is traditionally expected of a man (e.g. strong, courageous, bold, etc., cf. Dixon 2014: 237; OED entry for *manly*$_{\text{ADJ}}$). *Mannish behaviour* on the other hand nowadays refers to the behaviour that might stereotypically be associated with men, but considered inappropriate or undesirable for a woman with respect to clothing, stance or else (cf. Dixon 2014: 237). The OED informs of an earlier, now archaic use of *mannish*, which had the meaning 'Of, relating to, or characteristic of the human species; human' (cf. OED entry for *mannish*$_{\text{ADJ}}$). This earlier use is attested in the OED as late as 1989:

(8) Tolkien fans, these are... full of background information on the elves, **mannish** races, and creatures of Middle-[e]arth. (*Dragon*, Nov. 40/3 (1989), omittance and emphasis in original)

In this context it becomes clear, however, that this use of *mannish* is now mostly restricted to particular semantic planes such as fictional worlds that make use of the archaic and extended character of the word or other specific given contexts. Dixon's example is a classic case of semantic change, in which the wider and more neutral sense of the adjective *mannish* 'human' was narrowed down to only refer to women and now additionally displays a derogatory shade of meaning.

In the second example from above (7), the notion of similarity is more prevalent in *summerish* than a potential negative connotation. In the context provided by Dixon (2014: 240), this becomes more evident:

(9) a. *summer-ish* 'weather showing some characteristics of summer'.
b. *summer-y* 'weather reminiscent of summer, but occurring in another season or (perhaps within a cold ”summer“)'.

The semantic distance between the two nuances is smaller than in the example of *manly – mannish*, which seems to be biased with respect to two different referents. In the case of *summerish* and *summery* both terms denote some approximation to what is traditionally assumed to be a characteristic of a 'proper' summer. In this case the referent stays the same for both adjectives. There may be contexts in which *summerish* is used with a negative connotation, but this semantic aspect seems secondary to the notion of similarity, which is present in the terms in (6) and (7) alike. Hence, I assume here that *-ish* adjectives (and so-called 'rival' suffixes, the notion of rivalry will be discussed in section 7.3) predominantly show the meaning of comparison and approximation and have additional 'slots' for further meaning specifications in particular contexts, which 'dock on' to the derivative when needed.

With a number of derivatives, we do not find doublets like in the examples above. A case in point are terms like the following which have exact opposites as base and only one suffix seems felicitous:

(10) *heaven-ly* vs **heaven-ish*

(11) *hell-ish* vs **hell-ly*

Dixon does not elaborate on these examples much, but states that *-ly* in many cases signals a positive quality, whereas *-ish* again is restricted to indicating a negative one (2014: 237). In Webster's *Encyclopedic Unabridged Dictionary* (1989) it is mentioned that *-ly* in the sense of 'having the nature or character of' is ”distinctly complimentary“ (examples include *kingly* and *motherly*) (p. 754). In the cases above as well as in his example *god-ly* versus *devil-ish*, the respective bases are already accordingly connotated. In the case of *-ly* we thus have to resort to phonological matters as well, observing that words already ending in /l/ will not be suffixed with

-ly (cf. Dixon 2014: 237), whereas *-ish* preferably selects monosyllabic bases. Both facts can help determine preferences in base attachment and in fact we do not find any attestations for **heaven-ish* or **hell-ly* in the corpus COCA (the corpus has been checked for spellings with and without the hyphen). If we bring in another similar suffix, *-like* as in *hell-like*, we do find it attested three times in COCA (only with the hyphenated spelling). These attestations do not call into question the preference of *-ish* with this base, however (compare the unhyphenated spelling of *hellish* with 715 hits, no examples were found with the hyphen). The suffix *-like* is the most neutral of the three and seems to be the most forgiving with respect to violations of phonological restrictions. It has to be mentioned, however, that even a generally complimentary suffix as *-like* can be used with a slightly disparaging nuance, for example when it functions as an adverbial: ”Manlike, he wanted to run the show“ (Webster's *Encyclopedic Unabridged Dictionary* 1989: 754).

More information about the distribution of these three suffixes can be gained by a respective corpus analysis. With the exception of *-ly*, this will be attempted in chapter 7 where the main focus will lie in determining whether these suffixes (as well as the Romance-based suffix *-esque*) are rivals and shedding light on their frequencies, semantics and other properties. Conducting a full-fledged corpus analysis of all suffixes which can show a comparative meaning (i.e. *-esque, -ish, -like, -ly, -y*) is outside the scope of this work and will be left to future research.

Very briefly I want to consider proper names here as well. Dixon claims that proper names referring to persons with a generally bad reputation will more likely receive *-ish*, whereas the opposite is true for positively connotated proper names with *-like* (examples from Dixon 2014: 236):

(12) a. He has a distinctly [Vladimir Putin]-*ish* air.
b. He shows a rather [Franklin D. Roosevelt]-*like* attitude.

The problem with such a generalised statement is that we additionally have to take into account who the speaker is and what his or her stance towards the referent of the derivative is and further that it compartmentalises the referents into two neatly separated groups. By having a look at the corpus COCA we do find a tendency for *-like* to attach to persons which are regarded as honorable and reputable (e.g. *Christ-like*), but we also find a number of examples where the great majority of people would vigorously disagree with the binary classification (e.g. *Hitler-like*). Similarly, *-ish* is also not only attached to proper names with a generally negative connotation, but is also found in a derivative like *bondish*, referring in context to James Bond, which is also attested with *-like*. In a number of instances it depends on the type of speaker whether the derivative is used with a positive or a negative connotation and context plays an

important role too. Different from Dixon (2014), I would ascribe -*ish* a tendency to more frequently occur with already negatively connotated bases, taking into consideration also aspects of phonology and context, but primarily describe -*ish* as what Bauer et al. (2013) call 'similative' suffixes (see above), which denote a comparison to a property of the base or approach the quality of the base but do not reach it completely. Further distinctions have been made in Kuzmack (2007), and Traugott and Trousdale (2013), each with their own terminology (i.e. 'comparative' and 'qualifying' in Kuzmack, and 'associative' and 'approximative' in Traugott and Trousdale). Proper names form part of a qualitative analysis of the suffixes -*ish*, -*like*, and -*esque* (and their German historical cognates -*isch*, -*lich*, and -*esk*) in chapter 8 (section 8.5.2.1).

The following section will deal with a phenomenon that is intrinsic in language, but investigated mainly with respect to adjectives. The majority of the approaches presented in section 2.3.3.2 will also find some application in the remainder of this work, i.e. with respect to the analysis of the free morpheme *Ish* (see part II).

2.3.3 The notion of vagueness in language

Vagueness is a pervasive phenomenon in natural language. In fact, ”[a]lmost every natural-language concept has some margin of imprecision in at least some cases of application“ (Pinkal 1996: 185). This is most salient with respect to colour terms, a popular phenomenon in the literature on vagueness. If you imagine a red car, which shade of the colour immediately springs to mind? A bright red, say that of red roses or some nuance or red, say the colour of a rich dry red wine or a colour in the margin of red and orange? Pinkal (1991: 251) calls the latter two ”borderline cases of application“ ('Anwendungsgrenzfälle' in the original). It is one of the properties of vagueness that some ”irreducible margin of imprecision“ remains (cf. Pinkal 1996: 196), i.e. vague expressions admit of borderline cases. This property sets vagueness apart from ambiguity, which ”always allow[s] complete disambiguation“ (Pinkal 1996: 196). Furthermore, the scope of indefiniteness in the case of ambiguity is clearly demarcated: The meaning of *bank* ('financial institution' and 'edge of a river, riverbank') amounts to two precise readings with a sharp denotational boundary. Conversely, the meaning of a vague predicate such as *green* does not have a clear boundary (cf. Pinkal 1985a: 62). Instead, the transition of the domain of positive denotations to negative denotations is indistinct and forms a continuum. However, as will be seen in section 2.3.3.1 below, the notion of vagueness does not only need to be demarcated from ambiguity, instead several terms allow for some imprecision of meaning.

The study of vagueness is itself situated in a borderline area, namely that of linguistics and philosophy. Early work in the area of logical semantics (e.g. Montague 1970, Lewis 1970) has helped establish vagueness as a feature of natural language and numerous primarily logic-based approaches have developed in the meantime (cf. Ballmer and Pinkal 1983: 3). The phenomenon of vagueness remains a problem for these approaches, however, because classical logic is subject to the principle of bivalence, which states that only the truth values of (T)rue and (F)alse may be uniquely assigned to propositions. Different solutions have been developed in a variety of frameworks (For a comparison, see Pinkal 1991). Among the popular ones are those that assume a third value next to T and F as is the case in three-valued logics (e.g. Łukasiewicz 1930) and those that assume more than three values (e.g. infinitely many-valued logics such as fuzzy logic (Zadeh 1965) which take values that range between 0 and 1 as their basis). Another way is to assign partial values as in supervaluationist accounts (first developed by van Fraassen 1968), a system that for example Kamp (1975) and Pinkal (1985a, b) adhere to. In section 2.3.3.2 below I will discuss a number of frameworks, which deal with vagueness in adjectives in different ways, for example by assigning different degrees to an adjective's denotation (e.g. Kennedy 2007), by assuming multiple values (e.g. Burnett 2017), or by taking a semantic-pragmatic approach as is done in Lasersohn (1999).

2.3.3.1 Vagueness and its properties

In many treatments of vagueness the term is first demarcated from similar notions such as ambiguity or fuzziness[16], terms that all share a sense of imprecision in meaning (cf. Zhang 1998: 14). A term is described as ambiguous if it shows ”more than one semantically unrelated meaning“ (Zhang 1998: 17) thus resulting in (at least) two different dictionary entries (van Rooij 2011: 125). A typical example is that of *bank*, pertaining either to the financial institution or to the riverbank. Keefe and Smith (1997 : 6) note that the noun *bank* characteristically encompasses both ambiguity and vagueness tending to obscure the contrast. At the level of individual lexemes, however, the distinction between homonymy and polysemy may be evoked (cf. van Rooij 2011: 125, footnote 2). Also, a number of tests have been devised to clarify the distinction between the two notions, for instance the verb phrase ellipsis test (Lakoff 1970). The idea is that a given sentence S should be able to be extended by phrases like 'and Mary did too'. If the extended sentence S' contains an equal amount of interpretations as S, then S should count as

16 The list of demarcation does not end here. Some researchers also differentiate vagueness from generality, underspecification, or context-dependence. Here I will not go into the intricacies of these particular terms, however. For details on the differences of these individual terms, see Pinkal (1991), Keefe and Smith (1997), Zhang (1998), van Rooij (2011).

ambiguous (cf. van Rooij 2011: 125). Zwicky and Sadock (1975) discuss a number of tests for determining ambiguity, among them also the semantic test of contradiction (p. 7), in which the two different semantic representations of an ambiguous word are juxtaposed in a sentence like the following:

(13) It is a bank, but it isn't a bank.

The sentence will not be considered ill-formed if the two separate senses of the noun *bank* are involved (cf. Zhang 1998: 22). Pinkal (1991: 251) shows that there is not one single criterium for distinguishing vagueness from ambiguity, thus leading to a variety of transitional phenomena.

Fuzziness is said to be inherent in particular lexemes (such as *about*, *rather*) and thus not resolvable by resorting to contextual information (cf. Zhang 1998: 13). Hence, Zhang claims it should be differentiated from the rest of the concepts on the grounds that they could be contextually eliminated (p. 13). However, if we take gradable adjectives like *tall* under consideration, this is only true to some extent. We could precisify *tall* by adding contextual information in terms of a *for*-phrase 'X is tall for a three-year-old'. In this context the *for*-PP specifies the predicate *[is] tall* with respect to a class of comparison of other three-year-olds (cf. Burnett 2017: 85)[17]. The inherent vagueness of *tall* is not eliminated, however, even when a specific comparison class is chosen (cf. Keefe 2000: 10). As ”gray peripheral area[s]“ exist with adverbials such as *about* (Zhang 1998: 15), so do they appear in predicates like *tall* and the answer whether a person counts as tall or not may vary from context to context. The lexemes mentioned and termed as fuzzy in Zhang (1998: 14f.) are what is typically referred to as hedges in Lakoff (1973). In section 6.2 we will scrutinise hedges and the various terms used to denote them as well as the many approaches directed at them. It may indeed become relevant to provide a sharper delineation of fuzziness in contrast to other terms, for example in the theory of fuzzy logic (Zadeh 1965), which is one of the set of many-valued logics. For our purposes, however, it is not of any profound consequence to use the terms vague and fuzzy as interchangeable[18].

The concept of vagueness is commonly defined with respect to three related properties: borderline cases (Peirce 1902), fuzzy boundaries (Frege 1903), and susceptibility to the classical paradox of the Sorites (going back to Eubulides, a Megarian philosopher and logician from the 4th century BC, cf. Hyde 2011, Ballmer and Pinkal 1983: 1) First, vague predicates admit of borderline cases such that a predicate like *red* may or may not apply in a given case. In Peirce's words, ”[a] proposition is vague when there are possible states of things concerning which it is

17 Whenever I refer to predicates in this section I shall omit the copula from now on.

18 The relationship and areas of application of the terms *fuzzy* and *vague* are still a matter of dispute. See Zadeh (2013) for a discussion of the two notions.

intrinsically uncertain whether […] [the speaker] would have regarded them as excluded or allowed by the proposition“ (1902: 748, emphasis in original). Consider the varnish of a car which is clearly not red but also clearly not orange, but something in the middle, i.e. a car with a reddish tinge. We could not felicitously say which one of the truth values of the propositions in (14a. and b.) clearly applies:

(14) a. The car is red.
b. The car is not red.

Since the paint job of the car is a borderline case of red, i.e. it is neither clearly true nor clearly false that it is red, the bivalent system of classical logic and semantics is challenged because ”there can be no individuals who are both members of a predicate and its negation (Burnett 2017: 18). A number of theories have evolved to settle this stalemate situation and these all admit of a third value besides true and false. One of them, the *Delineation Tolerant, Classical, Strict*, or *DelTCS* in short (Burnett 2017) will be examined in a bit more detail below.

The existence of borderline cases alone does not suffice to characterise the phenomenon of vagueness, however. It further involves the idea that vague predicates lack sharp boundaries, i.e. the transition from a clear application of a predicate to its negation is blurry (cf. van Rooij 2011: 126). The origin of the notion of fuzzy boundaries is commonly ascribed to Frege's *Grundgesetze* (1960[1903]) who stated that the definition of a concept involves the unambiguous determination of whether or not an object falls under the concept (p. 159). In essence, he originally posited the requirement of the *opposite* of fuzzy boundaries for predicates, a requirement which takes effect in the law of the excluded middle, or *tertium non datur* (p. 159). The subsequent work his statement has spawned in the area of natural language semantics has shown, however, that the application of predicates such as *tall* and *red* indeed does not involve sharp boundaries.

The very notion of *boundary* has been called into question, however, on the grounds that the concept of boundaries necessarily involves sharp delineations. Instead, according to Sainsbury (1996[1990]: 252) the notion *boundaryless* is the appropriate one to use. I follow Zhang (1998: 14), however, who states that there needs to be a distinction between things that involve a fuzzy boundary and things that do not have a boundary at all.

As with the previous characteristic of vagueness, the fact that vague concepts do not have sharp boundaries is a problem for classical semantics such as those making use of set theory. A particular item can be considered either a member of a given set or a non-member. If we consider a number of watches which are ordered according to their price (the difference in price for one watch to the next being 1 Euro each), we should ideally have two sets, one that includes

the expensive watches and another with the lower-priced watches. According to van Rooij (2011: 127) there should be a sharp boundary between those items that have the property *P* (here: expensiveness) and those that do not. The exact boundary of where the first set ends and the second begins is impossible to delineate, however. As Burnett notes, we could just assign a boundary somewhere, resorting to context, but she makes clear that this practice includes the danger of arbitrariness (2017: 19f.). Instead, one could argue with Wright (1975), Kamp (1981), van Rooij (2011) and others that vague predicates give rise to tolerance: they are ”insensitive to very small changes in the objects to which [they] can be meaningfully predicated“ (van Rooij 2011: 127). This view will lead us straightforwardly to the third property of vagueness, the Sorites paradox.

The classical puzzle of the Sorites gives the paradox its name: The Greek word *soros* means 'heap' and originally referred to the question by which point we would consider a number of grains of wheat as a heap (cf. Hyde 2011: 1). One single grain of wheat would not be eligible to be described as a heap, neither would two grains. However, as the accumulation of grains goes on, one has to ”admit the presence of a heap sooner or later“ (Hyde 2011: 1). The paradoxical nature of this puzzle then is that we will eventually come to a seemingly false conclusion but start out with true premises (cf. Hyde 2011: 2). In other words, the Soritical argument states that if we say that it is true that one grain of wheat is not a heap and two, three, etc. grains are not a heap, following this train of thought we would also have to claim the truth of the statement that a million grains do not make a heap, which is clearly false. This counterintuitive result arises from the fact that the difference a single grain makes is virtually imperceptible, leading to objectionable reasoning. The Sorites paradox is especially visible with most adjectives and treatments thereof usually begin with scenarios in which adjectives like *tall* or *expensive* are placed within a Soritical series. There exist a number of approaches for a solution to the Sorites paradox, including degree-based approaches and the application of many-valued logics, with the contextual solution originating in Kamp (1981) cited to be the most popular (cf. van Rooij 2011: 149). Here, I will not go into approaches that strive to give a solution for the Sorites, but in the next section I will introduce a number of works that have dealt with vagueness in adjectives more generally.

2.3.3.2 Approaches to vague adjectives

The literature has experienced a steep rise of interest in the properties of vague language and proposed a number of ways for how to handle vagueness, most prominently arising with adjectives, but also adverbs and quantifiers, as well as a number of verbs and even abstract

categories such as tense and aspect may give rise to vagueness (cf. van Rooij 2011: 124). In fact, van Rooij even states that ”no linguistic expression whose meaning involves perception and categorisation can be entirely free of vagueness“ (2011: 124). In this section I will only concentrate on approaches that have dealt with adjectives. Even though the adjective-forming suffix *-ish* may prolifically tack on to nouns and other categories, its sense of vagueness is most pervasive with adjectives, such as colour adjectives or adjectives of dimension, sound and light.

The category of adjectives cannot simply be conceived of as a massive bulk of lexemes being part of the same morphological classification, but consists of a more fine-grained semantic segmentation. The literature generally agrees on a tripartite distinction into relative (e.g. *tall*, *expensive*), absolute (e.g. *straight*, *bent*), and non-gradable adjectives (e.g. *pregnant*, *dead*), with some extending the group with a further member, stemming from the splitting of the absolute adjective group into two parts: total absolute and partial absolute adjectives (e.g. Yoon 1996, Rotstein and Winter 2004, Burnett 2017). Examples for the former are *clean* and *dry*, examples for the latter are *dirty* and *wet*. When trying to distinguish different types of adjectives, the notion of scalarity (or gradability) is of importance. An adjective that is gradable refers to some property to a certain degree (e.g. height or brightness), can be modified by a number of expressions (e.g. *very*) and can be used in the comparative and superlative (*taller*, *greenest*). Conversely, a non-gradable adjective will not show these specifications, or only in certain restricted contexts (?*very atomic*, ?*more geographical*)[19]. In scale structure theory (notable authors being Cresswell 1977, Bierwisch 1989b, Kennedy and McNally 2005, and Kennedy 2007, among many others) it is assumed that adjectives can be ordered and related along a certain dimension (of cost, length, height, etc.) with a set of degrees. Although the more technical notion of scales is most pervasive in theories of degree semantics, other frameworks have made use of it as well (e.g. Burnett (2017, chapter 5), who adopts a delineation approach). Gradability and reference to scale structure frequently coincide and the terms gradable/scalar and non-gradable/non-scalar shall therefore be used interchangeably here, however, bearing in mind what was said above. Adjectives behave differently with respect to where they locate on this abstract representation of measurement, leading to the subclasses introduced above.

For instance, relative adjectives show a more substantial form of vagueness as well as context-sensitivity than absolute adjectives do. The interpretation of a relative adjective like *tall* depends on the context: Whether a building counts as tall is dependent on the height of its surrounding

19 The adjective *dead* does appear 81 times with the comparative and 20 times with the superlative in the corpus COCA, especially in the context of fiction, spoken language, and popular magazines. A quick check with the intensifying adverb *very* revealed another 67 hits. *Dead* is one of the few non-scalar adjectives that flourishes with distinct scalar patternings in certain contexts.

buildings (cf. Kennedy and McNally 2005: 348). In order to account for this variation a ”contextually defined standard of comparison“ (Kennedy and McNally 2005: 348, emphasis omitted) is assumed to which the adjective adheres. The twofold structure of a scale distinguishes it into an open or a closed scale. In the former case, the scale will not have minimal or maximal values (e.g. with *tall*), whereas a closed scale can have either minimal (*wet*) or maximal elements (*dry*), or both such as the total absolute adjectives *full* and *empty* (cf. Kennedy and McNally 2005: 352, for further examples see their page 355).

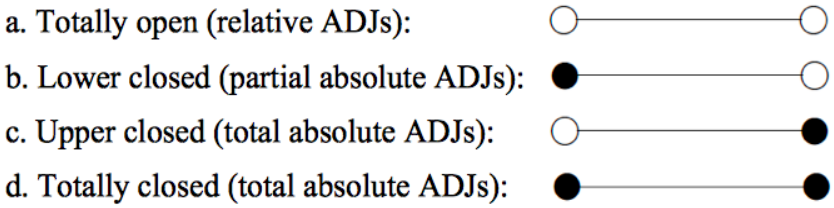

Figure 1. Typology of scale structure

Consider the adjectives *tall* or *long* on the one hand and *empty*, *dirty* on the other: The class of adjectives that are referred to as relative intuitively appear with an open scale, i.e. one which does not have natural endpoints. The latter two, however, seem to appear with elements that delimit the range of the scale (cf. Kennedy and McNally 2005: 352). The distribution with these kinds of adjectives with linguistic modifiers seems to support this intuition. Thus modifiers such as *slightly*, *completely* or *perfectly* pattern well with closed-scale adjectives, whereas it seems objectionable to combine them with open-scale adjectives (cf. Kennedy and McNally 2005: 352f.; Toledo and Sassoon 2011: 136), see example (15):

(15) completely empty/ full vs ?completely tall/ expensive

Kennedy (2007: 34) notes that due to idiosyncratic reasons not all modifiers co-occur with all types of adjectives, but *perfectly* and *slighly* are examples of clear cases with most adjectives. As mentioned above, the class of absolute adjectives is partitioned into two subclasses due to their different distributions on the scale. Hence total absolute adjectives (*clean*, *empty*, *full*, *straight*, *dry*) have maximal values, requiring their arguments to possess a given property to the maximal degree, and partial absolute adjectives like *dirty*, *bent* or *wet* describe properties with minimal values, i.e. they require their arguments to possess the property in question to some non-zero degree (cf. Kennedy and McNally 2005: 352; Rotstein and Winter 2004; Kennedy 2007: 21f.; Toledo and Sassoon 2011: 136; van Rooij 2011: 139; Sassoon 2012: 164; Solt 2015: 22; Burnett 2017: 7). The fact that absolute adjectives pattern differently with respect to the subclass becomes evident with their (in-)acceptability with degree modifiers such as *slightly* (e.g. Toledo and Sassoon 2011: 136) and *almost* (e.g. Rotstein and Winter 2004: 265):

(16) slightly dirty vs ?slightly clean

(17) almost full vs ?almost bent

The adjective *dirty* is a partial absolute adjective which requires a minimum standard, hence it is acceptable with *slightly*. To illustrate this point with an example by Sassoon (2012), think of a piece of clothing. She notes that one stain suffices for something to count as dirty, hence the property denoted by the predicate corresponds to a minimal value because one stain alone will account for the property to have a non-zero degree (p. 164). Conversely, a piece of clothing will only count as clean, when it is completely stainfree, i.e. maximally clean (p. 164). The maximal endpoint with adjectives such as *full* and the minimal standard for *bent* also explains why the former is acceptable with the modifier *almost*, but not the latter. Thus, the modifiers *almost*, *completely*, or *perfectly* are felicitous with total absolute adjectives (which pick out maximal degrees on a scale), the modifier *slightly* co-occurs with partial absolute adjectives (which select minimal degrees), but not vice versa.

We have yet to say a word about adjectives like *hexagonal*, *pregnant* or *dead*. Given their inacceptability with comparative constructions and with degree modifiers such as *completely*, *slightly*, and *almost*, they are generally defined as ungradable. Therefore, they are also usually not associated with a scale. As we will see in the discussion of Burnett's (2017) framework below, in some cases a non-scalar adjective can felicitously be interpreted as a gradable adjective, i.e. when its level of precision is lowered (see also Kennedy (2007: 22, footnote 21), who claims it is often the case that a seemingly non-gradable adjective can be coerced into having a gradable reading).

I will now briefly introduce four frameworks interested in the semantics of vague predicates which have frequently but not exclusively discussed adjectives with respect to their vague properties, leaving an imprint on the subsequent literature. These four approaches should be understood as an exemplary treatment of the vast amount of accounts which have dealt with adjectival vagueness. They were picked out for their ideas on how to model vagueness which may serve as a fruitful basis for the subsequent analysis of *-ish*-suffixed adjectives. Indeed, we will see in part II that ideas and notions of these approaches resurface in the discussion of *Ish* as a hedging particle.

The discussion is structured twofold: The first account focusses on a primarily semantic treatment (Kennedy 2007); Burnett (2017) and also Lasersohn (1999) bridge the gap between a semantic and pragmatic account. The following illustration of these accounts will be conducted as non-technical as possible, since the aim here is not to provide the specific intricacies of these approaches, but to make explicit how they account for vague adjectives.

Kennedy's (2007) paper is a degree semantics account of the properties of vague adjectives, the distinction between relative and absolute adjectives as well as their relation to scale structure. Assuming that only relative adjectives are vague, he notes that absolute adjectives fail to make reference to the Sorites paradox because the second premise judged true in the case of relative adjectives, which gives rise to the paradoxical nature of the puzzle, is rejected with absolute adjectives as Kennedy's (2007: 30) example below shows:

(18) P1. A rod that has 10 degrees of bend is bent.
→ P2. A rod that is 1 degree less bent than a bent rod is bent.
C. A rod that has 0 degrees of bend is bent.

In comparison with a straight rod, which is one degree less bent than a rod with one degree of bend, it can easily be seen that the second premise is judged as false to begin with (cf. Kennedy 2007: 30). Further, absolute adjectives also do not give rise to borderline cases because they allow for 'natural precisifications', a term coined by Pinkal (1985a: 84, as 'natürliche Präzisierung') (cf. Kennedy 2007: 24). It means that we are able to ”fix a level of *granularity*“ for which these adjectives count as true and hence give the predicates precise interpretations (van Rooij 2011: 123, emphasis in original). The same is not true for relative adjectives, which are still vague even when the level of granularity has been altered.

Contrary to relative adjectives, the interpretation of absolute adjectives is not context-dependent, but is instead fixed to minimal or maximal standards of comparison, cited to be the crucial difference between the two types of adjectives (cf. Kennedy 2007: 21, 25). Evidence for his claim comes in the form of their behavior with respect to entailments, antonym pairs, and the definite description test, the latter of which is generally invoked to test the distinction between the two types of adjectives (cf. van Rooij 2011, Toledo and Sassoon 2011, Burnett 2012, 2017, among others) and will be briefly illustrated in what follows.

Consider two objects which may be judged as either both tall or both not tall independently from each other. In an experimental setting by Syrett et al. (2006), it has been found that relative adjectives presented in a two-object comparison class are able to shift their standard contextually (i.e. whether they count as tall or not) when combined with a definite description:

(19) Please give me the tall one.

Kennedy notes that it is expected to pass the taller of the two objects since the positive form *tall* involves a context-dependent standard of comparison even though individually, the two objects differ only to a small extent and would thus be judged tall in either case (2007: 28). By comparing two objects like this, the one is picked which, to use Kennedy's (2007: 17) notion, 'stands out' relative to the property the adjective denotes.

The definite description test does not go through with absolute adjectives, however. By taking two objects (e.g. towels), of which one is slightly drier than the other, asking a participant to 'pass the dry one' is infelicitous, since the positive form of the (total) absolute adjective *dry* requires its argument to be placed on the top end of the scale. That is, the towel needs to fulfill the property of dryness to the maximum extent. Only the use of the comparative form *drier* is acceptable in this context. These examples lend support to the claim that relative adjectives have a context-dependent standard of comparison, whose terms of application can shift from context to context, while absolute adjectives have context-independent standards of comparison, making reference to a fixed maximum or minimum value of the property the predicate denotes. Van Rooij notes that Kennedy's (2007: 29) example of the absolute adjective *full* is an unfortunate choice for the significance the test is assumed to have for a distinction of the two types of adjectives. In particular, the predicate *full* "behaves crucially different from other claimed absolute adjectives" due to it not being contradictory to its antonym *empty* (2011: 142, footnote 32). That is, whereas the antonyms *straight* and *bent*, *dry* and *wet*, as well as *clean* and *dirty* are examples of one being a total absolute adjective (the former of the pair) and the other constituting a partial absolute adjective, the case of *full* and *empty* is different in that they are both total absolute (see for example Burnett 2017: 4), making reference to the top end of the scale.

The most salient novelty in Kennedy's approach is undoubtedly his notion of *Interpretive Economy*, which entails that in computing truth conditions, the conventional meanings of expressions are given preference over context-dependent truth conditions (2007: 36). A reason for this, he states, is that while features of the context may be disputable in discourse, the conventional meanings will be agreed upon by the participants (p. 36). As a result, it is ensured that closed-scale adjectives are interpreted as absolute. Since "an adjective's scale structure is part of its conventional meaning", the interpretation of open-scale adjectives as relative and closed-scale adjectives as absolute is warranted (p. 36)[20]. Since we do not have to resort to context for an interpretation of an absolute adjective, Kennedy (2007: 43) concludes that they are not vague in themselves, but can have imprecise meanings.

An account which provides a short introduction to the suffix *-ish* (its focus is the modelling of the free morpheme, but I will defer discussion of this latter point to section 5.2 below) within the degree semantics framework is the one by Bochnak and Csipak (2014). Drawing on insights from Sugawara (2012), they note that *-ish* is sensitive to scale structure, comparable to other degree adverbs (e.g. *completely*) (p. 435). Its meaning contribution consists in identifying a

20 For a number of drawbacks of this proposal see Potts (2008).

degree which is slightly less than the standard its base adjective adheres to (p. 433). Their analysis accounts for the fact that *-ish* is felicitous with relative adjectives (i.e. those that have a contextually variable standard) and with total absolute adjectives (i.e. those exhibiting a maximal standard), but is questionable with minimum-standard adjectives, since they by default resort to the lower bound of the scale (p. 436f.). That is, *-ish* cannot identify a degree lower than the standard for an adjective that is already situated at the minimum endpoint of a scale. In corpora like COCA we find attestations of *-ish* attached to partial absolute adjectives (*wettish*, 7 tokens), but these are much less acceptable than their total absolute counterparts. The acceptability of *-ish* with lower-bounded scale adjectives is explained via a second use of the suffix *-ish* as a precision regulator (cf. Bochnak and Csipak 2014: 439f.). The presented analysis, however, says nothing about how to accommodate non-scalar adjectives which appear with *-ish*, e.g. *dead-ish*, which is attested to some degree in prominent large-scale corpora. Each of the derivatives *deadish* and *dead-ish* is attested once in COCA, which in itself is not a highly significant result. However, when compared to an even larger corpus, the very recent *iWeb*, which features 14 billion words taken from over 95,000 websites[21], *deadish* is attested 22 times and *dead-ish* 25 times. Given the overall size of the corpus and a quick comparison with the well-known relative adjective *tallish* (366 hits), the results are still small-scale. What these attestations do show, however, is that *-ish* cannot be ruled out completely with partial absolute and non-scalar adjectives and a theory explaining the distribution of *-ish* with different types of adjectives has to take those into account as well (see Harris 2020).

A semantic framework which provides a possible answer for the acceptability of *-ish* with *wet* and *dead* is Burnett's (2017) *Delineation Tolerant, Classical, Strict* (*DelTCS*) framework. Her account is situated in the comparison-class-based framework of delineation semantics which originated in works by Lewis (1970), Kamp (1975) and Klein (1980), the latter of which crucially assumed that the interpretation of relative adjectives should include a relevant comparison class, i.e. a set of objects which is contextually given (cf. Klein 1980: 13)[22]. The underlying comparison class of the positive form of an adjective may be made explicit by a *for*-PP (example from Klein 1980: 13):

(20) Lana is clever (for a chimp).

The property of cleverness is evaluated against the background of the set of other chimps in this context. The notion of comparison classes has been met with some criticism from adherents of the degree-based approach (e.g. Kennedy 2007). I will not delve into the discussion, as it is not

21 See https://www.english-corpora.org/iweb/ for details.

22 For a critique of Lewis (1970) and Kamp (1975), see van Rooij (2011).

central to the goal I am pursuing here. For a discussion of the different accounts, see van Rooij (2011).

To return to Burnett's framework, she enriched the basic delineation approach with the notion *Tolerant, Classical, Strict* (*TCS*), first formulated in Cobreros et al. (2012). The idea is to account for vague predicates, which in classical logic give rise to the Sorites paradox, in formalising them in a trivalent non-classical logic system. That is, in order to allow a truth value which makes reference to the principle of tolerance as exemplified in (21), a third value has to be introduced.

(21) If some individual *x* is *P*, and *x* and *y* are only imperceptibly different in respects relevant for the application of the predicate *P*, then *y* is *P* as well (Cobreros et al. 2012: 348).

Relations as the one depicted in (21) are called *tolerance* or *indifference* relations in Burnett's framework, ”since they encode amounts of change that do not make a difference to categorization“ (2017: 1). The essence of her approach is that she assumes a basic classical semantic system on top of which the pragmatic denotations *tolerant* and *strict* are mapped to account for the properties of context-sensitivity and vagueness found with these adjectives. Relative adjectives, for instance, are universally and existentially context-sensitive in that they are able to shift their criteria of application across comparison classes (cf. Burnett 2017: 41). We have seen that with the relative adjective *tall* in example (19) above. Due to the scale structure associated with absolute adjectives, with them we will only encounter existential context-sensitivity with asymmetric distributions thereof, i.e. depending on whether an absolute adjective has maximal or minimal endpoints (cf. Burnett 2017: 35). In other words, a total absolute adjective like *empty* will be able to shift its threshold in some comparison classes, but not in those that have minimal standards. In an example from Burnett, this insight shall be illuminated. Consider a pair of containers, one of which is completely empty and one which has a ”negligible amount of liquid“ in it (2017: 42). Application of the definite description test shows that the request of passing 'the empty one' over would be infelicitous here. However, if we instead imagine two containers, one of which is more than half filled with some liquid and the other contains a hardly noticeable amount of liquid, the request is no longer infelicitous, i.e. in its 'loose' or imprecise use, the total absolute adjective *empty* can indeed shift its criteria of application (cf. Burnett 2017: 42, cf. figure 3.3). On its precise use, *empty* has maximal standards, i.e. the container would be required to be completely empty. Acceptance with *for*-phrases strongly increases for absolute adjectives in their imprecise uses, which otherwise would be deemed odd. That is, the observation 'this theatre is empty for a Friday night' is felicitous even

when a few spectators are present, i.e. even when it cannot be considered completely empty in the precise application of this predicate.

Recall that Kennedy (2007: 21, 30) claims that absolute adjectives are not vague at all, i.e. they do not show the cluster of characteristics that give rise to vagueness (see section 2.3.3.1 above). Burnett, however, advocates a more nuanced version of vagueness and claims that in some contexts absolute adjectives can also show the features that vague predicates have (2017: 49). In particular, a total absolute adjective like *straight* may be employed in a 'loose' use in the context of the shape of roadways. Burnett (2017: 49) gives an example in which an easily motion-sick person is required to travel by car. In the precise use of *straight*, a road with any bend in it would be considered inadequate to travel on. Hence, the individual could never go anywhere because probably every road will encounter some bend sooner or later. Burnett thus suggests applying a tolerant notion of *straight* to this context, following Cobreros et al. (2012: 348):

(22) For all *x*, *y*, if *x* is straight and *x* and *y* differ by a single 1 mm bend, then *y* is also straight. (Burnett 2017: 49)

In summary, Burnett assumes that ”the fuzziness of *tall* and the fuzziness of loose uses of *empty* strongly suggest that we are dealing with a single phenomenon at work in both cases“ (2017: 49). In doing so, she does not resort to the traditional view of vagueness, but considers it to be subject to contextual variation, hence labelling it *potential vagueness* for the sake of distinction (p. 50). It is formally defined as in (23) below:

(23) An adjective *P* is P-vague iff there is some context *c* such that *P* gives rise to a Soritical argument in *c*[23]

The potential vagueness patterns applied to the different classes of adjectives are akin to the scale structure patterns we have already encountered. A relative adjective thus will show symmetric potential vagueness in that both its positive and negative forms are potentially vague (i.e. P and ¬P, or *tall* and *not tall*). Consider (24a. and b.) below for illustration:

(24) a. '*Long* book': For all *x*, *y*, if *x* is long and *x* and *y*'s length differs by 1 page, then *y* is long.

b. 'Not *long*': For all *x*, *y*, if *x* is not long and *x* and *y*'s length differs by 1 page, then *y* is not long.

These statements are intuitively right in giving rise to the Sorites paradox. Conversely, absolute adjectives are asymmetrically (potentially) vague in that total absolute adjectives have potentially vague positive forms while partial absolute adjectives are associated with potentially

23 A short note on the language used here is in order. Burnett's framework makes use of propositional logic and the shorthand *iff* for 'if and only if' is applied here as well.

vague negative forms, thus mirroring what was said above with respect to context-sensitivity and their respective scale structures[24]. One central claim in Burnett's framework is that the scale structure is derived from the adjectives' respective denotations. In the case of total absolute adjectives, the maximum endpoint scales are derived from their pragmatic, tolerant denotations, whereas scales of partial absolute adjectives are derived from their pragmatic, strict denotations (Burnett 2017: 90). Recall that relative adjectives are associated with open scales, i.e. they have neither maximum nor minimum elements, so their scale is derived directly from their semantic denotation (p. 90).

Since non-scalar adjectives are not context-sensitive and not (potentially) vague, they do not show the patterns illustrated above and are not associated with a scale (i.e. their pragmatic denotations are identical with their semantic denotations, see Burnett 2017: 90). A possible reason for this is that the occurrence of non-scalars is favoured in contexts which naturally default to more precise uses, as for example mathematics, biology or law (cf. Burnett 2017: 95f.). However, there is an exception. In the paragraphs above, I have made use of the notions of 'loose' use and imprecision, respectively. As indicated above, non-scalar adjectives can indeed acquire gradable readings, made explicit by degree modifiers (*very dead*/ *pregnant*) and the use in the comparative (*more pregnant*, cf. Burnett 2017: 96f.). In such cases, Burnett claims, the precision with which they are used is lowered, making them suitable for the properties of context-sensitivity and vagueness as is the case with absolute adjectives (2017: 97). In essence, according to Burnett, non-scalar adjectives are absolute adjectives used with a higher degree of precision (2017: 98). In more technical terms, the differences between the two types of adjectives are part of their pragmatic nature, not their semantic denotations (cf. Burnett 2017: 95). Formally, a number of axioms ensures the stability of the relative/absolute distinction as well as the relationship between absolute and non-scalar adjectives. For the more technical aspects of this approach, the interested reader is referred to Burnett (2017).

One approach tested Burnett's major claims about the relationship of context-sensitivity, vagueness, and scale structure with respect to complex adjectives ending in *-ish*. In Harris (2020), it is assumed that the distribution of *-ish* with the four types of adjectives introduced above can felicitously be explained by making use of Burnett's (2017) framework. Given the assumptions about the adjectives' scale structures above, we can straightforwardly arrive at an explanation for their patternings with *-ish*, since the suffix targets these scales in the manner of a degree modifier. That is, with the open-scale structure of relative adjectives *-ish* is able to

24 For examples further illustrating these claims, please consult Burnett (2017: 50-53), see also Harris (forthcoming).

felicitously appear with both potentially vague positive (P, e.g. *tallish*) and negative (¬P, e.g. *not tallish*) forms, displaying the property of universal context-sensitivity discussed for these adjectives. The asymmetric relationship of total and partial absolute adjectives and thus their existential context-sensitivity is mirrored in their acceptability with the suffix, with total absolute adjectives frequently occurring with *-ish* (e.g. *dryish*), adding the meaning of approximation, while partial ones only allow for a few attestations due to their scale-structure and potential vagueness properties introduced above (cf. 2020: 72). Non-scalar adjectives in turn usually do not appear with *-ish*, but in exceptional cases where the precision has been lowered, *-ish* is applied without giving rise to oddness (e.g. *deadish*). The non-occurrence of some non-scalar adjectives (e.g. ?*pregnant-ish*, ?*hexagonal-ish*) with the suffix has been additionally assumed to be due to other factors (such as the preference of *-ish* with monosyllabic bases), which are not semantic (cf. 2020: 73).

I will now consider a framework which is more invested in the pragmatic aspects of vagueness and uncertainty than the previous approaches. While not exclusively discussing adjectives, Lasersohn's (1999) *pragmatic halo* framework reveals some interesting extensions to theories that have attempted to tackle the phenomenon of vagueness in adjectives. It has to be noted that despite of the framework's name, it is situated rather at the interface of semantics and pragmatics (see Anderson 2013a for explication). Among other things, Lasersohn investigates the reason why non-scalar adjectives are acceptable with intensifying *perfectly*, but not with degree modifiers such as *very* (1999: 524):

(25) a. very round vs ?very spherical
b. perfectly round vs perfectly spherical

While gradable adjectives like *round* are perfectly natural with either, the non-scalar adjective *spherical* is only licensed with *perfectly* in (25b.). Degree adverbials make direct reference to scales, which is why scalar adjectives can felicitously be combined with them, but non-scalar adjectives cannot. Lasersohn claims that in the case of *spherical*, the adjective may also be used to describe objects that are not a perfect sphere, but which deviate slightly (p. 524). In other words, in employing the adjective in its less precise use, we say something that is ”literally false, but close enough to the truth for practical purposes“, a fact that is termed 'pragmatic slack' by Lasersohn (1999: 524). Intensifying adverbs like *perfectly* or *exactly* – so-called slack regulators – then regulate the admissible degree of deviation from the truth when we speak loosely (p. 525). In a context where one of these slack regulators is employed, the degree of slack (or looseness) that is permitted in order for an utterance to be close enough to true for practical purposes is much lower than without them, effectively shrinking the size of a pragmatic halo to coincide

more closely with the denotation of an expression:

(26) The table is round. vs The table is perfectly round.

(27) Mary arrived at three o'clock. vs Mary arrived at exactly three o'clock.

The phenomenon of slack regulation is modelled by employing the notion of *pragmatic halos* in Lasersohn's framework, which is understood as including the semantic denotation of an expression as the halo's centre, and additionally a set of objects that differs from the denotation only in ”pragmatically ignorable“ ways in context (p. 526). To illustrate with an example, consider the expression below (example in Lasersohn 1999: 522):

(28) Mary arrived at three o'clock.

The exact point in time, *three o'clock*, will be the semantic denotation under which the expression is true. If Mary arrived a few seconds, say ten or fifteen seconds after three o'clock, then, strictly speaking the utterance would be truth-conditionally false (p. 522). This presupposes an exceptionally high level of precision, however, one, as Lasersohn observes, that will never be true in the real world, since the time of arrival cannot be pinpointed to one particular instant, but will extend over a longer interval (p. 544). In other words, when uttering expressions such as (28) above, we conventionally speak more loosely and thus employ pragmatic slack, pragmatically allowing for the truth of the utterance to be close enough to true. In more technical terms, the pragmatic halo includes an interval *i*, which includes 3:00 sharp, but also contains a set of times that extend in either direction (p. 544). This set of times will differ in only pragmatically negligible ways and will thus not make a difference to the truth conditions of the expression.

Burnett (2017) notes several similarities between Lasersohn's pragmatic halos and her own framework. For instance, her notion of indifference is paralleled in Lasersohn's 'pragmatically ignorable' difference and what she terms *tolerant* truth is mirrored in his notion of 'close enough to truth' (2017: 32). In both cases it is assumed that the precise semantic denotation of an expression is not altered, but that any deviation from it is due to pragmatic ”loosening [of] the conditions of application“ (Burnett 2017: 32f.). According to Burnett, however, the two frameworks are not considered to be mere mirror images of each other, but she instead conceives of her framework as an extension of Lasersohn's in that tolerant and strict denotations are in duality of each other (2017: 33). Further, TCS is considered to refine the halo approach in that it is possible in TCS ”to derive orderings between individuals“ (2017: 33), while the halo and the ordering of the members of the set in some context is simply given in Lasersohn (1999).

Despite the supposed drawback in the technical aspects of Lasersohn's approach, he does have something interesting to say about hedges, a topic that will become relevant in section 6.2 in

discussing the free morpheme *Ish*. He acknowledges that unlike the slack regulators above, hedges do have an effect on the truth conditions of an expression (1999: 545). Expressions functioning as hedges should thus not be seen as ”extra-wide pragmatic halo[s]“, but instead as denoting a set of eventualities the halo includes, in effect ”expanding the denotation into the halo“ (1999: 545).

Consider the situation in which Mary has just finished writing the last words of her paper and she exclaims 'I'm done with my paper! *Ish*', knowing that she still has to check the formal aspects and the bibliography before the paper is technically done and ready to be submitted. According to Lasersohn the hedge ”serves to replace a sentence's denotation with a set whose members are drawn from the elements of the sentence's halo“ (1999: 545). In other words, the sentence 'I'm done with my paper' contains in its halo also the 'set of eventualities' (p. 545) which includes the eventuality of being done with the writing process *per se*, although more precisely speaking, the expression of being *done* entails the entire process of writing a paper, including formal, bibliographical and other aspects. On this interpretation, the use of *Ish* makes explicit a contiguous set within the expression's halo, in Lasersohn's words, ”converting pragmatic slack into semantic content“ (1999: 545).

Finally, a variety of other frameworks exists which discuss the vagueness of adjectives, among them the pragmatic framework by Lassiter and Goodman (2013, 2015), which rely on a degree semantics basis which is enriched using ideas on Bayesian inference under uncertainty. As such, their framework is oriented more towards pragmatics and adds a probabilistic component. Due to reasons of space, I will not be able to introduce their framework in any detail. The interested reader is referred to Lassiter and Goodman (2013, 2015), the former of which also has something to say about absolute adjectives and their relationship to relative adjectives.[25]

In summary, the questions surrounding vague properties in adjectives as well as qualitatively different types of adjectives have led to a number of very promising theories, four of which were sketched above. They have provided answers to lingering questions of how to model vague adjectives and all have done so in primarily formal approaches with some setting their focus on the semantic aspects (Kennedy 2007), others on pragmatic models (Lassiter and Goodman 2013, 2015), and still others which are bridging both linguistic areas (Lasersohn 1999, Burnett 2017). Although these frameworks model positive-form simplex adjectives, a few subsequent approaches have attempted to integrate these ideas with complex adjectives (Bochnak and

25 For instance, the absolute adjective *full* has proven troublesome for several theories because it may also acquire a relative interpretation (see McNally 2011 for a discussion of *full*). Lassiter and Goodman (2013) explain their behaviour by different prior expectations speakers have concerning the context in which the adjective occurs (2013: 601).

Csipak 2014; Harris 2020).

The notions of scales and comparison classes are prevalent in the frameworks above, although to a greater or lesser degree. We have identified four different types of adjectives, three of them approaching gradability in different ways. Their behaviour with respect to scales identifies them as relative (open scale, no natural endpoints), total absolute (upper closed scale, maximal values), and partial absolute (lower closed scale, minimal values). They have also been shown to pattern differently with degree modifiers and by employing tests, of which the definite description test is one frequently employed, we are able to differentiate the relative class from the absolute class of adjectives. Further, their behaviour with respect to comparison classes changes in different ways, depending on the type of adjective: Relative adjectives are able to shift their standards across comparison classes, showing extensive context-sensitivity, whereas absolute adjectives are more limited. There is no agreement yet as to the extent of vagueness in these two classes. We have seen that Kennedy (2007) rejects the idea of vague absolute adjectives, whereas Burnett (2017) analyses them as showing potential vagueness.

The question of acceptable distance to truth has been addressed in Lasersohn (1999) and Burnett (2017), who make use of very similar ideas, but model them differently formally. The essence of both frameworks is that imprecise uses of predicates allow for denotations to be considered true which otherwise would have to be rejected as false in a given context. Lasersohn also discusses hedges with respect to their behaviour with halos and this notion will play a role again in part II.

2.4 Summary

This chapter has set the stage for analysing the derivational suffix *-ish* both formally and semantically. It has been shown that suffixes frequently arise via compounding, a process which leads to bondedness to a host. We have also shown that this specific trajectory cannot be illustrated with *-ish*, not because it is not conceivable in principle, but because we lack pertinent documents that record a pre-suffixal stage of *-ish*. Since its earliest records to the present day, *-ish* has been shown to be able to attach to numerous morphological categories, alluding to its status as a productive suffix.

The semantic section 2.3 has motivated a distinction between ethnic and non-ethnic adjectives, which will be adhered to in the rest of this work. It has discussed the frequently mentioned aspect of negative connotations associated with the suffix when appending to non-ethnic nouns, which is not an absolute fact, but depends on a variety of factors. Lastly, the notion of vagueness has been scrutinised, which is prevalent in adjectives, but as we have seen, to different degrees.

The three frameworks introduced in section 2.3.3.2 above are situated at different points along the continuum of semantics and pragmatics, but they all contribute to a more nuanced understanding of adjectival vagueness. Recurring notions that we will come across again in part II involve the idea of scales, degrees and standards of comparison. With respect to hedges, the notions of imprecision, tolerance and the centre-periphery distribution of halos will further play a role.

It is important to note that most of the formal approaches investigated in this section are working on positive-form simplex adjectives and have not (yet) taken an interest in derivational matters. The next chapter will approach this question from the viewpoint of lexical semantics. For an understanding of the semantic contribution of suffixes to their hosts we need to decompose complex lexemes into their component parts. Therefore, I will scrutinise a number of decompositional frameworks and it will be shown that with the exception of Lieber (2004), which is a suitable approach to analysing complex *-ish* adjectives, most of them focus on explaining the form of lexical entries of simplex words.

3 Theories of lexical semantics

3.1 Introduction

As a subfield of semantics, and crucially overlapping with other areas of the grammar, lexical semantics is, broadly speaking, the study of word meaning. However, due to the overlap with other grammatical areas, in its present state, lexical semantics goes far beyond the meaning of individual words. The notion 'lexical semantics' describes the study of lexical units of various types and sizes and as such the term 'word semantics', which is sometimes employed in its place, is inadequate. The notion of 'word' is infelicitous because of its definitional imprecision. Does it refer to orthographic words, i.e. ”an uninterrupted string of letters which is preceded by a blank space and followed either by a blank space or a punctuation mark“ (Plag 2003: 4)? As such, what do we do with words like *flower pot*, which orthographically are two words, but morphologically constitute the two components of a compound? What is more, in German it is orthographically written as one word: *Blumentopf*.

Or do we mean by 'word' rather grammatical word (or morphosyntactic word, cf. Plag 2003: 9), i.e. a word that is defined by its grammatical specifications such as *sing*, which is in the infinitive[26]. For some verbs, one form may stand for a number of different grammatical words. Plag (2003: 9) gives the example of *be*, which is used for the infinitive, imperative and subjunctive, respectively. For a word so specified it is unclear how it relates to 'words' such as *am*, *was*, or *were*, which are all word forms of the lexeme BE. Further, the notion 'grammatical word' is often used in relation to 'content word' in the theory of grammaticalisation to distinguish words which are defined with respect to their grammatical function (e.g. *have* as an auxiliary) and words which bear lexical content (e.g. *have* as a lexical verb with the meaning 'possess'). These ambiguities and other difficulties make the notion of 'word' less suitable to describe this branch of linguistics and whenever the word 'word' is used here, they should be borne in mind[27]. Thus, most scholars prefer to use the term lexical semantics, which is what I will adhere to here as well.

Lexical semantics is not only concerned with individual lexical units, but also with multi-word expressions, free and bound morphemes (i.e. items below word level like affixes). Furthermore, it investigates argument structure, which has repercussions on syntax, as well as relations between lexical items such as homonymy, among other things. All of these phenomena suggest a rather wide field of inquiry of which quite a number are located at the interface of lexical levels

26 In Old English, the infinitive of a verb was overtly marked by the inflectional suffix *-an*: *sing-an.*

27 For a more thorough discussion of the notion of 'word', see Plag (2003: chapter 1).

of description. It has been studied from various different angles, which will be mentioned in what follows, along with their most important theories and their proponents[28]. A state of the art in the confines of this thesis that tries to capture the entire range of lexical semantics necessarily has to be a simplification and important works that helped shape it will go unmentioned.

3.2 Early work and State of the Art

Lexical semantics has its roots in classical traditions such as speculative etymology, inspired by Plato's *Cratylus* (383a-d, 397d), as well as the tradition of rhetoric, whose rhetorical tropes served as a terminological starting point for classification of lexical semantic phenomena (cf. Geeraerts 2010: 9). Furthermore, lexicographic research provided the empirical basis for investigating examples of meaning change and polysemy. At that point, work on lexical semantics was still largely based in philology. Its inception as a linguistic discipline in its own right is placed at the beginning of the 19th century, specifically at around 1830 (cf. Geeraerts 2010: 1). As such, it continues the earlier trend of focussing on classifying and explaining the mechanisms of semantic change diachronically, which gives the first stage of lexical semantic research its name: Historical-philological Semantics. Geeraerts (2010: 1) discusses alternative labels such as 'traditional diachronic semantics' or 'prestructuralist semantics' but his chosen term captures the conjunction of work in the classical tradition with subsequent developments quite nicely[29]. The historical orientation of this first major stage of lexical semantics is coupled with a psychological conception of meaning: According to Hecht (1888: 5), meanings are ideas and as such, the endeavour of describing lexical meaning is intrinsically linked to psychology (cf. Geeraerts 2010: 9). This approach to lexical semantics, which is also present in Paul's (1975) [1880] seminal work, had come to a temporary halt with the advent of structuralist semantics. The conception of language as a system in its own right, which describes the linguistic sign as a part of this system and thus makes recourse to rules only within the system, precludes the psychological conception prevalent in the previous stage. Instead of focussing on the psychological basis of word meanings, they should be described in relation to the system and to other signs of the system (cf. Geeraerts 2010: 49). In particular, the value of a word's meaning can be approached via differentiation from other words. Trier's (1931) study on semantic fields

28 For a short history of lexical semantics, see e.g. Geeraerts (2017), Pustejovsky (2016); also, the reader is referred to Geeraerts (1999) and (2010) for a chronological history of lexical semantic theories starting from their beginning at the time around 1870.

29 To my knowledge, Geeraerts' book is the only monograph on lexical semantic research which discusses its origins and chronological developments in detail. He points to the (previous) lack of such a comprehensive study himself (cf. 2010: 45). His own alignment with cognitive semantics is certainly not to the book's detriment.

(or lexical fields) is one of the first major descriptive methods within structuralism. While historical in its outset in the sense that he investigates changes of a lexical field in the years 1200 and 1300, his endeavour is clearly synchronic. This being so, it describes a second major departure from the diachronic orientation of the historical-philological tradition. He shows that the lexical field of related words in the domain of 'knowledge' shift in structure. In particular, the superordinate and more general term *wîsheit* in 1200 can be interchanged with and used in place of each of the subordinate terms *kunst* and *list*, which denote the knowledge of the aristocracy and the knowledge of the common citizen, respectively. In 1300, however, *wîsheit* no longer signifies a general type of knowledge, but rather abstract or spiritual knowledge and as such it no longer functions as a superordinate term. Lexical field theory did not remain the sole endeavour of structural semantics. Relatively concurrent developments include relational semantics, which describes word pairs in terms of opposites (see e.g. Lyons 1963), and componential analysis, which is a precursor to decompositional approaches (see e.g. Hjelmslev 1961, Pottier 1963). Lyons (1968: 444, in Geeraerts 2010: 81) is credited with coining the term 'sense relations', which describes meaning relations of similarity (synonymy) and opposition (antonymy), as well as hyperonymy and hyponomy (inclusion of a specific term, the hyponym, under a more general term, the hyperonym) and meronymy (a part-whole relation).

Cruse names Hjelmslev (1961) as providing ”the first statement of a componential programme for semantics within modern linguistics“ (2000: 98). Drawing on insights in phonology, which structures the domain of sounds in a binary way (e.g. voiced and voiceless), the method should also become applicable to describe the building blocks of meaning with the help of semantic components (or features). To briefly illustrate with a well-known example, Pottier (1963) structures the lexical field of *sièges* 'furniture for sitting' with the help of distinctive features, which he calls *sèmes*. These specify particular lexemes and structure the lexical field and, as such, his analysis describes an advancement of Trier's lexical field theory. For instance, a *canapé* 'couch, sofa' has positive values for the features s1 'for sitting' and s3 to s6 (which specify the furniture in terms of 'legs', 'backs', 'armrests' and 'rigid material'), while a *pouf* 'pouffe' has positive values for s1 and s2 'for one person', but not for the others. As an analytic method, this early type of componential analysis is still rather simple, defining and structuring the lexical space of concrete object nouns. However, it forms the basis for subsequent developments in the analysis of lexical items and in early generative linguistics, it first surfaces in the well-known work by Katz and Fodor (1963).

In general, lexical semantics in the Generative approach marked a return to a mentalistic conception of meaning. Due to its ties to the method of componential analysis, first formulated in

structural semantics, the generative approach to lexical meaning receives a number of varying descriptors, including generativist semantics[30] (Geeraerts 1999) and neostructuralist semantics (Geeraerts 2010). While it undeniably has methodological ties to structuralist semantics, its shifted focus to a psychological reality of meaning requires it to be set apart from the diametrically opposed conception of meaning present in the structuralist approach. Hence, I will use the term 'early Generative approach' (to lexical semantics) to refer to Katz and Fodor's (1963) componential analysis and 'later Generative approaches' to signify the decompositional frameworks that were subsequently developed.

Katz and Fodor (1963) developed their theory on the basis of the requirement of more strongly formalising linguistic analyses (cf. Geeraerts 1999: 127) and to provide an answer to the problem of ambiguous sentences, which cannot be disambiguated on the level of syntax (1963: 174). For instance the sentence 'the bill is large' features a polysemous noun *bill* which can take at least two readings: a) it can refer to a bird's beak, or b) to a ”document demanding a sum of money to discharge a debt [that] exceeds in size most such documents“ (1963: 174). The sentence licenses the same syntactic structure, yet it differs in its reading, i.e. the disambiguation cannot occur on the level of syntax. In order to account for such ambiguities, Katz and Fodor developed their componential analysis, which takes the structure of a formalised dictionary entry. This (mental) dictionary entry is conceptualised in a bipartite way, i.e. it consists of a grammatical section, determining the part-of-speech of the lexeme, and a semantic part, representing the lexeme's polysemous senses (cf. Katz and Fodor 1963: 184). The semantic part decomposes the meaning of a lexeme such as *bachelor* into its various atomic parts with the help of semantic markers and distinguishers. The semantic markers reflect systematic semantic relations and thus concepts of a more general, possibly universal status that can be considered the earliest form of semantic primitives. Distinguishers, on the other hand, serve to identify idiosyncratic properties that distinguish particular polysemous senses of a lexeme (cf. Katz and Fodor 1963: 186f.). From this division in the semantic component of the mental dictionary entry it follows that semantic (or lexical, dictionary, linguistic) knowledge is separated from encyclopedic (or world, non-linguistic) knowledge, which marks the main dividing line between decompositional generative and cognitive approaches. While Katz and Fodor's (1963) style of componential analysis has not gained a foothold in lexical semantics, their basic ideas have fallen on fertile ground and were subsequently further developed in decompositional approaches.

30 This is not to be confused with Generative Semantics, a research programme within generative linguistics that stands in opposition to the Interpretive Semantics approach, which regards syntax and semantics as largely autonomous (cf. Chomsky 1965).

The basic idea of decompositional approaches is that lexical meanings are complex and can be broken down into a small, fixed and universal set of semantic primitives or atoms. This idea lies at the basis of works by Wierzbicka (1972, 1996), Bierwisch (1983a, 1983b), Jackendoff (1983, 1990, 2002, etc.), Pustejovsky (1991, 1995, etc.), and Lieber (2004, 2016, etc.), and others. However, the way the primitives are conceptualised varies to a large extent and also the way formalisation is handled and how the division of labour between word and world knowledge differs.

Here, I will only very briefly state the main points of these theories with respect to the aspects stated above. For instance, Wierzbicka (1972) formulates a list of primitives which she conceives of as universal. Her list is reshaped in 1996 to include new primitives denoting movement and existence, among others. They can be defined with the help of a number of reductive paraphrases. She draws the line between linguistic knowledge as encoded in a mental dictionary and encylopedic knowledge (1996: 335), which differentiates her from views held by cognitive linguists. Nevertheless, as Peeters notes, some linguists in the cognitive 'camp' regard her as ”one of them“ (2000: 13).

Jackendoff's work, too, is bridging generative and cognitive approaches in that he assumes the semantic capacity to be intrinsically linked to cognition (1983: x), while at the same time adhering to the theory of universal grammar (1983: 8). It shows that the two approaches are by no means irreconcilable. His framework of Conceptual Semantics differs from Cognitive Grammar in that it is ”committed to an autonomous level of syntactic representation“ (1990: 16). The conceptual structure is linked to the phonological and syntactic structures via interface rules and is in itself an autonomous module. In Jackendoff's conception, semantic and pragmatic representations are still separate in that they are not located in the same module, but their separation is not as strictly construed as in other generative models. Instead they are both related to a common cognitive module, the cognitive structure (2002: 283). Like Wierzbicka, he makes use of primitives, but in his case the primitives are construed as conceptual. Unlike Wierzbicka, Jackendoff's representation of lexical meaning is more couched in formalisation (see his lexical conceptual structures, or LCS, e.g. 1990: 51), which is also present to a greater degree in Bierwisch's and Pustejovsky's work.

Bierwisch (1983a, 1983b, and subsequent publications) advocates for a separation of semantic representations (the semantic form, or SF) and conceptual representations, which are part of the conceptual system (CS). As such, his theory is a modular approach to meaning in that linguistic knowledge is situated in a mental module which is distinct from other types of knowledge. His approach makes use of semantic primitives and is formalised. Furthermore, he addresses the

question of how to account for polysemous senses of a lexical item, which is also one of the major investigative purposes of Pustejovsky.

Pustejovsky's (1995) Generative Lexicon (GL) is highly formalised and makes use of type composition logic. His conception of decomposition is different from the others' point of view in that he makes use of semantic types which distinguish various polysemous senses. Furthermore, decomposition into primitives is not viewed as a goal in and of itself, but is justifed insofar as it serves ”to identify groups of words with homogeneous semantic and syntactic properties, and thus to discern *compositional* or *relational* aspects of lexical semantics“ (Pustejovsky and Batiukova 2019: 80, emphasis in original). An elaborate apparatus of encoded knowledge including qualia, argument, and event structures forms the basic structure of representation in a lexical dictionary entry. The lexicon in the GL approach does not constitute a passive component, but is considered to be an important source of generative potential in language (cf. Pustejovsky and Batiukova 2019: 79). Pustejovsky (1995) draws a distinction between linguistic versus commonsense knowledge (see section 10.4), the latter of which seems to be largely equated with world knowledge or pragmatic effects (cf. p. 43). This distinction is uphold in his most recent work (2019, together with Olga Batiukova), in which pragmatic knowledge is viewed as enriching the semantic interpretation (cf. p. 94). For example, in a semantic mismatch (e.g. *begin a letter*, where the verb requires an event argument), the coerced argument is considered to be ”driven by lexically encoded information to a large extent“ (2019: 339), but pragmatic and contextual factors serve to ”facilitate or block the acceptance of a coerced interpretation“ (2019: 340). In sum, Pustejovsky adheres to a distinction between lexical and world knowledge, but his conception allows them to interact with each other in a dynamic way.

Finally, Lieber (2004, 2016, and others) formalises her lexical-semantic representation into a set of primitives, which are designed to be cross-categorial. The decompositional features in her lexical-semantic framework (LSF) allow for an account of polysemy and operate on the level of what she terms 'skeleton', i.e. the semantic-grammatical representation of a word (cf. 2004: 9). World knowledge is situated in the 'body', which forms the semantic-pragmatic representation. A more detailed representation of her framework (as well as others from the later Generative approaches) is set to follow in the subsequent sections. Here, I only aim at situating a small number of later Generative models in the larger domain of lexical semantics with respect to how they conceptualise primitives, how formalised they are and how they treat the distinction between word knowledge and world knowledge. The latter aspect forms the point of departure and constitutes the main dividing line between later Generative frameworks and models developed in Cognitive approaches, which emerged in the 1980s.

In Cognitive semantics, where the distinction between semantics and pragmatics is by and large obsolete, lexical knowledge and encyclopedic knowledge typically coincide. As Peeters (2000: 5-11) notes, scholars who are now firmly situated in the Cognitive paradigm used to draw a distinction between a speaker's knowledge of language and his or her knowledge about the world. However, these boundaries first shifted in scope and then disappeared completely (cf. Peeters 2000: 6). He illustrates this change of mind with Lakoff and Fillmore, two of the ”founding fathers“ of present-day Cognitive Linguistics (2000: 4). Lakoff, who had been a generative semanticist (as opposed to the stance taken by interpretive semantics, see above), adopted a maximalist conception of lexical semantics. This conception views the distinction of lexical knowledge and encyclopedic knowledge as ”artifactual“ (Langacker 1987: 154). Langacker adopts a strictly encyclopedic stance which becomes evident in the quote from his (1987) book: ”[T]he only viable conception of linguistic semantics is one that avoids such false dichotomies and is consequently encyclopedic in nature“ (1987: 154). This is the baseline of the vast majority of cognitive approaches. In this conception, lexical semantics is not modular, but is part of a single cognitive representational level. The approach to lexical meaning is holistic and does not decompose meanings into smaller units of primitives.

Well-known work on prototypes is derived by psychologically oriented seminal research from Rosch (1973, 1975), who assumes categories to consist of an internal structure. In short, categories do not have clear-cut boundaries, but consist of core and peripheral cases. A core meaning exemplifies the clearest cases of the category (cf. 1973: 112). However, not all members that belong to a category are clear cases thereof, but instead differ in some respects, making them more peripheral members. Her work will resurface in section 6.2.2, where various authors draw on her insights for their representation of hedges.

The concepts of metaphor and metonymy have been investigated in light of cognitive semantics, conceptualising them squarely as cognitive phenomena instead of purely lexical ones (cf. Geeraerts 2010: 204). For instance, in Conceptual Metaphor Theory (Lakoff and Johnson 1980), dubbed the ”'standard' view of metaphor in cognitive semantics“ in Geeraerts (2010: 204), metaphors are seen as forming a natural part of our thinking and acting. They are viewed as connecting the conceptual content from a source domain which is mapped into a target domain. The mappings ”arise from correlations in our embodied experience“ (Lakoff and Johnson 1980: 247), such that spatial concepts like *up* and *down* are employed as orientational metaphors for the description of feelings, where the former stands for positive, the latter for negative feelings.

A framework which is particularly suited to illustrate the focus on encyclopedic knowledge in Cognitive Semantics is that of frame semantics (Fillmore 1977a, 1977b, 1982). The notion of

'frame' is subject of two different conceptions. Besides Fillmore, Barsalou has developed a notion of frames which he considers to be a representational format for all types of categories, including locations, and physical or mental events (1992: 29), which evolved out of Fillmore's (1968) case grammar. He conceptualises frames as a format for any concept of human cognition, not just linguistic concepts alone. His psychologically oriented work will not be pursued further here.

The basic idea is that frames constitute a system of concepts and when a lexical item is used, the entire network of concepts associated with it is also activated (cf. Fillmore 1982: 111). For instance, a well-known example is the commercial transaction frame which revolves around the lexemes *buy* and *sell* (see Fillmore and Atkins 1992: 78f.). The semantically related lexemes all activate a different aspect of the overarching frame. In order to understand the meanings of these words in this context, a speaker draws on his or her background knowledge about what such a scenario entails. Fillmore intends the notion of 'frame' to be a cover term for a set of concepts such as 'schema', 'scenario', or 'script' (1982: 111), however, the latter has come to be used with a different conception in Schank and Abelson (1977).

In both major areas, later Generative approaches to lexical semantics and Cognitive Semantics, a number of extensions have considerably widened the respective field. Overall, as Kearns (2006: 574) notes, major tendencies are grounded in computational models and artificial intelligence. A conjunction of the corpus methodology and cognitive semantics is found in Gries (2006), who investigates the various polysemous senses of the verb *run* in the British version of the *International Corpus of English* (ICE-GB) and the *Brown* Corpus.

Here I want to give only a brief overview over a number of extensions that have already shaped each of the fields. In the later Generative approaches, Jackendoff's full-fledged grammar model of Parallel Architecture (2002, 2007a, 2010a, 2010b) is inspired by his ideas delineated in his work in Cognitive Semantics. It includes three generative components, which are each linked by interfaces. As such, it gives semantics a more prominent space than other Generative models. Pustejovsky and Asher (2006, 2013) have developed a type composition logic for the Generative Lexicon, incorporating the idea of a discourse-sensitive logic. In the most recent work by Batiukova and Pustejovsky (2019), previous work on the lexicon, its relation to syntax and semantics as well as the basic structures of a lexicon are comprehensively presented. Lieber's synchronically oriented lexical-semantic framework was extended with a uniquely diachronic focus by Trips (2009). It further received a major extension in (2016) in the sense that Lieber investigates nominalising suffixes in terms of an ecology, where they inhabit certain niches and may compete with each other over semantic territory.

Extensions within the field of Cognitive Semantics include work on hedges (e.g. Channell 1980, 1990), which draws on Rosch's ideas on categorisation. Taylor (2003[3]) gives an account of prototypes in relation to polysemy, metonymy, and metaphor, but also relates prototypes to grammatical categories. A link to formal semantics is provided by Eckardt (2003), who gives a diachronically oriented prototype-based account in terms of a Montagovian semantics.

A practical application of frame theory is the Berkeley lexical database *FrameNet*, which has been co-founded by Fillmore. It presents a link to computational methods as well as to lexicography in that it makes use of sentence annotation on the one hand and in that it consists of currently over 13,600 lexical units of which over 8,400 are annotated and which are describable in over a thousand lexical frames[31].

A major extension of frame theory is its link to Construction Grammar (see e.g. Goldberg 1995, Fillmore 2008; Glynn 2004 for a discussion of frames, construction grammar, and lexical fields; Booij 2010 for an account of construction morphology; Boas 2017a for a link to *FrameNet*), which is used for accounting of the grammatical aspects of frame theory and which places semantics and pragmatics on an equal footing to syntax (see Fillmore, Kay, and O'Connor 1988). Fischer (2010) has since applied the combined efforts of frames and constructions to spoken language. Osswald and Van Valin (2014) bridge the gap between decompositional approaches and frame semantics in that they devise systematic decompositional analyses to event frames.

A cognitive stance is also taken in research on semantic change, particularly in Traugott's (1989, 2003) work on subjectification. For instance, the development of epistemic modality with modal verbs like *must* is delineated in Traugott and Dasher (2002). More generally, her work closely interlinks with theories of grammaticalisation and discourse markers and will be more fully investigated in section 6.1 below.

Two further points need mentioning. First of all, an alternative to formal decompositional approaches has developed with the meaning postulate framework in the 1970s, principally represented by Fodor (1975, Fodor et al. 1980). While originally being one of the first to introduce componential analysis into more formalised Generative linguistics, he has since been a strong advocate for viewing lexical meaning as atomic, i.e. lexical concepts do not have an internal structure. In 1975, he subscribes to an approach of meaning postulates developed by Carnap (1952), in which the meaning of lexical items is defined in relation to other lexical items. In contrast to other approaches to lexical relations, meaning postulates are a formalised way of capturing the relationship between words.

---

31 See https://framenet.icsi.berkeley.edu/fndrupal/current_status. Last updated 22.11.2019 (last accessed on 23.11.2019).

A second point to be noted is that also the debate about the proper boundary between lexical and encyclopedic knowledge has an alternative view. In Distributed Morphology, developed in 1993 by Halle and Marantz, the lexicon vanishes in favour of an encyclopedic component. In Peeters words, ”[i]n the absence of a unique lexicon, there are also no lexical items, and there is no lexical knowledge“ (2000: 25). This is a major point of departure even for many cognitive linguists, where lexical knowledge still plays a role. The tasks usually attributed to the lexicon are distributed to other components of grammar. In Distributed Morphology, only two types of meaning are present, abstract morphosyntactic meaning, captured in features (e.g. [pl] for plural, [+participle], or [1st], indicating first person), and non-linguistic knowledge stored in an encyclopedic entry (cf. Harley and Noyer 1999: 3). That means that concepts such as *dog* consist solely of a phonological string, a finite number of syntactic features, as well as an encyclopedic entry. Given that encyclopedic knowledge is non-linguistic, ”there is no *linguistic* difference between the items *dog* and *cat*.“ (Peeters 2000: 26, emphasis in original). The account of Distributed Morphology, at least in its present shape, does not answer my question concerning the development of lexical elements in *-ish* as it does not offer an explanation of word-formation. Specifically, it does not provide an answer to the polysemous nature of *-ish* and it shifts the creation of meaning entirely to encyclopedic knowledge. For this reason, the framework of Distributed Morphology will not be further considered in what follows.

In section 3.3, it will become apparent why I chose to model the development of *-ish* adjectives in Lieber's framework: Her lexical-semantic framework is able to account for word-formational aspects of polysemous lexical meaning in a formally rich way. For her formal apparatus, she draws on important insights from Jackendoff's model, but his work concentrates mainly on a) simplex lexemes and b) verbal meanings. These two aspects make otherwise rich and sophisticated frameworks unsuitable for my endeavour. An exception to a) is Szymanek (1988), but his model is not suitable due to the nature of his primitives as will become apparent later. An exception to b) is Pustejovsky (1995), who includes a rough sketch for the description of adjectival meaning hitherto lacking in other frameworks. However, in his case, too, the lexical-semantic representation is restricted to simplex lexemes. To answer the question of how to represent the lexical semantics of derivatives with the *-ish* suffix, I require a model which provides a suitable apparatus for complex words and that allows for a characterisation of adjectival meaning. The second aspect will be my point of departure from Lieber's work and my contribution to the field of lexical semantics chapter four is aiming at. Due to these reasons, I will devote most of the space of section 3.3 to sketch the frameworks by Lieber, Jackendoff, Pustejovsky, and Szymanek, before fully representing Lieber's LSF model in section 3.4.

3.3 Theories of lexical decomposition

Before I will delve into the various theories dealing with the decomposition of lexical items, let me first answer the question of why I want to concentrate on decomposition at all. In the literature there is a strongly opposing contestant who attempts to work out lexical semantics entirely without decomposition. Fodor (e.g. 1975, 1998) claims that lexical items by necessity are atomistic, and hence unanalysable. Contrary to Lieber and Jackendoff (among others), he does not assume a structured lexical-semantic representation. Instead he follows Dowty's (1979) approach of meaning postulates, which assumes that semantic information is stored externally in terms of network links (or meaning postulates). While he also employs a default set of primitives in his approach, he claims them to equate ”the lexicon of English“ (1998: 55), making every word to consist of its own unanalysed lexical entry. In effect, if we wanted to apply his reasoning to explain the lexical semantics of the adjective RED, a primitive, we would have to establish a network link to another primitive, COLOURED, as is shown in (29) below (cf. Fodor 1998: 109f.):

(29) RED(x) → COLOURED(x)

This meaning postulate spells out that if *x* is red, then *x* is coloured. It does not provide us with any additional information beyond this entailment, for instance what it means to be 'coloured' (would this connection also be drawn if *red* were to be replaced by *white*, which is not a spectral colour?). Fodor defends his assumption that mental representations are devoid of structure and are in effect atoms by pointing out that there is no way to define a word such as *keep* with a lexicon smaller than the lexicon of English. In his own words:

> If, as I suppose, the concept KEEP is an atom, it's hardly surprising that there's no better way to say what 'keep' means than to say that it means *keep*. I know of no reason, empirical or a priori, to suppose that the expressive power of English can be captured in a language whose stock of morphologically primitive expressions is interestingly smaller than the lexicon of English. (Fodor 1998: 55).

To my knowledge, Fodor's theory has focussed on simplex words only and it is dubious if the meaning postulate approach as it currently stands is able to analyse complex words in the same way as a decompositional approach is able to. If Fodor assumes every word in the lexicon to be its own primitive, consequentially, derived words pose no exception. As I have stated in chapter 2, I do assume affixes to add meaning to their bases and the compositional nature of derived words needs to be accounted for. I am thus inclined to follow decompositional theorists like Jackendoff (e.g. 1983: 122f., 1990: section 1.8), who rejects Fodor's atomistic view, and Lieber

who also advocates for a theory of decomposition, in which she claims that the question of conceptual atomism is especially questionable when it comes to the meanings of complex words (Lieber 2004: 5). She agrees with Fodor that the nature of primitives previously discussed in the literature needs review, but instead of assuming the entire lexicon of English to consist of primitives she argues for a grain size of semantic primitives that is smaller than the concepts that are embodied in words (2004: 5).

This discussion has been going on for quite some time in the literature. Pustejovsky (1991: 416) summarises the opposing viewpoints and claims that in principle there are two approaches to the study of lexical semantics: primitive-based approaches and relation-based approaches. As we have seen, primitive-based theories (see also Katz 1972) assume that lexical meanings can be defined in terms of a fixed set of semantic primitives, while relation-based theories (e.g. Fodor 1975) discard the notion of decomposition into primitives and instead assume words and their concepts to be associated via a network of explicitly defined links (also called meaning postulate theory). Pustejovsky dismisses both as we will see and advocates for a theory which foregrounds generative aspects of word meanings instead of assuming a fixed number of primitives (1991: 417).

I have not yet given an explanation for not choosing the Distributed Morphology (DM) approach introduced above. Harley and Noyer contend that ”DM adopts a strictly syntactic account of word-formation“ (1999: 7). We have seen above, that what is generally considered a vocabulary item consists of a bundle of morphosyntactic features and an associated encyclopedic entry. There are no traditional morphological categories, but rather they are defined as a single l-morpheme (corresponding to lexical categories) or Root (cf. Harley and Noyer 1999: 4). They claim that whether a Root is analysed as a verb or noun is dependent on the ”nearest c-commanding f-morpheme“ (or functional morpheme) (1999: 4). Is the f-morpheme (or licenser) a determiner, the Root *destroy* is interpreted as a noun *destruct-(ion)*, is the nearest licenser Tense, it becomes a verb *destroy-(s)*. It is in fact the syntactic context which determines in which 'category' the word will eventually surface. Lieber (2007: 251) criticises that DM theories have thus far paid only little attention to word-formational phenomena and it is by no means clear how the fact that some affixes are very restricted in the type of bases they attach to are licensed in this framework (e.g. *-able*, which predominantly takes verbal bases, see Plag 2003). In Lieber's words, ”is it merely an accident that we find *destroy* (or its allomorph *destruct*) as base of *-ion*, but not *peace* or *pure*, which are equally categoryless to DM?“ (2007: 251). While the DM literature has shown an awareness of the problem and inserted licensing conditions into the theory, it seems to remain unclear what exactly these conditions entail (cf. Lieber 2007: 252). As

it stands, the theory does not satisfyingly address the issues of word-formation with *-ish*, i.e. the types of bases it attaches to, its polysemous character and its diachronic development.

After the premises, let us now have a more detailed look at some of the decompositional theories that have been introduced for the study of lexical semantics. We will first start with Wierzbicka's Natural Semantic Metalanguage approach. Wierzbicka's approach, developed from the early '70s on (and elaborated mainly together with Cliff Goddard), assumes that languages consist of a set of universal primitives which capture the underlying semantic contributions to lexical meaning. The set of primitives rose from about 14 in the original work (1972) to as much as 64 in recent studies (see Goddard 2012). Among the primitives are, for instance, words such as *Do* and *Happen* for actions and events, or mental predicates such as *SEE* or *KNOW* (see Wierzbicka 1996, section 3.4). By means of reductive paraphrases, i.e. a number of simple definitions applying the primitives, the meanings of individual words are captured. Her approach is less formalised and technical than some of the ones to follow. The approach received criticism to several of the model's assumptions, e.g. its universality has been challenged by Bohnemeyer who claims that lexical exponents for primitives such as *Before* and *After* are lacking in Yucatec Mayan (2003: 216). The approach received further criticism about its use of paraphrases (see e.g. Bohnemeyer 2003, Kay 2004: 238, see also Jackendoff 2007b). These paraphrases, as defined by Wierzbicka, seem arbitrary and idiosyncratic and are thus unsuitable for the description of lexical semantics with the aim of doing so in a highly systematic and formalised way. For instance, Geeraerts (2010: 129) quotes such a reductive paraphrase for *sad* (see Wierzbicka 1996: 180):

(30) X is sad =
X feels something
sometimes a person thinks something like this:
something bad happened
if I didn't know that it happened,
I would say: I don't want it to happen
[…]

These reductive paraphrases make use of classes of primitives, in this case the primitive *bad*, which is part of the class of evaluators. The problem with primitives and paraphrases like these is, among other things (see Geeraerts 2010: 130-137 for a discussion), that they overgenerate possible senses. That is, reading just the reductive paraphrase with the contained primitive(s), how would we know that it refers to *sad* in particular and not to a number of related concepts (e.g. *frustrated*, *despaired*, etc.)? In other words, the intended sense that is generated from these paraphrases is not discrete, but may apply to related senses as well.

A very influential model, situated in the cognitively oriented framework of Conceptual Semantics, stems from Jackendoff (1983, 1987, 1990, 2002, and others). As stated above, it has closer ties to the notion of integrating word knowledge and world knowledge pursued by cognitive semanticians than some of the other formalised frameworks, thus situating it closer to these cognitive approaches to lexical meaning. Semantics is not seen as independent of cognition, but instead he argues that the former is entailed by the latter: when we are studying the semantics of natural language, we are necessarily studying the structure of thought (1983: x). Thus, a theory of semantics presupposes a theory of cognition. Jackendoff later underpins this relation by referring to non-human primates, which are able to cognitively grasp structures and concepts in the world, but differ from humans in that they are not able to use language to convey them (cf. Jackendoff 2010b: 603)

He developed his semantic theory at first mainly as a response to several problems he identified in predicate (i.e. first order) logic (see Jackendoff 1983, section 4.1), combined with the need to adequately represent the cognitive foundations of a theory of semantics. His intuition that linguistic information is not stored in a separate mental compartment, but is instead located on the same level of mental representation as other, nonlinguistic modalities (such as vision) is captured in the Conceptual Structure Hypothesis. The hypothesis is aimed at presenting a unified structure of the mind (1983: 17). In Jackendoff's words:

> Not to treat all these phenomena [e.g. visual and linguistic information, T.H.] uniformly would be to miss a crucial generalization about mental computation; hence the semantic and conceptual levels must coincide. (1983: 19)

His ideas about cognitive semantics culminated in the full-fledged model of Parallel Architecture (see for example Jackendoff 1987, 2002, 2007a, 2009, 2010a, b and others) seeking to represent the structure of grammar differently than mainstream generative grammars, which he deems too ”syntactocentric“ (Jackendoff 2002: section 5.2, 2007a: 4, 2010b: 594). Instead he assumes phonology, syntax and semantics each to be an independent generative component in the model linked by interface rules (2007a: 7). Opposing the view of a strict separation of lexicon and grammar assumed in traditional grammar (e.g. Bloomfield 1933), he instead advocates for understanding the relation of lexicon and grammar as a continuum: ”[w]ords are in one corner of a multidimensional continuum of stored structures, maximally general rules are in another corner, and in between are all sorts of phenomena of varying degrees of regularity“ (2010a: 19f.). Thus, instead of the assumption, that the lexicon merely serves as a storehouse for words to be drawn on after the syntactic composition of a sentence has been completed, acknowledging no internal structure of the lexicon and hence its contents (i.e. the words themselves), Jackendoff argues instead for viewing the lexicon as storing phonological, semantic (i.e. conceptual) and

syntactic information in parallel, in so-called 'triplets' (cf. 2007a: 9, 2010a: 14). When a phrase is generated, structures are built in each component parallely, while the rules of grammar are conceptualised as constraints, ensuring the well-formedness of these structures (cf. 2007a: 9). This view has important consequences for processing in that all three components are involved in producing structure, thereby granting the generative capacity not only to syntax, and the resulting structure is assembled in working memory through the process of unification (see Shieber 1986, cf. Jackendoff 2007a).

His framework also makes use of primitives, albeit in a different way. The envisaged elements are a finite set of *conceptual* primitives, whose range of application can be expanded by a preference rule system which allows for graded acceptability judgements, family resemblances (think of Wittgenstein's *game* example (1953), see Jackendoff 1983, section 7.4) as well as supplying ”default values in the absence of specific information“ (p. 152). The conceptual primitives he has in mind consist of such semantic functions as the state-function BE, the event-function GO (p. 172), the binary function CAUSE (p. 175), or TO and FROM (1990: 43) which identify major ontological categories such as [THING], [EVENT], or [DIRECTION] (see 1983: 53 for further categories). From 1990 on, he further introduces features into his system, consisting for example of the binary feature [±volition] (cf. 1990: 129), which is an elaboration on the function AFF ('affect', cf. p. 127). To illustrate the function system with an example, consider Jackendoff's (1990: 91) example given in (31b.) below, which shows the internal structure of the sentence in (31a.):

(31) a. The light is red.
b. [BE_{Ident} ([LIGHT], [AT_{Ident} ([$_{\text{Property}}$ RED])])]

Here, the state reading is expressed by the function BE AT, which is an alternation of the GO TO-function (p. 91). In other words, he devises a formal device, a function-argument structure, in which a variety of functions can ”map into major ontological categories when their argument places are filled“ (1983: 69).

Lieber criticises Jackendoff's conceptualisation of functions and features and argues that they are not of the right 'grain size' (2004: 6). However, she bases some of her feature formulations on his (e.g. the features [bounded] and [internal structure], see Jackendoff 1991: 18; Lieber 2004: 136) and states that she considers her work an ”outgrowth and extension“ of his (2004: 6). A further line of criticism which I will share here is that Jackendoff's work mainly concentrates on verbal meaning and the formulation of spatial structure by means of prepositions and is thus not sufficiently ”cross-categorial“ (Lieber 2004: 6).

A further approach briefly to be mentioned here, which is positing a semantic and conceptual

level, is the Two-Level Semantics framework developed by Bierwisch (1983a, 1983b, among others). Geeraerts notes that, while the two approaches have a similar outset of ”division of labour between linguistic knowledge and world knowledge, [Jackendoff's, T.H.] division is a static one“ (2010: 142). In focusing on the interaction of the two forms of knowledge ”in a contextually dynamic way“, Bierwisch ”goes beyond an approach like Jackendoff's“ (Geeraerts 2010: 143), accounting for phenomena such as polysemy and meaning variation. The first level, semantic form, contains underspecified variables which are set in context in conjunction with the second level, the conceptual structure (cf. Bierwisch 1983a: 95). Depending on how the variable is specified will lead to different interpretations in context (e.g. *school* as institution, building or number of processes, conceptualised as $school_1$, $school_2$, etc.). Pustejovsky (1995) describes such an approach as sense enumeration lexicon, which merely lists a number of senses, but does not account for their relation to each other (see below). Furthermore, Bierwisch makes use of a number of primitives (e.g. BECOME (Bierwisch 2004, 2007), but does not develop a full-fledged system of semantic primes. The ideas in his framework have been further developed, e.g. by Wunderlich (e.g. 1997), who formulated Lexical Decompositional Grammar (LDG) which is particularly interested in verbs (see Geeraerts (2010: 145-147) for further criticism of Bierwisch's framework, and Engelberg (2011: 379-383) for a discussion of LDG).

The main interest of the following proponent of a decompositional theory does not lie on verbs, but is heavily oriented towards nominal meaning. Since the lexical semantics of adjectives is taken into account as well, I will devote some more space to the characterisation of this framework than I did for the previous ones. Pustejovsky's well-known Generative Lexicon (1991, 1995) argues against a static view of the lexicon which he attributes to many linguists working in the computational or theoretical field (cf. 1995: 1). In such a lexicon, word senses are merely enumerated and tagged with the relevant syntactic or semantic information in the form of features (1995: 1). Such lexicons, which Pustejovsky dubbed *sense enumeration lexicons* (or *SELs*, see 1995: chapter 4 for a more detailed criticism), fail to account for the systematic relatedness that he identified for lexical senses. In order to exemplify the inadequacy of this account, he directed his attention towards a case of lexical ambiguity called 'complementary ambiguity' in Weinreich (1964, see Pustejovsky 1995: 1). Pustejovsky argues that the alternating senses of the nominals in (32) below are *systematic* sense alternations which he terms logical polysemy (see Pustejovsky 1995: section 3.3, p. 31, emphasis in original):

(32) a. Mary broke the bottle.
b. The baby finished the bottle.

In (32a.) the entity described by the noun *bottle* refers to the (milk-)containing object, usually

made of glass or plastic (and hence prone to breakage), while in (32b.) it is the content of such a bottle that the baby has finished, as the sentence would otherwise hardly make any sense. Similar remarks hold for other nouns such as *book* (sense alternation of physical object and information), or *newspaper* (which entails a tripartite alternation of organisation, written product, and body of information, cf. 1995: 91f.). This clustering of lexical items into several senses is what Pustejovsky and Anick (1988) have termed *Lexical Conceptual Paradigm* (LCP), which conceives of lexical items as meta-entries aimed at accounting for the systematic ambiguity found in language (1995: 91). The LCP enables the senses of lexical items such as *book* or *newspaper* to be stored in one single meta-entry, rather than as separate senses (1995: 92). The logical polysemy in such nouns is captured in a complex type, a so-called dotted type, which ”defines the relation between the arguments of different types“ (1995: 95). For instance, the noun *book* requires a dotted type to make reference to its two different arguments in a sentence, i.e. the book as a physical object and the book as a body of information:

(33) Mary enjoyed the book and put it back on the shelf.

In order to generate the senses of complex objects and not merely list them separately in the lexicon, the dotted type, notated phys.obj · information, encodes the polysemy associated with it directly in one of the four levels of representation, the qualia structure (see below)[32].

A sense enumeration approach would merely list the senses it thus defines as separate (as $sense_1$, $sense_2$, … $sense_n$) and it cannot account for new word senses in novel contexts and does not portray the overlap of these senses as shown above, but rather treats them as atomic (cf. Pustejovsky 1995: 39). Pustejovsky's approach of a *generative* lexicon attempts to remedy the situation by assuming the extension of lexical senses via a number of generative devices such as type coercion and co-composition. These devices are assumed to connect the four levels of representation Pustejovsky identified for the organisation of lexical information: 1) argument structure, 2) event structure, 3) qualia structure, and 4) lexical inheritance structure (1995: 61). The argument structure is represented in the form of a list, e.g. the verb *build* requires two arguments, the animate subject who undertakes the building and the artifact, i.e. the result of the building process. Pustejovsky additionally assumes a default argument that specifies the material (e.g. a prepositional phrase like *with wood*, cf. 1995: 66f.). The event structure is depicted in a list of events as well. For *build* two possible events are assumed which can be realised in different syntactic structures: the development process (i.e. $event_1$) and the resulting state ($event_2$) (1995: 71). Additionally, a relation between the two types of events is assumed which details

32 The notion of dotted objects has been expanded by Jackendoff, who claims that humans can be considered 'dot objects' who are both animate physical objects and social entities simultaneously (2009: 659).

their processual succession. The third level of lexical representation requires a few explanatory remarks. Pustejovsky largely took inspiration from Moravcsik's (1975) treatment of Aristotle's modes of explanation for formulating aspects of a word's meaning (so-called *qualia*) that have not yet found their way into the relevant formal literature (see Pustejovsky 1995: section 5.4 and chapter 6 for further details). These aspects of lexical meaning can best be understood as a set of properties (or events) intended to capture the meaning of a word with which they are associated (1995: 77). For instance, in order to differentiate between semantically related words like *dictionary* and *novel*, we can make recourse to one of the quales that specifies the purpose of the objects denoted by the nouns, i.e. the TELIC quale (1995: 77). A dictionary is used for consulting, while a novel is used for reading and this information is encoded in the respective quale of the lexical items. The other qualia include information about the internal constitution of an object (CONSTITUTIVE quale), its distinction within a larger domain (FORMAL quale) as well as details of its origin or 'coming into being' (AGENTIVE quale) (1995: 76, 85f.). Pustejovsky conceives of the qualia structure as providing a richer description of a word's meaning than other decompositional approaches could achieve by positing a number of finite primitives (1991: 417, 1995: 58). Together with the assumed generative devices, he is able to derive a model for lexical semantics which brings compositional aspects of word meaning to the fore and adequately accounts for them (cf. 1995: 58). Before briefly introducing these devices, I will close the treatment of the levels of representation that build the basis for a generative lexicon viewed as a computational system with some remarks about lexical inheritance structure. In his 1991 article, Pustejovsky claims that the ”global integration of the semantics for a lexical item is achieved by structured inheritance through the different *qualia* associated with a word“ (1991: 418, emphasis in original). In practice, he relates a given lexical item to other concepts in the lexicon by establishing a network with differing degrees of prototypicality. For instance, the event of eating in an utterance like (34a.) is less prototypical for the concept of prisoner than that of (34b.) (cf. Pustejovsky 1991: 433, emphasis in original):

(34) a. The prisoner *ate* dinner last night.
b. The prisoner *escaped* last night.

In accounting for the difference, Pustejovsky assumes a network of concepts related to the concept of *prisoner* as well as a number of operators which are able to generate this space of 'neighbouring' concepts (cf. 1991: 433-436). In the given case, the event of escaping is within the semantics generated by the space of the related concepts *prisoner* and *escape*, while eating is not (p. 436). In assuming this structure, he is able to extend the generative potential of his approach to lexical semantics to related concepts beyond the sentence.

The four levels of representation are connected by a number of generative devices that serve as mechanisms for composition and together they replace the notion of primitives (1995: 58). One of them, type coercion, is claimed to be the most important for his framework (1995: 58) because it can help reduce the systematic ambiguity found in lexical items, which Pustejovsky considers ”one of the most serious problems in lexical semantics“ (1995: 109). Type coercion is a ”lexically governed type shifting“ operation that ”converts an argument to the type which is expected by a function, where it would otherwise result in a type error“ (1995: 111). Pustejovsky illustrates the operation with verbs such as *began*, *enjoy*, or *want* whose meaning stays constant in different contexts, but, given a number of different complements, pose different selectional restrictions on their respective complements (1995: 115). It is thus the type of the complement which undergoes a type shifting in order to satisfy the semantic type of the verb irrespective of the complements with which it appears (1995: 115). Consider (35) below for an illustration (cf. Pustejovsky 1995: 115):

(35) John began a book.

The verb *begin* requires an event type and thus has to coerce the complement NP *a book* into an event reading, which is made possible by the information of the dot object *book* stored in the qualia structure, i.e. the TELIC (*read*) and the AGENTIVE quale (*write*) (1995: 116). An advantage of Pustejovsky's approach for the lexicon is that the 'semantic load' is not carried solely by verbs, but ”is spread more evenly throughout the lexicon“ (1991: 409).

To account for adjectival polysemy, he assumes a further generative mechanism, namely that of selective binding (see 1995: 127). Typically polysemous adjectives like *fast* or *good* receive their interpretation via the semantics of the head noun they modify (cf. 1995: 127). For instance, a *good knife* is one that cuts well (i.e. is sharp), while a *good meal* is one that tastes well (cf. 1995: 32) . In both cases, the adjective admits of ”a positive evaluation of the nominal head it is modifying“ (1995: 32). Thus, the adjective's meaning is functionally dependent on that of the noun it is in conjunction with. Again, we can make recourse to qualia structure in that the adjective is able to selectively modify (or focus) a specific quale associated with the nominal head. For instance, the adjective *long*, which is interpreted as an event predicate, selects for an event reading in the case of *long record*, i.e. 'a record whose playing time is long' (1995: 129). In this case, it is the TELIC event reading of the activity of 'playing the record', which is selectively bound by the adjective *long* (1995: 129f.). In other words, the adjectives modify different facets of the head nouns depending on context without altering the overall type of the NP they are associated with. Adjectives are not restricted to binding a specific quale. Pustejovsky briefly mentions the relative adjective *expensive*, which refers to the FORMAL quale in modifying the

denotation of the physical object *book* in the NP *an expensive book*, but does not go into further detail here (cf. 1995: 130).

In sum, Pustejovsky's characterisation of the lexicon is one that subscribes to an active role in composition, more evenly distributed over the various lexical categories than previous frameworks. Word meanings are not finite sets of primitives or features, but instead interact with each other and the syntactic context in which they appear. With the generative approach taken in his work, a potentially infinite number of senses is derived from finite mechanisms, without having to assume a new lexical entry accompanied by a separate sense in each case.

The classic Generative Lexicon (1995) framework has been extensively scrutinised and extended by Asher (2007). Asher identified a number of problems involving the type formalism, the qualia structure, dot objects as well as the claim of generativity itself. For instance, Asher criticises the qualia for not being precise and well-defined enough, especially if there is some form of metaphorical meaning shift, i.e. if the TELIC quale (i.e. the purpose identified with an object) for a shelf is to hold objects, how can the model account for the more abstract sense of 'shelving an idea' (2007: 76f.)? Similar remarks hold for the types assumed in Pustejovsky's framework (cf. Asher 2007: 77), which need to be generalised to account for intransitive verbs or examples of metonymy (2007: 86). Finally, Asher takes issue with the dot objects posited in the Generative Lexicon in cases of co-predication and anaphoric co-reference, where the predication in the main clause makes reference to the physical object, while the pronoun in the subordinate clause refers to the informational content of *book* (2007: 88):

(36) John's Mom burned the book on magic before he could master it.

Despite his criticism, Asher nevertheless bases his account of lexical meaning on some ideas in Pustejovsky (1995), including coercion and the system of types, which he adjusts and expands to account for co-predication phenomena and the relation of lexical meaning to the wider discourse (cf. Asher 2007: 29, see also Asher and Pustejovsky 2004).

In order to arrive at a criticism that has a more direct bearing on the present undertaking of accounting for the lexical semantics of complex words (i.e. word-formation), let us now turn to Lieber's (2004) remarks on Pustejovsky's (1995) framework. While she takes note of his interest in the question of lexical polysemy, a question she addresses in her framework as well, she rejects his position that the process of decomposition should dispense with a fixed number of primitives (2004: 8). In particular, the question why several affixes perform the same function in English cannot be answered without recourse to a finite set of features, according to Lieber (2004: 8, see section 3.4 below for more detail). Furthermore, while Pustejovsky attempts a comprehensive and more balanced coverage of lexical categories (including verbs, nouns and

adjectives), his main concern still rests on nominals. His semantic analysis of adjectives reduces their functionality mainly to auxiliary status performing the sole function of modifying nouns in composition or focussing on some aspect of them. He does not address the internal difference of adjective types nor their behaviour with respect to scale structure as discussed in section 2.3.3.2 above.

A final contribution before we move on to a brief introduction of the prime framework of Lieber (e.g. 2004) consists of the derivational approach formulated in Szymanek (1988). He is one of the few who focus their attention specifically on word-formational issues in lexical semantics. Further, he does not limit his investigation by concentrating solely on one word class, but attempts a cross-categorial analysis, putting equal weight on verbs, nouns, and adjectives.

His habilitation raises the question of how a derivational category can be defined, a concept which has mostly been neglected in morphological research up to that point (cf. Szymanek 1988: 13). He attempts to link it to insights developed in cognitive linguistics, i.e. he tries to relate derivational categories to the basic conceptual categories that humans employ in their knowledge of the world around them (see his section 2.3). Szymanek formulates a derivational category as a prototype, i.e. he aims at circumventing the problem of categorisation that is present in the classical view, namely membership in a category defined on the basis of necessary and sufficient conditions, which divides entities in members and non-members in a binary way, but does not leave room for 'partial' membership or overlap (1988: 76). He quotes Cuyckens (1984: 72), who said the classical view entails that ”concept membership is a 'yes or no' question, not a matter of 'more or less'“ (in Szymanek 1988: 76). That this classical view is inadequate becomes clear when the make-up of derivational categories is placed under closer scrutiny and Szymanek quite rightly identifies the inappropriate assumption of a one-to-one relationship between form and meaning (1988: 163), a fact that is also a point of departure for Lieber's (2004) framework to be discussed below.

A derivational category is defined as ”a *single* functional class of lexemes (i.e. a set of exemplars), each of which consists, minimally, of a base and a derivational formative. The formative element, which spells out a particular derivational catgory, may be more than one; however, it must be uniquely specifiable and constant in terms of its basic function (meaning)“ (1988: 22, emphasis in original). To give an example, he identifies the derivational category of 'Agent Noun' as consisting of verbal bases (*to paint, to inform, to escape*) which are transformed into agent nouns by way of various suffixal endings (e.g. *-er, -ant, -ee* in the case of the above verbs) (cf. 1988: 22). Some of the verbal bases will not have a corresponding suffix to form a derivative in this class or are functionally contained in a different derivational category (e.g.

**steal-er, open-er*) (cf. 1988: 22).

One of his main claims is expressed in his Cognitive Grounding Condition which states that ”[t]he basic set of lexical derivational categories is rooted in the fundamental concepts of cognition“ (1988: 93). These concepts are the equivalent to the primitives of other authors, though, like Jackendoff, they are viewed as being located on the conceptual level of cognition. The primitives themselves are motivated on the grounds of previous work by a number of researchers, including Jackendoff (1983 and 1987) and Szymanek is content if a category in question ”appears in *at least one* of the sources examined“ to be judged ”well-justified“ (1988: 89, emphasis added).

His own list of concepts thus contains simple categories and is conceived to be finite (cf. 1988: 94). It contains entities that can be perceived in the outside world such as Objects, Persons, Sex; Colour, Shape and Similarity, as well as Processes, Events, and Actions, among others (1988: 90f.). The first three concepts typically correspond to nouns, the second three to adjectives and the last group to verbs. Under closer scrutiny, it becomes conspicuous that the concepts differ with respect to precedence. For instance, in order to discuss the concept Sex, the prior concept of Person has to be assumed (similarly with Processes which are subdivided into Events and Actions, respectively). However, Szymanek makes no such distinctions, the concepts are all treated as equivalent.

In what follows, Szymanek tries to establish the nature of the relationship between cognitive and derivational categories for several cases with the help of Polish and/or English examples. In a few cases, a ”direct pairwise relationship“ can indeed be established, e.g. agentive nominalisations with the concept Agent or similitudinal adjectives with the corresponding concept Similarity (1988: 93). In many cases, however, there is no direct relationship possible. Cases in point are provided by English denominal adjectives (e.g. *painful*, *shameful*) and causative verbs (e.g. *quieten*, *neutralise*), which both make recourse to the fundamental cognitive concept of Causation (cf. 1988: 99), which is evidenced by the corresponding paraphrases for each: e.g. 'cause pain' or 'cause to be quiet'. In Szymanek's words: ”[W]e have a case here of two derivational categories being based on a single cognitive concept“ (1988: 99). A case which involves multiple categories on both sides is evidenced by denominal adjectives in *-less* (e.g. *doubtless*) or *-free* (e.g. *error-free*), which both rely on two basic concepts, i.e. Possession and Negation, as the paraphrase 'not having X' suggests (cf. 1988: 102). The underlying concepts of these privative adjectives are not simply juxtaposed, but form a succession: Whatever is possessed as denoted by the noun (e.g. *doubt*) is subsequently negated by the addition of the corresponding suffix (e.g. *-less*). Also a threefold combination of concepts is conceivable.

Denominal privative verbs like *debug* form a case in point as they relate to the concepts Causation, Negation and Possession, providing an even richer conceptual structure (cf. 1988: 103).

In his final chapter, Szymanek defines nine properties that establish a derivational category prototype, among which cognitive grounding can be conceived of as basic and criterial (cf. p. 118), whereas others (e.g. change of meaning/function) do not have a strictly criterial status, but form a property with decreasing prototypicality in combination with a decrease in the semantic change involved (p. 133). Compare derivational categories that involve 'modification' (e.g. *white – whitish*) with entirely transpositional derivatives, e.g. Nomina Actionis which, according to Szymanek, ”have no specifiable semantics apart from the fact that they express as an entity the action/process originally denoted by the verbal stem (1988: 32).

In her brief review of Szymanek's work, Lieber (2004: 8) approves of his endeavour to model derivational lexical semantics in a cross-categorial and decompositional fashion as well as his use of (cognitive) primitives. The latter characteristic receives criticism, however: ”Szymanek adopts this list [of primitives, T.H.] not so much for its intrinsic merit, but as a sort of first approximation“, and further ”Szymanek is content with a list of provisional labels“ (Lieber 2004: 9). As we have seen above, he introduces a number of primitives on the basis of their singular occurrence in another linguist's framework and does not establish an order of basic and secondary primitives derived from the former. His resulting list thus suffers from the impression of arbitrariness. The primitives are shown to play a role in the derivation of a number of categories, i.e. they form the basis of a derivative, but the precise mechanism involved in deriving verbs or adjectives from the same primitive Causation, for instance, is left unexplained. Lieber further remarks that his primitives are not of the right ”grain size“ (2004: 9), a problem that she also identifies in the rest of the frameworks she reviews. What the 'right grain size' exactly involes is not discussed at this stage, but is deferred to section 3.4 below.

The last milestone for decompositional lexical semantic research to be mentioned here, which additionally exemplifies an interest in word-formation, is the seminal framework developed in Lieber's (2004) *Morphology and Lexical Semantics* that she continuously expanded (e.g. Lieber 2007, 2009b, 2016a) and which has grown into a description of a derivational 'ecosystem' for nominalisations (see Lieber 2016b). Her endeavour is motivated by four basic questions: a) the ”polysemy question“, trying to find an explanation for the related meanings of an affix (e.g. *-ise*), b) the ”multiple-affix question“, i.e. multiple affixal forms for a single function (e.g. *-er* and *-ant* for agent nouns), c) the ”zero-derivation question“, which strives for an account of conversion, and d) the ”semantic mismatch question“, which asks the fundamental question of why a many-

to-many relationship between form and meaning seems to be the norm, counter to the assumptions that have shaped the field in the past (Lieber 2004: 2). On the basis of these questions, Lieber develops a framework that aims at the decomposition of lexical items into a (small) set of primitives, which is of a cross-categorial nature and focusses on a description of the meaning of lexical items that is on a par for simplex and complex words (cf. 2004: 4). Even though her aim is broadly cross-categorial, we will see that the treatment of adjectives has not received as much attention as verbal and nominal word-formation.

Lieber motivates her framework by the assumption that the processes of word-formation extend the simplex lexicon and for that reason we should expect to find the same basic kinds of polysemy in derived words as we do for simplex lexical items (cf. Lieber 2004: 9). In order to integrate both lexical grammatical structures and world knowledge in her system, but properly distinguish them from each other, she conceives of her lexical semantic representations as consisting of two parts: the so-called skeleton, which is modelled after Jackendoff's Lexical Conceptual Structures, and is responsible for ”only those aspects of meaning which have consequences for the syntax“ (Lieber 2004: 10). Thus, this part of the representation consists of the formal analysis of derivational units, including the establishment of a small number of primitives, which she conceives of in the form of a binary featural system (2004: 10). The second part of lexical semantic representations is defined as ”encyclopedic, holistic, nondecompositional, not composed of primitives, and perhaps only partially formalizable“ (Lieber 2004: 10) and comprises all those aspects of meaning which are part of world knowledge. To stay within her anatomical metaphor, she calls this aspect 'the body' and she cites Pustejovsky's (1995) qualia structures as part of her inspiration for the body (2004: 10). The interplay of the skeleton and the body and her use of the anatomical metaphor is exemplified by the following quote:

The skeleton forms the foundation of what we know about morphemes and words. It is what allows us to extend the lexicon through various word-formation processes. The body fleshes out this foundation. It may be fatter or thinner from item to item, and indeed from the lexical representation of a word in one person's mental lexicon to the representation of that ”same“ word in another individual's mental lexicon. But the body must be there in a living lexical item. Bodies can change with the life of a lexical item – gain or lose weight, as it were. Skeletons, however, are less amenable to change. (Lieber 2004: 10)

In composition, a single referential unit is created by the process of co-indexation, which joins two semantic skeletons into one (cf. 2004: 10). She accounts for the different nature of compounds and derivational units by claiming that the former are co-joined by juxtaposition of

the two skeletons, while the latter involves subordination of the base to the respective affix (cf. 2004: 10). In section 3.4 below, these assumptions will be 'fleshed out' with illustrative examples. Skeletal meanings are conceived of as being underdetermined, leading to the effect of logical polysemy in composition as described by Pustejovsky (1995) (cf. Lieber 2004: 11). She justifies her application of primitives, more specifically features, by the need to specify ”the right level of underdetermination of meaning to account for affixal polysemy“ (Lieber 2004: 11). Her featural system consists of two basic binary features [+/-material] and [+/-dynamic] which are instantiations of the two semantic-conceptual categories SUBSTANCE/THING/ESSENCE and SITUATION, respectively (cf. 2004: 23). These categories are reminiscent of ontological categories like THING or EVENT/PROCESS/STATE as employed by Jackendoff[33] or Szymanek, but in Lieber's conception they are privative (i.e. present or absent) and characterised by binary features. The two categories and their basic featural settings are given with examples in the schema in figure 2 below (from Lieber 2004: 26).

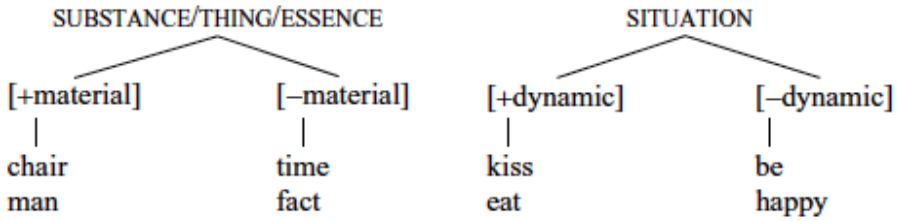

Figure 2. Lieber's (2004) two basic ontological categories

Lieber concedes the awkwardness of her terminology for her conceptual categories, but construes them as shorthands for the integration of Events and States into one category (i.e. SITUATION) and unbounded masses, entities and abstractions into another (i.e. SUBSTANCE/THING/ ESSENCE) (2004: 24). Later work preserves these terms and she claims that ”nothing important hinges on the choice of [these terms]“ (2004: 24). In the course of her (2004) book, she adds further features to account more specifically for the diversity of the lexicon, i.e. Inferable Eventual Position or State (IEPS in short) for verbal Situations in particular (p. 29), Location to account for position or place in space or time (p. 99), and quantity features for the singular/plural and count/mass distinctions of nouns (p. 136f.). She presents nine ”basic categories for derivational affixes“, which are constructed via different combinations and corresponding values of the binary feature system (p. 36). We have yet to provide some more information about her conceptualisation of adjectives and how the body integrates into her system. In her first formulation of the framework in 2004, Lieber presents derived adjectives with a ratherr sparse

33 Jackendoff also refers to them as ”conceptual 'parts of speech'“ (1990: 22).

skeleton. The variety of adjectival suffixes such as *-ic*, *-ive*, *-ary*, *-al*, *-ous*, and *-y* all receive the negative value of the feature [dynamic] characterising statives (cf. p. 39). Although she does not mention *-ish* specifically, we can assume that its skeleton will consist of this negative-valued feature as well, but there are no remarks about the scalar nature of adjectives formed with these kinds of suffixes. In 2007, Lieber extends her system to include the feature [scalar] as well, thus making the representation of adjectival representation richer.

As said above, the semantic body is conceived of as a less formal structure, including cultural and perceptual encyclopedic information about shape, dimension, colour, or use, etc. (cf. Lieber 2004: 51). Lieber emphasises that the body does not consist of a fixed inventory of pieces of information, which is in line with her anatomical conception. Thus, the noun *poet* receives a semantic body consisting of the information that it refers to a natural entity (as opposed to an artifact), is a human being and writes poetry (cf. 2004: 51). Since the body is not fixed in its shape, it can grow if more information about an entity is acquired and these pieces of information can vary from individual to individual. This way Lieber ensures that world knowledge is not confined to a strict inventory in the form of a list with an upper bound, but stays variable and thus is able to adapt to changed input.

Following her initial work in 2004, Lieber especially carved out the lexical semantic nature of compounds (e.g. 2009b, 2010, 2016a, 2016b: chapter 8), distinguishing argumental from non-argumental compounds (cf. Bauer et al. 2013 for the coinage of this terminology), i.e. the class of synthetic compounds and what she rather laboriously terms NDVC compounds[34] in the former case and root as well as coordinative compounds in the latter case (cf. Lieber 2016b: 24).

Finally, in her recent 2016 book, she focusses especially on nominalisation, describing a complex web of interrelations, which emphasises the many-to-many relationship between form and meaning and which she situates in another biological metaphor in referring to it as a derivational 'ecosystem'. The metaphor is justified by its resemblance to ”the relationship between organisms such as animals and plants and the habitats or ecological niches they occupy“ (2016b: 57). Just as species coexist or compete in some habitat, so do derivational types, inhabiting some semantic niches in considerable numbers or only sparsely. Like organisms populating a habitat, morphological types are also interdependent in a complex derivational system (cf. 2016b: 57). Her feature system receives another addition with the feature [+/-animate], since this will become syntactically relevant for her analysis of nominalisations and is equally pertinent for agreement marking of English pronouns, the latter of which she does not

34 The abbreviation NDVC stands for ”non-affixal (de)verbal compounds“, including conversion nouns, see Lieber 2010: 128).

further comment on (cf. 2016b: 95).

Methodologically, Lieber does not merely concentrate on previous research, but puts prior claims to the test by employing a large and up-to-date corpus. Her rationale is based on the research she undertook with Bauer and Plag (2013) which found that many of the previous claims in the literature could be falsified by attested examples in the corpora that were investigated (cf. Lieber 2016 b : 25). In fact, she lists several observations made about nominalisations that turned out to be in need of revision (2016b: 35). In doing so, she takes ”attestation in a corpus as a marker of acceptability“ (2016b: 28), a principle which is followed up in the remaining chapters of this work.

Her framework has received one major extension which was not authored by her. Trips (2009) expands Lieber's synchronic perspective by adding a diachronic one. Specifically, she investigates the diachronic development of three nominalising suffixes *-hood*, *-dom* and *-ship* and provides diachronic solutions to the questions raised by Lieber (2004). For instance, the question of polysemy, i.e. the fact that suffixes have more than one related meaning, is approached by taking a phenomenon of grammaticalisation into account (cf. Trips 2009: 206). Historically, words keep developing new forms and meanings but do not necessarily shed the already established ones so that both coexist, a phenomenon referred to as ”layering“ in the relevant literature (Hopper 1991). Thus, polysemous forms are the product of semantic change over time. The process of metonymic shift plays a crucial role in this development. To illustrate with an example, the salient (core) meaning of *-dom* was 'authority of N' in Old English, where N used to denote individuals of power (e.g. bishops, kings, etc.). Over time, an additional meaning 'territory, realm' developed, due to a metonymic shift from the authority of an individual in power to the territory over which that individual exerts power (cf. Trips 2009: 108). Even though the three suffixes share meaning in a very general sense (i.e. they all form abstract nouns with the meaning 'state/condition of N'), they nevertheless each have their own domain due to the different meanings that have arisen via metonymic shifts (cf. Trips 2009: 192). In a sense they are rival affixes, but only on the surface. We will come back to the topic of rivalry between affixes in section 7.3, where we assess the meanings of the suffixes *-ish*, *-like* and *-esque*.

3.4 Lieber's Lexical Semantic Framework (LSF)

Following the general introduction into Lieber's framework, this section will introduce the technicalities of her approach. Above we have established that her system involves two basic

parts, a skeleton, which is decompositional, includes features and is formalisable and a body, which contains world knowledge, is non-decompositional and can only be partially formalised. We will focus on the skeleton for now as it is that part which will form the basis for the lexical semantic operations that are involved in derivational processes. In line with Jackendoff (1990) she construes the skeleton as containing two basic parts, ”a function and one or more arguments predicated by that function“, which are hierarchically organised (Lieber 2004: 16):

(37) a. [F_1 ([argument])]
b. [F_2 ([argument], [F_1 ([argument])])]

(37a.) shows the basic skeleton for a simplex lexical item with one argument. Concrete examples for simplex lexical items with one and two arguments, respectively, are given in (38) below (cf. Lieber 2004: 25). (37b.) illustrates the basic skeleton for a lexeme formed via derivation, which is indicated by the bracketing. In derivation the base (F_2 ([argument])) is subordinated by the affix (F_1 ([argument])), resulting in the hierarchical structure above.

(38) a. *chair* [+material ([ ])]
b. *leg* [+material ([ ], [ ])] (e.g. the leg of the table)

This organisation forms the basis for all major word categories, i.e. nouns, verbs and adjectives all take arguments[35], following work by Williams (1981) and Higginbotham (1985). The notion of arguments has a long history, especially for verbs (see for example the extensive treatment of argument structure in Levin 1993) and nouns and they are traditionally distinguished into external and internal arguments (cf. Williams 1980). The external argument is specified with respect to the position external to the verb phrase (VP) and the internal argument (or arguments) is located within the verb phrase (cf. Williams 1981: 84). Example (39) below serves for illustration:

(39) The child broke the lamp.

The noun phrase (NP) *the child* is the external argument of the transitive verb *break* in (39), specifying the agent of the action, whereas the object NP *the lamp* is the internal argument. For nouns, Williams (1981: 86) identified the R (i.e. referential) argument, which is characterised as the external argument of a noun. This R argument may be discharged in the syntax by linking it to an NP ”of which a phrase with that item as its head is predicated“ (Williams 1981: 84). For example, nouns characterised as referential like *Londoner,* 'person who lives in London', receive a personal interpretation (cf. Booij and Lieber 2004: 336). It becomes clear from these examples

35 An argument is traditionally defined as ”a noun phrase bearing a specific grammatical or semantic relation to a verb and whose overt or implied presence is required for well-formedness in structures containing that verb“ (Trask 1993: 20).

that the external R argument of nouns and the external argument of verbs cannot be viewed in equal terms.

The features in Lieber's system take the place of primitives in that they are undefinable, but should not be confused with the primitives of other frameworks (cf. Lieber 2004: 23). Previous conceptions of primitives in the literature are dismissed by Lieber as not being of the ”right grain size“ (2004: 22). She does not further explicate what she means by that statement, but it becomes clear that the primitives introduced by Jackendoff, Wierzbicka and others are not applicable to complex words. In order to adequately define the meanings affixes bring to the table, Lieber develops a feature system which aims at a semantic contribution that is ”neither too broad nor too narrow“ (2004: 22).

As introduced above, the features are binary (i.e. have a positive or negative value) and can be present or absent (i.e. privative), where absence is equated with their irrelevance for an item in a semantic representation (2004: 23). Upon closer inspection, these two are not as juxtaposed and neutral with respect to precedence as Lieber's introduction of them seems to suggest. A feature can only be set at a specific value if it is present in the first place. The question of 'privation' (i.e. presence or absence) is thus antecedent to the setting of binary values. The terminology might appear slightly unilateral in that 'privation' implies the *absence* of something, while its counterpart is construed as a special case. Furthermore, in the philosophical tradition, a decidedly negative connotation has manifested itself in the term. Since the basic representation of features remains unaltered, however, this can be considered a minor terminological quibble and I do not have a better alternative in mind as of yet, except its exact opposite 'existence', which presupposes the *presence* of something. However, this term is a more neutral variant and therefore may be seen as a suitable candidate.

Above the most basic features [+/-material] and [+/-dynamic] were introduced as characterising the conceptual categories SUBSTANCE/THING/ESSENCE and SITUATION, respectively. The former category is thus the ”notional correspondent of the syntactic category Noun“ and distinguishes between concrete [+material] and abstract [-material] nouns (2004: 24). The latter may signal eventive [+dynamic] or stative [-dynamic] verbs, but due to Lieber's cross-categorial conception of the framework, it also signals the syntactic category of adjectives, which embody states and are thus ”conceptually identical to stative verbs“ in that their skeleton bears at least the feature [-dynamic] (2004: 25)[36]. The two semantic categories SUBSTANCE/THING/ESSENCE and SITUATION are not conceptualised as mutually exclusive, however, but can overlap as Lieber claims is the case with nouns like *author*, which can have a so-called 'processual' flavor (i.e. the meaning of

36 Lieber's full definitions for the features employed here are given in appendix A.

the concrete noun includes the event of writing a book). Thus, *author* is not only characterised by the feature [+material], but also by the presence of the feature [dynamic]. The feature does not receive a value in this case, but is only used in a privative or existential way ”to distinguish processual from nonprocessual SUBSTANCES/THINGS/ESSENCES“ (Lieber 2004: 27).

The schema illustrating the added detail in the basic category of SUBSTANCES/THINGS/ESSENCES is shown in figure 3 below.

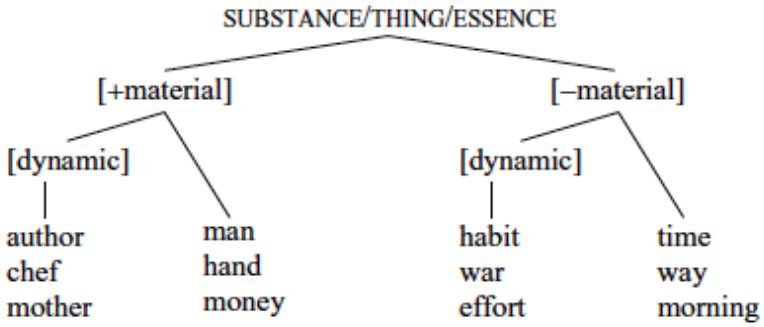

Figure 3. Lieber's (2004) ontological category of SUBSTANCES/THINGS/ESSENCES

The problematic nature of the conceptualisation of privation alluded to above is evidenced here in the not very convincing division of nouns into those that show a ”processual flavor“ (e.g. *author*, *mother*) and those that do not (e.g. *time*, *morning*) (cf. 2004: 27). If anything, a distinction into two classes which can or cannot have a somewhat vaguely characterised eventive reading would warrant its own feature [+/-processual], which comes closer to the semantic nature of 'eventive nouns' than positing the mere existence of a feature in these cases which otherwise makes a true distinction between events and states[37]. However, committing to a separate additional feature would perhaps slightly undermine Lieber's claim of her system being cross-categorial (i.e. that a limited amount of unanalysable features, which is at the bottom of every meaning of simplex and complex words, can freely emerge with (almost) any major syntactic class) in addition to being problematic for her process of coindexation to be introduced below. I will not dwell on this matter further, but continue in characterising Lieber's feature system.

Further features introduced in the course of her (2004) book and subsequent work (e.g. 2007) that will bear relevance to the present undertaking include two features of quantity for nouns, i.e. [+/-B] and [+/-CI] (cf. 2004: 211). The former is a shorthand for 'Bounded' (see also Jackendoff 1991: 20) and is used to signal the distinction between count ([+B], e.g. *fact*) and mass nouns ([-

37 I thank Jürgen Pafel for pointing this out to me (p.c.).

B], e.g. *water*) (2004: 211). The latter, inspired by Jackendoff's (1991: 20) 'internal structure' [+/-i], refers to 'Composed of Individuals' and its positive value denotes ”separable similar internal units“ (e.g. *committee*, where one instance refers to the plurality of individual persons that participate in a committee, hence [+CI]), while its negatively valued counterpart [-CI] instantiates a ”spatially or temporally homogeneous or internally undifferentiated“ unit (e.g. *cattle*) (2004: 211).

These two features are characterised as units in Lieber's examples (again following Jackendoff 1991), for example the mass noun *water* (characterised by [-B]) additionally surfaces the feature [-CI] since it is not conceived of in terms of individual drops of water but as an internally undifferentiated substance. Likewise, the *committee* consists of individuals which can be counted and therefore features both [+B] and [+CI]. These features are introduced rather late in her (2004) book and Lieber does not refer back to her previous conception of nouns, which are characterised only as containing the features [+/-material] and [+/-dynamic] (e.g. 2004: 26f.). The fact that *author*, in addition to being conceptualised as a noun bearing the features [+material, dynamic], also is a singular count noun, which should thus additionally receive the feature combination [+B, -CI] and *time* denoting a mass noun (thus further warranting the features [-B, -CI]), is not taken up again in later passages of Lieber's (2004) framework, but simply ignored.

On several occasions Lieber comments on the possibility of adding further features to her system, and she does so twice in subsequent publications. In 2016, her focus firmly rests on nominalisations and their mutual links, resulting in what she calls a 'derivational ecosystem'. She introduces the feature [+/-animate] which she deems relevant for a characterisation of nouns and pronouns (cf. 2016: 95). As such, its application as a skeletal feature amounts to something of an 'upgrade' from its previous status as an element listed in the encyclopedic realm of the semantic body (see 2004: 52, where <animate> is one of the bodily representations of dogs). Since word-formation is used to extend the simplex lexicon we should thus expect to find the same semantic subclasses and distinctions that hold for the simplex lexicon (cf. 2004: 9, 38). This also means the reverse should be true, i.e. the features that are introduced for nominalisations should also be mirrored in simplex nominals. Following this bidirectionality, we need to adjust the simplex skeleton for the example *author* again, further expanding the skeleton to (40) below:

(40) *author* [+material, dynamic, +B, -CI, +animate]

I am not sure whether the array of features we arrive at in (40) is actually warranted. Lieber originally designed the skeletons in her framework as the 'bare bones' of semantic representation, ”a small number of primitives“, with the body adding more 'meat' to it and 'fleshing out' the

skeletal representation (2004: 10). Nevertheless, the feature [animacy] has its justification and can also be found in much of the literature on semantic roles, also called thematic or theta roles (e.g. animacy is often used to distinguish the semantic roles of recipient and goal, see Gerwin 2014: 34). Where it is needed, it will be retained.

I follow Lieber (2007) in adding a feature to the rather scarce representation of adjectival features from 2004. Recall that adjectives were characterised as only bearing the feature [-dynamic], effectively representing their nature as states. Adjective-forming suffixes yielding this feature include *-ic*, *-al*, *-ous*, *-y*, among a few others (2004: 39). While that feature might suffice to characterise relational adjectives (e.g. *president – presidential*)[38] alone it is inadequate to represent other adjectival types. Lieber (2007), in recognising this gap, proposed the feature [+/-scalar] to include a representation of gradable adjectives into her system. In Lieber's own words:

> **[+/-scalar]**: This feature signals the relevance of a range of values to a conceptual category. With respect to [-dynamic] SITUATIONS it signals the relevance of gradability. Those SITUATIONS for which a scale is conceptually possible will have the feature [+scalar]. Those SITUATIONS for which a scale is impossible will be [-scalar]. (Lieber 2007: 263, emphasis in original)

On the one hand, this feature distinguishes between verbs and adjectives at the point where they intersect: [-dynamic] SITUATIONS. On the other hand, with this feature we are able to distinguish gradable adjectives like *tall* or *clean* from those that are ungradable (e.g. *dead*, *pregnant*). It does not allow for a finer-grained distinction into different types of adjectives, however (cf. section 2.3.3.2 above). Furthermore, it does not distinguish between different types of 'similative' suffixes like *-ish*, *-like*, or *-esque*. In chapters 4 (section 4.9) and 7 (section 7.5.3) below we will come back to this matter.

Thus far I have introduced the principal parts of Lieber's word-formation theory, but what is as yet missing is a procedure for gluing the individual derivational morphemes together semantically. In order to build the argument, I will first show how the principle of coindexation accounts for root compounds (also called endocentric compounds), which will play a minor role in later sections (cf. *schoolboyish*), before the discussion of the semantic structure of derivatives forms the point of departure[39]. The analysis of a root (or endocentric) compound must first account for the fact that the first stem (*school*) is non-referential: it does not refer to any particular school. Second, it also must account for the relation of the first and the second stem, which is one of hyponymy (cf. Cruse 1986, in Lieber 2004: 49). That is, the compound denotes a subset of what is denoted by the right-hand stem: A *schoolboy* is a kind of *boy*, where the first or

38 Beard (1995: 220) calls these types of adjectives 'possessional', referring to Jespersen, and which are characterised by the semantic function [POSSESS(XY)], as opposed to the 'similitudinal' adjectives which have the function [LIKE(XY)].

39 For the analysis of synthetic compounds, see Lieber (2004: chapter 2).

non-head stem functions as the modifier of the second stem or head. This observation is encapsulated in William's formulation of the right-hand head rule, which states that ”[i]n morphology, we define the head of a morphologically complex word to be the right-hand member of that word“ (1981: 248). In other words, the right-most member of root compounds is category-determining as is the case for many suffixes (e.g. with *-ish*, which changes the word category of the bases to adjectives except when the base word is itself an adjective, cf. [[*boy*]$_{N}$[-*ish*]$_{ADJ}$]$_{ADJ}$). Lieber argues ”that the semantic headedness of compounds follows from structural headedness“ (2004: 49) and thus, that the semantic argument structure follows from the word structure. This assumption is shown schematically in (41) below, where the lexical-semantic skeletons of a root compound are placed in a relationship of sisterhood (Lieber 2004: 49):

(41) Juxtaposition (with compounds): $[\alpha F_1 ([\ ])] [\beta F_2 ([\ ])]$

The co-indexation principle thus determines the syntactic and the semantic dominance of the second constituent of the root compound (Lieber 2004: 49). It further accounts for the referential integration of the two semantic skeletons and is stated below (cf. Lieber 2004: 50):

(42) **Principle of Co-indexation:** In a configuration in which semantic skeletons are composed, co-index the highest nonhead argument with the highest (preferably unindexed) head argument.

The highest argument is identified as the ”outermost lexical function of the head“ (Lieber 2004: 50), which is the argument of F_2 in the case of root compounds (i.e. ”the semantic representation of the syntactic head“, 2004: 50, see (41) above) and the argument of F_1 in the case of a derived word created by the subordination of the base by the suffix:

(43) Subordination (with derivatives): $[\alpha F_1 ([\ ], [\beta F_2 ([\ ])])]$

In the process of co-indexation the skeletal arguments share indexes and therefore reference and interpretation, according to Lieber (2004: 50). The ideal case of shared reference plays out with copulative (or coordinative) compounds which share completely identified referents (cf. Lieber 2004: 51):

(44) [+material, dynamic ([$_i$])] [+material, dynamic ([$_i$])]
clergyman *poet*

In (44) the two stems of the copulative compound *clergyman-poet* both share an identical skeleton, they are concrete processual nouns in Lieber's theory and what is more, also many of the aspects of their bodies align, since both are natural entities (as opposed to artifacts), and are human and animate[40]. Lieber concludes that the coordinative interpretation of such a compound

40 They differ in the salience of aspects like sex and 'profession', the former explicitly referenced as male (as opposed to *clergywoman*), while the latter uses the generic masculine form, thus implicitly referring to a male

arises due to their aligned semantic representation in both the skeletons and the bodies of the individual stems (2004: 51f.). The complete identification of reference is, as stated above, only the ideal scenario and much less common than cases in which co-indexation leads to weaker effects. In Lieber's words: ”[Co-indexation] forces a sort of merger of the two stems, that is, an effort to find some sort of common ground that allows them to be interpreted together“ (2004: 52). This effect is depicted in root compounds like *schoolboy*, where both stems are concrete nouns with a single argument each (i.e. R):

(45)	skeleton	[+material [$_i$])]	[+material ([$_i$])]
		school	*boy*
	body	<artifact>	<natural>
		<building>[41]	<human> …

The skeletons are quite similar, but the bodies differ[42]. This difference makes it impossible for complete identification of reference since something cannot be an artifact and natural at the same time (cf. Lieber 2004: 52). In such cases, i.e. when the R argument of *school* is co-indexed with the R argument of *boy*, Lieber contends that the consequence is a process of co-interpretation of arguments in which the semantic characteristics of the nonhead stem are placed in a modifying relation to those of the head (2004: 52). Since the head features the bodily characteristics of 'naturalness' and being human, the resulting compound will adopt them as well. The co-indexation process explains referentiality as well as headedness, but any aspect of meaning beyond these properties is deferred to context and encyclopedic knowledge located in the body. In Lieber's words: ”The claim I make here is that lexical semantics fixes only so much of the interpretation of a newly coined compound, namely that the second stem determines the overall headedness of the compound, and that the compound as a whole has only a single referent. The rest is free.“ (2004: 53).

I will now attend to the co-indexation procedure for derivatives. Schema (43) above indicated a hierarchical structure in that affixes subordinate their corresponding bases. In more detail, it states that the affixal argument (i.e. the head of the derived word) is co-indexed with the highest

---

person, which would again show the similarity of the two bodies.

41 The noun *school* is polysemous, so the bodily feature <building> might be exchanged for <institution> here. In that case, the skeletons would also differ, since *school* as an institution is an abstract noun and this is probably the intended reading of the compound. A *schoolboy* is ”a boy attending or belonging to a school“ according to the OED and thus references the institution. However, in order to show how the co-indexation principle works, this is of limited relevance here and thus should be considered a side note. For the sake of simplicity I will therefore leave <building> as a bodily feature of *school* in the example.

42 More detailed skeletons would include the notion of animacy, which is absent from *school* and present for *boy*, as well as the features [+B, -CI], denoting singular count nouns. For the sake of discussion, the above representation will suffice.

non-head argument (i.e. the base). Lieber emphasises that this strict interpretation of the co-indexation principle only holds for some derivatives, but cannot offer an explanation for the affixes' behaviour of overlap (2004: 61). Thus, by concentrating on the affixes *-er* and *-ee*, she notes that the latter poses semantic restrictions on the base, namely those of sentience and nonvolitionality, while the former does not require specific semantic conditions. These requirements imply that the co-indexed arguments must be semantically compatible, i.e. an argument that is sentient cannot be matched with a non-sentient argument (cf. Lieber 2004: 61). As a result, Lieber revises her Principle of Co-indexation in the following way (2004: 61):

(46) **Principle of Co-indexation (revised):** In a configuration in which semantic skeletons are composed, co-index the highest nonhead argument with with the highest (preferably unindexed) head argument. Indexing must be consistent with semantic conditions on the head argument, if any.

In amending the principle in this way, Lieber accounts for suffixes which share a basic semantic contribution (in the form of features) but differ concerning syntactic subcategorisations and co-indexation conditions of their arguments, which can vary in subtle ways. The lexical entries assumed for *-er* and *-ee* are illustrated in (47) and (48) below (cf. Lieber 2004: 62)[43]:

(47) *-er*
Syntactic subcategorisation: attachment to V, N
Skeleton: [+material, dynamic ([ ], <base>)]

(48) *-ee*
Syntactic subcategorisation: attachment to V, N
Skeleton: [+material, dynamic ([$_{\text{sentient}}$, $\underline{\text{nonvolitional}}$], <base>)]

The entries in (47) and (48) show that both suffixes form concrete processual nouns, indicated by the features [+material] and [dynamic], both have an associated R argument, which is "the highest argument of the semantic features" (2004: 37), and both attach to verbs (e.g. *writer*, *employee*) and nouns (e.g. *prisoner*, *biographee*), albeit with different degrees of productivity. While *-er* places no semantic requirements on its base, *-ee* places a strict condition of sentience and a slightly weaker requirement of nonvolitionality (indicated by underlining) on the co-indexed argument of the base (cf. Lieber 2004: 62)[44]. Lieber thus differs from Barker's (1998) analysis of *-ee* in assuming different strengths of these conditions and justifies this modification with being able to account for the resultant subtle differences in meaning as well as for the

43 For the affixes *-ant/-ent* and *-ist* see Lieber (2004: 62). They also share the same features, but differ from those in (47) and (48) in their syntactic subcategorisations or in the semantic requirements imposed on the base (or both).

44 Sentience is assumed to be more fundamental and hence prior to volitionality since a non-sentient entity is not thought of being capable of engaging in an activity volitionally.

polysemy of the suffixes. I will now illustrate the functionality of the revised principle with appropriate examples. Consider (49) below:

(49) *writer*
[+material, dynamic ([$_i$], [+dynamic ([$_i$], [ ])])]
-er , *write*

The suffix *-er* forms concrete processual nouns and example (49) highlights the difficulty of changing the feature [dynamic] from simply being a privative one to a feature of its own, i.e. [processual]. Even though semantically such a feature would be more feasible, when it comes to the co-indexation of arguments we will encounter problems with the principle's premise since arguments must match. Moreover, the eventive reading is inherent in the verb and the resulting derivative takes over this reading. It is thus at least questionable whether *-er* necessarily has to exhibit the privative manifestation of the feature [dynamic].

Coming back to the co-indexation principle, the base in (49) features two arguments: the external argument, which is the highest argument of the base, and an internal argument. Since *-er* does not require its linked base arguments to conform to any specific semantic requirements, it simply links the affixal argument to the highest base argument (cf. Lieber 2004: 68). It is thus able to absorb the thematic interpretation of the verbal base argument which is that of agent in the case of (49)[45].

The suffix *-ee* on the other hand does require its co-indexed arguments to conform to the conditions of sentience and nonvolitionality as is illustrated with the deverbal noun *employee* below:

(50) *employee*
[+material, dynamic ([$_{\text{sentient, }\underline{\text{nonvolitional}}\text{-i}}$], [+dynamic ([ ], [$_i$])])]
-ee , *employ*

The skeletal feature [+dynamic] of the verb *employ* identifies it as a simple activity verb which has two arguments: the external argument referencing an agent who employs and an internal argument denoting the referent who is employed. Since the first argument of the base denotes an agent who is volitional it is incompatible with the affixal argument, which weakly requires its base argument to be nonvolitional. The co-indexation process thus skips the highest argument of the non-head (the base) and links the argument of the affix with the second argument of the base, which is more compatible in being sentient and nonvolitional, leading to the patient reading of the derivative (cf. Lieber 2004: 63). The corresponding agent interpretation of the deverbal noun *employer* is covered by the *-er* suffix, which co-indexes the first argument of *employ* and does

45 For other thematic interpretations of *-er* derivatives see Lieber (2004: 68).

not impose semantic restrictions on its base.

The next example is a curious case in that an *escapee* generally does not receive a reading that entirely conforms to that of a patient. Let us have a look at example (51) below which gives the skeletal structures of the derivative's components.

(51) *escapee*

[+material, dynamic ([$_{\text{sentient, nonvolitional-i}}$], [+dynamic ([$_{i}$], [+Loc ([ ])])])]

-ee , *escape*

As Lieber notes, "[a]lthough an *escapee* must initiate the activity of escaping, there is something about the gestalt of the situation that is not completely under the control of the *escapee*" (2004: 65). Example (51) illustrates that the semantic conditions required by *-ee* do not match well with either argument slot of the base. The first (external) non-head argument denotes the individual escaping and hence, is sentient but volitional, while the second (internal) argument refers to the institution the individual is escaping from, which is non-sentient and therefore non-volitional (as sentience is a prerequisite of volitionality). Lieber remedied this stalemate situation by construing her principle as violable. Here, the construal of the semantic conditions as being of unequal weight comes into effect. Since the requirement of non-volitionality is secondary to sentience and therefore weaker, this less conspicuous violation is permitted by the Principle of Co-indexation which then links the affixal R argument to the volitional argument of the base (i.e. the external one). This slight mismatch of arguments is reconciled in the derivative's interpretation, which mirrors the two opposing conditions of (non)volitionality: The actions initiating the escape are deliberate, but the outcome and consequences of this action are not within the control of the escapee (cf. Lieber 2004: 66). In fact, Lieber checked for an attestation of *escaper* and discovered one in the context of escape artists (2004: 66, footnote 9), which have a much larger measure of control over their actions (and in fact deliberately place themselves in bondage for their audience).

Above, I have introduced Lieber's quantitative features [+/-B] and [+/-CI] which account for the difference between count and mass nouns. These features can explain the polysemy found in derivatives with the suffixes *-ery* and *-age*. Both denote concrete and abstract entities, e.g. *piggery*, *jewelry* and *wreckage*, *orphanage* illustrating the former, and nouns referring to behavioural properties such as *snobbery* and measurement nouns for distance like *mileage* indicate the latter. According to Lieber (2004: 149), this range of unusual polysemy can be accounted for by the two features mentioned above. The suffixes *add* these features in their skeletons to the skeletons of the bases they attach to. In the case of *jewelry*, the suffix changes the quantificational class, but leaves the value of the feature [+material] intact, which accounts

for the concrete reading of the derivative (cf. 2004: 149). Like the singular concrete base noun *jewel*, the derivative denotes a concrete meaning, while at the same time denoting a bounded aggregate of jewels. With abstract nouns such as *mile*, the derivative likewise does not change its status of abstractness, but remains abstract, i.e. [-material] as the noun *mileage* shows.

Furthermore, both suffixes have collectivity and place name readings, indicating a further aspect of their polysemy. Lieber notes that there seems to be an intrinsic connection between place names and collectivity (see also Pustejovsky 1995: 31, which he terms 'place/people alternation') and illustrates this with *piggery*: A ”piggery would be a place where a collectivity of […] pigs is gathered“ (2004: 150). This sense extension (or metonymic shift, the term used in Trips 2009: 212), occurs in English due to paradigmatic extension, since English does not have a unique affix which supplies this meaning. In Lieber's own words,

> [w]hen a particular affix is lacking, and at the same time there is pragmatic pressure – that is, real-world need – to create a word with that meaning, the needed words are derived by a process of sense extension from the closest productive affixes a language has. (2004: 150)

The exposition of the quantity features in Lieber's framework provides an answer to the question of polysemy in suffixes. In the particular case of *-age* and *-ery*, it follows from the specific skeletal contribution of the suffixes to various types of bases as well as a mechanism of metonymic shift which accounts for further readings deriving from the base reading (cf. Lieber 2004: 151).

To sum up, this section introduced Lieber's Lexical Semantic Framework (LSF) with detailed information about the nature of the skeleton, which includes features and arguments, as well as the mechanism responsible for the composition of heads and non-heads in both compounds and derivatives. It has been argued that affixes often said to be rivals (e.g. Plag 2003, Arndt-Lappe 2014) do in fact show subtle differences in their principal skeletal parts. The representation of the meaning of a derivative is compositional in amalgamating the skeletons of the base and suffix by the Co-indexation Principle. The nature of the mechanism and its violation account for verbal polysemy, and the effect arises via different semantic requirements that play out in the derivative's interpretations when their arguments are co-indexed. For nominal derivatives which do not have a comparable argument structure like verbs, the polysemous effect arises from the quantitative features the suffixes contribute to their base nouns. In effect, the features of the suffixal skeleton change the quantificational class of the nouns, while leaving their basic features of materiality unchanged. As adjectives also do not have an argument structure like verbs, this mechanism is of particular interest for the analysis of derived adjectives in the following chapter. Lastly, we have seen that polysemy can arise via metonymic shifts, which extend the basic

readings of a derivative. This, too, will become relevant in the next chapter.

3.5 Summary

This chapter has sketched the historical development of the field of lexical semantics and presented work in the two main approaches in the present: Later Generative accounts and Cognitive Semantics. These two fields approach lexical meaning in fundamentally different ways, the former placing a focus on decomposing meaning into its principal parts, while the latter approaches meaning in a holistic way, collapsing the distinction of word and world knowledge. It has been argued that in order to account for the development of a word-formational element like the adjective-forming suffix *-ish* and its polysemous senses, a framework is required which represents the complex nature of adjectival derivatives. While the literature has produced a wealth of lexical-semantic models, mainly on verbs and nouns, most of them do not adequately address these requirements. The exception is found in Lieber's LSF framework which aims at representing issues of word-formation and provides an answer to most of these requirements. While she has introduced a basic representation for adjectives, her framework as of yet lacks a definitive account to individual adjective-forming suffixes and does not yet provide a systematic way of differentiating various 'similative' suffixes. The former will be addressed in chapter 4, the latter in chapter 8, where her framework is applied and extended accordingly.

In the following chapter we will see how Lieber's framework can be applied to the various forms of bases and senses that are connected to the adjective-forming suffix *-ish*. We will diachronically move through the different stages of the English language to get a clear picture of the trajectory *-ish* took and will do so by having a look at historical and present-day corpus data for the respective language stages.

4 Diachronic development: The trajectory of the suffix *-ish*

4.1 Introduction

Having introduced formal and semantic characteristics of suffixes and adjectives in chapter 2, as well as the formal apparatus of Lieber in chapter 3 that will become relevant for the analysis of *-ish*, this chapter consists of the suffix's historical trajectory as represented in corpora, discussed in the pertinent literature and backed with lexicographic resources. After introducing basic concepts of frequency and productivity which will become relevant for the quantitative aspect of the corpus analysis, we will discuss data from the historical corpora. With their help, I will illuminate the formal and semantic development of the suffix *-ish* from its earliest occurrence on to the present day. For the semantic conception of the suffix, I will draw on the insights of Lieber's (2004) Lexical Semantic Framework introduced above and expand it to word classes not previously discussed but which will become relevant for a treatment of *-ish*.

Methodologically, a corpus analysis has been conducted that covers all the relevant periods almost without gaps inbetween individual stages of the language. For the earliest recorded stage of English, the *York-Toronto-Helsinki Parsed Corpus of Old English Prose* (Taylor et al. 2003; in short YCOE) has been used, which contains 1.5 million words[46]. It is associated with the Penn-Helsinki Parsed Corpora (i.e. an overarching project of the Universities of Pennsylvania and York to create parsed diachronic corpora)[47] and thus constitutes a sister corpus to the Penn Parsed Corpora of Historical English, including the *Penn-Helsinki Parsed Corpus of Middle English, 2nd edition* (Kroch and Taylor 2000, in short PPCME2), the *Penn-Helsinki Parsed Corpus of Early Modern English* (Kroch et al. 2004, abbreviated as PPCEME), and the *Penn Parsed Corpus of Modern British English, 2nd edition* (PPCMBE2, see Kroch et al. 2016 for the latest edition)[48]. The reason for selecting these corpora was that the analysis requires a systematic search for suffixes, which makes annotated corpora a necessity. Although suffixes cannot be searched for directly (they do not constitute a genuine word class and thus there is no tag for them), a query can be conducted which will contain the desired results.

Comparing diachronic corpora with modern-day corpora, a few shortcomings have to be noted that can, however, not be avoided. It is in the nature of diachronic data to be rather sparse. In the words of Claridge (2008: 243): ”[T]he further back one goes, the harder it is to find sufficient

46 For more information on the corpus, please visit http://www-users.york.ac.uk/~lang22/YCOE/YcoeHome.htm. (last accessed 20.12.2019).

47 See the info on the website of the University of Pennsylvania: https://www.ling.upenn.edu/hist-corpora/other-corpora.html (last accessed 20.12.2019).

48 The latest edition dates to 2016, and now contains nearly 2.8 million words cf. https://www.ling.upenn.edu/hist-corpora/PPCMBE2-RELEASE-1/index.html (last accessed 20.12.2019).

material for a given corpus (partly due to the dating problems of earlier texts)“. The first part of Claridge's statement comes as no surprise. Given the large depth in time, it becomes obvious that many of the manuscripts written at that time might not have survived or only partly survived due to several reasons. Furthermore, since the ability to read and write was limited to a minority (i.e. scribes at monasteries) and the first texts on the island were written in Latin, texts in the vernacular (i.e. Anglo-Saxon) had not been numerous to begin with (at least not when compared to the wealth of written material at later stages, especially today). Thanks to the educational initiative of King Alfred (849-899), many of the originally Latin texts had been translated into English (cf. Waite 2000). The second aspect that Claridge mentions is that it is sometimes difficult to establish the exact time a text was written in. Many of the texts in Old English had been amended and updated later on, making it difficult to establish the exact date of the text. A further aspect to be noted is that a number of Old English texts may still be buried in libraries and which have not yet been thoroughly looked at, let alone suitably edited to be used in corpora. Since the comparison of the corpus data in this chapter focuses on qualitative rather than quantitative aspects, however, the differences in size may be neglected.

Corpus data represent a snapshot of the language at a given point in time. It is therefore essential that they are representative of the language they are supposed to represent. While spoken data obviously are not available for the diachronic corpora, the written section comprises texts of different text types, regions and levels of style and can thus be seen as being representative of the given period. Another aspect crucial for corpus data is balance. A well-balanced corpus that is supposed to represent the language as a whole at a given point in time includes text types of various domains and does not neglect some domains. While in Old English there has been an abundance of religious texts the period is not limited to them and the creators of the corpus sought to include various domains. Thus, fictional texts and Anglo-Saxon law texts are next to religious texts in the corpus, among others. The same applies to the rest of the diachronic corpora, which can thus be said to be well-balanced of the period they represent.

4.2 The concepts of frequency and productivity

This section will discuss the notions frequency and productivity, which are relevant for corpus analytic work and which inform each other. The linguistic literature has long grappled with attempting to define productivity and it has been discussed in relation to qualitative and quantitative aspects, synchrony and diachrony as well as the notion of which type of word is involved, i.e. words already existing or words that are potentially possible (cf. for example

Rainer 1987: 188 – 190, who reviews six varying definitions). These notions frequently come with their own problems, as can be witnessed in accounts which use the terms 'existing' words and 'possible' words (see for example Bauer 2001: section 3.2 for discussion). Furthermore, related notions are sometimes confused with productivity, as has been the case with the term frequency. For instance, Rainer (1987: 188) rejects definitions of productivity that seem to equate it with frequency, and Bauer, while principally agreeing with Rainer, shows that the matter of the two notions is more complicated (2001: 20-22). In fact, the relationship between them is characterised in a complementary nature. Bauer briefly discusses morphological processes which exhibit a high (type) frequency, but are nevertheless not very productive, such as the suffix *-ment* in English. On the other hand, some relatively productive processes do not appear to coin many new words, such as *a*-prefixation in English, i.e. they ”continue to produce new words but at a very low rate“ (Bauer 2005: 328).

Thus, although the two concepts are clearly interconnected, the fact that ”the relationship between the two phenomena is an indirect one“ (Trips 2009: 30) warrants a separate discussion. For this reason, I will first discuss the concept of frequency in section 4.2.1, followed by the concept of productivity in 4.2.2. The latter will be discussed with its qualitative as well as with its quantitative aspects because a suitable measure for assessing the suffixes' productivity is required for the later discussion in this chapter as well as in chapter 7 for the comparative analysis of English and German 'similative' suffixes.

4.2.1 Frequency

Bauer considers frequency as one of three concepts that are associated with productivity, the other two being semantic coherence (cf. Aronoff 1976: 38) or transparency and the ability to coin new words (cf. 2001: 20). He states that the pertinent literature discusses all three as necessary conditions for productivity. The term frequency is subcategorised in type frequency and token frequency, respectively and both definitions from Marcus et al. (1995: 212) are given in (52) below:

(52) a. Type frequency refers to the number of different words in a class, each counted once.
b. Token frequency refers to the number of occurrences of a word.

To briefly illustrate, for the type *childish*, which occurs overall 1,609 times in the corpus COCA, the type frequency is one, whereas the token frequency is 1,609. Bauer correctly notes that it is highly difficult to define type frequency for a language as a whole as it might not be

determinable which types exist in a language at a given point in time (cf. 2001: 47) as well as being diachronically variable. However, using a representative corpus can give some indication about the type frequency of a particular phenomenon with respect to the population as a whole. To do so, the corpus needs to be of a sufficiently large size to avoid artifacts and skewed results as mentioned in.

Frequency is also discussed with respect to markedness (cf. Mayerthaler 1981: 136-140). Specifically, Mayerthaler recognises a positive correlation between type frequency and formations that are constructed simply by addition without changes to the base or stem they attach to (cf. Mayerthaler 1981: 137), as for example derivations built by the attachment of *-ness*. The suffix *-ness* is simply added to the base, whereas formations with *-th* involve a vowel change, cf. *deep* [i:] – *depth* [ɛ], as opposed to the non-existing **deepth*. Hence, the former is considered to be constructionally iconic and therefore unmarked, but not the latter, since *depth* is less phonologically transparent. Constructional iconicity means that ”more meaning is most naturally reflected in more form“ (Bauer 2005: 321) and it is closely linked to transparency in Mayerthaler's naturalness framework. Phonological neutrality with respect to the base form has also previously been discussed in relation to *-ness* by Cutler (1980, 1981) and Raffelsiefen (1999: 227). Thus according to Cutler, *-ness* is a word boundary affix since ”the phonology of the base word is preserved“ (1980: 45f.), in other words, it is phonologically transparent. Applied to *-ish*, whose phonological contribution to the base word is also neutral as it does not involve a vowel change or stress shift, we can say that it is a phonologically transparent word boundary affix, which preserves constructional iconicity and which can thus be considered unmarked[49]. Both, Mayerthaler (1981: 135) and Cutler (1980: 45) also establish a link between productivity and unmarkedness as well as productivity and (phonological) transparency and this is a further indication for *-ish* being a productive suffix. Even so, a morphological process need not be productive despite being transparent which is evidenced by the suffix *-ment*.

A discussion involving transparency in the context of frequency naturally leads to the connection of frequency and lexicalisation[50]. Mayerthaler (1981: 134) and Aronoff (1983: 168) have stated that lexicalised words are prone to occur with high token frequencies. With individual words, the degree of lexicalisation is argued to increase in time and with it their level of polysemy. Bauer notes that when a new word is formed it is coined for a specific reason in a particular sense (cf.

49 Raffelsiefen (1999: 228) is following Booij (1985) and remarks that most vowel-initial suffixes are not neutral because they fuse with the stem resulting in stress shifts. This is however not the case with derivations with *-ish*, which is also recognised by Raffelsiefen (1999: 229).

50 Lexicalisation is a term which is itself quite polysemous as (in part) very different conceptions of it exist in the literature. Brinton and Traugott (2005: chapter 2) review some of them and Bauer (2001: 44 - 46) discusses lexicalisation with respect to a number of presented terms used in the literature.

2001: 43). New coinages are characterised by semantic and formal transparency whereas when words become established they often diverge from their original meaning and consequently become opaque, i.e. they lose compositionality of meaning. Thus, when a word becomes lexicalised, it can no longer be generated by the productive rules of word-formation (cf. Bauer 1983: 48).

In this respect, the relationship between lexicalisation and frequency has further been analysed in psycholinguistically oriented work related to processing, i.e. the storage, access and retrieval of words in the brain (e.g. Cutler 1981, Frauenfelder and Schreuder 1991, Hay 2003). For instance, Frauenfelder and Schreuder (1991: 166 – 169) review two opposing principles related to economy and storage in the brain: The economy of processing constraint is proposed, for example, by word recognition models which assume that morphologically complex words are stored in the lexicon as whole words to increase processing speed, whereas the economy of storage constraint assumes complex words to be parsed, i.e. decomposed into their parts, to retain memory space. The early processing models assumed words to be processed along only one of these routes, but later models recognised some temporal overlap between the whole-word route and the decomposition route (cf. Frauenfelder and Schreuder 1991: 170). These dual route models proposed that words are simultaneously processed along both of these routes until the faster one wins out. According to Plag, the two principles mentioned above need to be ”counter-balanced to achieve maximum functionality“ (2003: 49). Frequency of occurrence plays a crucial role in determining which route is accessed. Frequent words tend to be stored in and retrieved from memory more easily than less frequent words and according to psycholinguists (see for example McClelland and Rumelhart 1981), the more a word is activated (i.e. called up from the mental lexicon), the higher its level of activation will be and such a word will acquire the status of 'active' in the mind. The remaining activation is called 'resting activation', i.e. the level of representation in a speaker's mental lexicon (cf. Plag 2006: 547f.), and its level depends on the frequency of access. A high resting activation corresponds to words which have been retrieved frequently (which is also the case for words that have become lexicalised). Conversely, low-frequency words tend to have a much lower resting level because of their lower frequency of activation (cf. McClelland and Rumelhart 1981: 379).

With respect to processing, resting activation plays a role in determining which route will retrieve a word faster and thus wins the processing race. High-frequency words, characterised by a high resting activation level, will be accessed very quickly by the whole-word route (cf. Plag 2003: 50), thus lexicalised words should be characterised by access via this route. If a word is retrieved relatively often from the mental lexicon it is not necessary to decompose it, since

decomposition would be accompanied by high processing costs. However, the whole-word route will be rather slow for low-frequency words because of their lower resting level (cf. Plag 2003: 50). Thus, words with a lower frequency tend to be decomposed and for newly coined words, this route is the only possible way to process them as there is no whole-word route available (Plag 2003: 50). As a consequence, "[t]he decomposed route leads to transparent semantics because every time the word is processed it is decomposed, i.e. analysed" (Trips 2009: 31).

Let us now briefly look at how the dual-route processing will play out with an example. Take the complex word *childish*, for instance. In principle, it can be stored and accessed as a whole word or it can be decomposed into its constituents *child* and -*ish* and stored in the mental lexicon in its parts. The whole-word route leads to a strengthening of its holistic representation, whereas parsing the individual components leads to a stronger representation of its individual parts. How can we know which processing route has the higher likelihood of winning the race? One factor that can give an indication to answering this question is the relative frequency ratio of the base and the derived word, as investigated by Hay (2002). Her basic assumption following the extensive body of psycholinguistic research is that lexical frequency affects the speed of access (2002: 529). For our discussion of complex words it follows that if the derived form is more frequent than its corresponding base form (in a corpus, for example), access via the whole-word route will be faster. Conversely, if the base word occurs more frequently than the derived word, the decomposition route will have an advantage (cf. Hay 2002: 529). Thus, if the decomposition route is selected and wins, the affix in the corresponding derivative should be analysed more frequently, thereby remaining transparent as a word-formational element, which indicates a higher level of productivity.

If we briefly test her assumptions with the complex word *childish* and the base word *child* in COCA this is exactly what we can find. *Childish* occurs with 1,609 tokens, the simplex *child* 156,049 times, indicating that in processing *childish*, the decomposition route will likely win the race. It is not hard to imagine similar results for further simplex-complex pairs with -*ish* (compare for instance *green* (87,871 tokens) and *greenish* (751)). This result gives a strong indication that -*ish* is a productive suffix as it is frequently claimed in the literature.

4.2.2 Productivity

Defining the notion of morphological productivity has long been a controversial matter and Bauer (2005: 315) gives its relatively recent entry into the linguistic landscape as a possible reason. He notes that it is not new that researchers have discussed word-formation processes with

respect to their sustainability, however, a full-fledged theory has not been put forward for a long time. It is quite interesting that mainly derivation is discussed in relation to productivity (e.g. Plag 1999, 2003, Bauer 2001: 63). Productivity also plays a role in inflection (cf. Plag 2006: 538) and syntax (Bauer 1983: section 4.2) but for obvious reasons I will restrict myself to derivation here. Other word-formation processes such as blending, the formation of acronyms (cf. Aronoff 1976: 20), or back-formations and what Mayerthaler calls 'half-compounds' (1981: 128f., i.e. words containing 'cranberry morphemes') have been assigned to the realm of 'creativity' (cf. Bauer 2001: 63). Bauer defines this notion as the possibility ”to coin new words by means other than productivity“ (2001: 63). At the same time he notes that the distinction of the two notions cannot be stated in absolute terms, but is a matter of degree, with productivity on one end and creativity on the other end (cf. 2001: 65)[51]. The question whether productivity applies to compounding has been raised by Trips who also discusses it in relation to creativity (2009: 28f.). Since my focus clearly is on derivation, I will not further discuss creativity here.

The most prevalent component in many of the definitions of productivity is that it involves the coinage of *new* words (e.g. Bolinger 1948: 18, Schultink 1961: 113, Baayen 1993: 183, Bauer 2001: 97f., Hay and Baayen 2002: 219, Plag 2003: 44, Booij 2012: 69f.). This component shows that productivity is not simply equatable with frequency as the latter involves the occurrence of already existing words (i.e. frequency as a past achievement), whereas the former can be considered a probabilistic estimate directed at prospective coinages. This distinction is reflected in Anshen and Aronoff's (1988: 643) definition: ”[W]e define productivity not in terms of the number of existing forms, but rather in terms of the likelihood that new forms will enter the language.“ How then can we identify a new word? To be able to give an answer to that question, it first must be clarified what actually counts as 'new' in language. Bauer (2001: 38) invokes the terms 'nonce word' and 'neologism' as they are defined in lexicography. The former pertains to spontaneously coined forms which have relevance only temporarily, in a given situation or for a particular occasion (cf. Zandvoort 1972[1957], as cited in Bauer 2001: 39). After they have fulfilled their role, such words will disappear. Other terms suitable to characterise those types of words might be *ad hoc formation* or *occasionalism* to emphasise their singularity of use. A neologism is considered a word which becomes part of the norm of a language and this is chiefly what distinguishes nonce words from neologisms (cf. Bauer 2001: 39). However, at the time of coining, we cannot know whether a particular word will be used only for a single occasion or whether it will be picked up by others in the language community and eventually becomes established. Only in hindsight and with a sufficient amount of time inbetween does it become

51 For a brief survey of other views of this relation, see Bauer (2001: 64 – 66).

evident whether a particular word belongs to one or the other type. Plag mentions another, methodological, problem with neologisms, namely how to ”reliably determine the number of neologisms in a given period“ (2003: 52). If we take dictionaries as our source, it may well be the case that a great number of neologisms is overlooked because dictionaries are not up to date by the time they are published. Bauer (2001) and Plag (2003) both suggest using the OED, however, with different aims in mind. For Plag (2003: 52), the OED is a good source for finding out about which neologisms might exist in a language, due to the dictionary's size and information load (although we might never be able to exactly state the amount of neologisms in a given period of time). Bauer rather sees the OED's benefit in its role ”as a guide to which words exist“ (2001: 37), which brings us to the notion of 'actual' (Aronoff 1976: 18) or 'existing' words (Bauer 2001: 34-38). As Bauer notes,

> [i]f productivity is concerned with the potentiality of new formations, then it must be possible to discover whether or not something is new, and this implies that it can be compared with a list of formations which are not new but 'established'. (2001: 34)

To define what an actual or existing word is does not count as a much easier task. Definitions vary according to an author's definition of 'usage'. How can it be observed whether a word is 'in use'? Aronoff defines actual words as ”the members of the set of dictionary entries“ (1976: 18) and productivity of a word-formation rule (WFR) as ”the ratio of possible to actually listed words“ (1976: 36, see also Booij 2012: 70 for a similar view). We agree, however, with Rainer who states that the term 'actual word' should not be confused with ”lexicographically recorded“ or ”documented word“ (1987: 195, my translation)[52]. He goes on to say that an identification of 'actual' with 'lexicographically recorded' results in an inadequate implication because ”the most productive word-formation rules are often precisely those which generate least institutionalised or lexicalised words“ (Rainer 1987: 196, footnote 11). Instead he defines actual words as those which belong to a speaker's mental lexicon at a given point in time (1987: 195f.). The problem with this definition is, however, that we cannot operationalise it. Additionally, Plag points out that it does not close the gap that arises from concentrating on an individual speaker's mental lexicon to the language system as a whole, which is the primary locus of morphological theory (cf. 1999: 7). At the same time he recognises that for the notion of a language system to have any relevance, the individual lexical knowledge of speakers must overlap to a large extent and thus the perceived gap might not be as wide as is suggested (cf. 1999: 7f.).

---

52 I chose not to use the term 'attested' because I employed it elsewhere in relation to corpus attestations. Hence, when I speak of attested words, this means that they do not necessarily have to be documented in dictionaries and thus may not yet be established. This is especially important with respect to hapaxes, which may often not yet have an entry in a dictionary.

However, the problems that accompany the notion of 'actual word' has led some theorists to question its usefulness (e.g. Kiparsky 1982: 26, see also Lieber 1980: 175, who denies the notion 'actual word' any relevance for the lexicon). One of the reasons given for this rejection is that there is no clear boundary between actual and possible words, an argument that is countered by Plag in saying that ”the fact that a distinction is not clear-cut does not necessarily mean that it does not exist“ (1999: 8). He points to the distinction between inflection and derivation as evidence, but we have also previously discussed in chapter 2 that the lack of clear-cut boundaries is pervasive in language (e.g. in relation to relative adjectives where the boundary between what counts as tall is fuzzy). Plag discusses further arguments given against the notion of 'actual word' and the interested reader is referred to his remarks (1999: 8f.). I follow Plag (1999: 9) and Bauer (2001: 38) who are in favour of retaining the distinction precisely because it can be shown that a prior conception of existing words is necessary for some morphological processes, e.g. Booij gives the example of *vakantiebreukeling* 'holiday-wrecked person', which is modelled on previously existing *schipbreukeling* 'shipwrecked person' (> *schipbreuk* 'shipwreck') (1987: 51). Moreover, as Bauer (2001: 38) states, idiosyncracies, which arise via lexicalisation and which thus accompany many actual words, transfer them to derivatives built on the basis of those words.

Above I have referred to actual words in relation to possible words (also called 'potential words'), but I have not yet discussed the latter. It is to possible words that I will now turn. It became clear from the remarks above that we cannot in fact speak of a dichotomy of those terms, but instead argue with Aronoff that ”[t]he actual words are a subset of the possible“ (1976: 18). In light of this assumed nature of their relation a potential word can be defined as ”existing or non-existing, whose morphological or phonological structure is in accordance with the rules of the language“ (Plag 1999: 7). Thus, a potential word may become an actual word, but, for reasons yet to be examined, it may remain uncoined. For instance, the derivative *horseish* (or *horsish*, for an alternative spelling) could potentially be formed as animal bases frequently are the source of *-ish* derivations. However, neither COCA nor corpora of an immense size such as iWeb do not list a single attestation. If speakers find it relevant to attribute someone or something the property of being (behaving or looking) like a horse, it might be coined in the future. If no salient property can be identified and transferred, however, it might remain a possible word. Bauer (2001: 41) emphasises the need for filling a lexical gap that is relevant for a potential word becoming an actual word. Thus, a 'real' lexical gap invites speakers to productively exploit the morphological processes available to them. He briefly mentions that lexical gaps might also just be perceived by speakers due to temporary memory loss or simply the lack of knowledge of an already

established word. According to him, ”[p]roductivity is all about potential“ (2001: 41), but not all potential is equally exploited, which is why he briefly discusses the notion of 'probable words'. He lists a number of factors that might prevent a possible word from becoming an existing word such as blocking (I will return to this notion below, for further reasons see Bauer 2001: 42f.). Given the reasons that can inhibit the coining of a word, he prefers speaking of such a word being improbable rather than to recognise a class of probable words (2001: 43). As such, he does not consider this notion to be of relevance in itself, but instead establishes the link between productivity and probability in general.

Just like the distinction between actual and possible words cannot be stated in absolute terms, so does an affix's productivity not either exist or not. It is now widely recognised that productivity is likewise a matter of degree (Bauer 2001: 6, Plag 2003: 44, 2006: 538, Baayen and Lieber 1991: 809, Baayen 2009: 911, for early views see Schultink 1961). The recognition of productivity as a gradual phenomenon has been approached in different ways. For instance, it has been traditionally stated that the degree of productivity is inversely proportional to the number of structural constraints on a rule. This view is generally attributed to Schultink (1961; see Rainer 1987: 194, Baayen 2009: 907; but see Booij 2002: 101 for a similar view). It has been criticised by Bauer (2001: 143) and Baayen (2009: 907) who state that structural constraints alone cannot give us the whole picture of the 'profitability' of morphological processes[53].

For instance, Baayen (2005: 249) points out that a lower productivity need not co-occur with many restrictions as is shown for Dutch *-ster*. However, formal constraints still play an active and important role in restricting productivity in the sense of the domain of potential productivity (Bauer 2001: 143). One such constraint frequently mentioned is that of blocking. Defined by Aronoff, blocking is ”the nonoccurrence of one form due to the simple existence of another“ (1976: 43) and the most well-known example is that of **stealer* which is blocked by the prior existence of *thief*, although it is a well-formed word and could thus potentially be coined. This type of blocking, called token blocking (Rainer 2005: 336)[54], can also be witnessed when the productivity of colour words in *-ish* is compared to potential coinages in *-y*. While forms such as *greeny* exist, they are quite rare and in most cases refer to a person's name. A quick search in COCA reveals 53 attestations in total, but only 13 tokens which would count as deadjectival derivatives referring to colour (e.g. *greeny flower*, *greeny water*). By comparison, *greenish* returns 751 tokens, which all seem to be genuine colour adjectives (as deduced from a manually

53 The term has been first used in Corbin (1987) as *rentabilité*, the translation to 'profitability' is said to have originated from Carstairs-McCarthy (1992: 37), see Bauer (2005: 324).

54 The second type of blocking - type blocking, i.e. the blocking of a pattern or rule - is discussed in Rainer (2000: 877f.), and Rainer (2005: 337 – 339) and will not be elaborated on here.

checked sample). The corresponding entries in the OEDweb tell us that *greenish* must have been coined much earlier in the sense of 'somewhat green' than *greeny* (approximately 1398 vs 1657). This corroborates Marchand's (1969: 353) early observation that the type with *-y* is weak. He couches it in terms of rivalry, with *-ish* being the stronger of the two rivals. This distribution permeates the domain of colour adjectives in general. Where a colour adjective with *-y* occurs, it generally has a lower token frequency and most often denotes proper names or meanings distinct from simple colour terms, suggesting that *-ish* is the default suffix for colour adjectives. The few examples that are not proper names also have readings which are non-basic in that they sometimes carry a slightly derogatory nuance with them:

(53) And you could smell it: **greeny** pus. (COCA, Fiction: Salmagundi, 2007)

(54) He smiled at me. I saw something in those bizarre **yellowy** eyes of his, something like triumph. (COCA, Fiction: FantasySciFi, 1995)

Thus, formations with *-ish* have not entirely blocked derivations with *-y*, but have caused them to shift in meaning. I will not discuss further constraints here, but good accounts of the types of restrictions can be found in Plag (1999: 37-61, 2003: 59-68, 2006: 549-553), and Rainer (2000, 2005). Bauer (2001: 126-139) also discusses aesthetic constraints and Baayen (2009: 907- 914) sheds light on societal and processing constraints.

Identifying restrictions is a qualitative approach to productivity. However, productivity can also be assessed in a quantitative way, to which we will turn next. In the following sections, we will employ Baayen's (1993) measure of 'productivity in the narrow sense'[55], but the literature on quantifying productivity has of course discussed and employed various measures, three of which will be briefly examined here: type frequency or 'extent of use *V*' of a WFR (Baayen and Lieber 1991, Baayen 1992, in Baayen 2009: 901 it is referred to as 'realized productivity'), neologisms and token frequency. Type frequency is a very controversial measure, according to Plag it is ”probably the most widely used and the most widely rejected at the same time“ (2003: 52). The reason for its rejection is that it measures past productivity, rather than the potential to coin new forms. By counting the number of attested types (in a corpus) of a base with a given affix, we are only informed about those words already in existence, but not about the probability of coining new words. This creates a distortion in the perception of which affixes may count as productive and which ones are simply frequent because they used to be productive in the past. Take the suffix *-ment* as an example. Historically, it used to be productive of which the many attested coinages give evidence. Those words are still in use today, i.e. they are actual words, but we cannot say whether many new words are built with it (cf. Plag 2003: 52). Therefore, I agree with

55 Baayen and Lieber refer to this measure as 'productivity in the strict sense' (1991: 817).

Baayen (1992: 111, 2005: 243, 2009: 904) that type frequency is not sufficient to assess an affix's productivity, but rather counts as a first approximation.

If counting types is not a fruitful way to approach the productivity of an affix, what about counting neologisms, i.e. newly coined words? However, Plag points to a serious methodological shortcoming of this method that also was alluded to above. How do we reliably determine the number of neologisms? (cf. Plag 2003: 52). Dictionary-based methods do not give a complete picture of neologisms as they might not include every new word due to disregarding individual neologisms or because they are given the status of nonce words and thus do not warrant an inclusion. Plag notes that ”[o]nly in those cases where the OED lists many neologisms can we be sure that the affix in question must be productive“ (2003: 53). Due to these shortcomings with dictionary-based methods many researchers have resorted to corpora to approach productivity as many prove to be a reliable and current source given their corpus design.

Apart from type frequency discussed above, the measure of token frequency can give an indication of productivity, i.e. the number of times a derivative occurs (cf. Plag 2003: 53). Here it is informative to pick up the link between frequency and productivity as well as the notions of decomposing complex words or listing them as a whole. As has been suggested above, low-frequency words tend to be decomposed because their whole-word representation will be rather slow in processing (and newly coined words do not yet have an entry in the mental lexicon which is why this is the only way they can be retrieved), while high-frequency words are stored in the mental lexicon as whole words. Plag states that ”[t]his decomposition will strengthen the representation of the affix, which may lead to the coinage of new derivatives“ (2003: 54). As a consequence, unproductive morphological categories are represented by a large number of high-frequency words and only a marginal number of low-frequency words. The reverse is true for productive categories: They are characterised by a prevalence of low-frequency words and only a few highly frequent words (cf. Baayen 1993: 181).

This correlation brings us naturally to Baayen's measure of 'productivity in the narrow sense' (or *P*), which makes use of hapax legomena, the items with the lowest possible frequency in a corpus. The measure is also called 'potential productivity' because it gives an indication of the rate with which the vocabulary increases (Baayen 2009: 902). This and similar measures using hapaxes make reference to the crucial contribution hapaxes bring to the calculation of productivity. The rationale behind *P* is explicated in Baayen and Lieber: ”*P* expresses the rate at which new types are to be expected to appear when *N* tokens have been sampled. In other words, *P* estimates the probability of coming across new, unobserved types“ (1991: 809). Hapax legomena are defined with respect to a given corpus and while they correlate with the number of

neologisms they should not be equated with them. Further, in order to be diagnostic, the corpus size needs to be sufficiently large to avoid counting formations that have already become more or less established in the language community, but which will not be reflected if the window the corpus provides is too small. Plag (1999: 27, 2003: 55f.) follows Baayen and Renouf who use a large dictionary "as a frame of reference for determining whether a word might be a neologism" (1996: 75). That is, they check whether a particular hapax legomenon is listed in the dictionary. If it is not, it is highly likely that the hapax constitutes a real neologism. We will put this approach into practice in the corpus analyses that follow.

Before we terminate the discussion of productivity, let me briefly point to another measure by Baayen which makes reference to hapax legomena and which is considered complementary to the *P* measure above (1993: 194). In his 1993 article he discusses the measure of global productivity *P** (later also referred to as 'expanding productivity', see Baayen 2009: 902). This measure is particularly helpful in ranking comparative productive processes and due to its complementary status would prove informative in the ensuing discussion. There is, however, a serious methodological problem that should not be underestimated. *P** is calculated as "the quotient of the number of hapaxes with a given affix and the total number of hapaxes of arbitrary constituency in the corpus" (Plag 1999: 32). While we can easily determine the first part of this calculation, the second part is problematic with respect to the corpus design of many corpora, including COCA and Cosmas II (see chapter 7 for more details about them). Both corpora rank the display of a search output in terms of decreasing frequency and I know of no way to show the total number of hapaxes of all types in the corpus as is required for this measure (see Plag 1999: 32, Bauer 2005: 326, Baayen 2009: 902). Thus, while I believe that global productivity is a fruitful measure which can be used to distill the productivity of the German and English suffixes in an even more informative and precise manner, at present I refrain from using it because it is not feasible for the corpora chosen[56]. The next section introduces the historical corpora used to analyse the development of *-ish* in more detail before the analysis commences in section 4.4 below.

4.3 The historical corpora

After the rather brief and general introduction above, the individual corpora that are used for the analysis of the lexical semantics of *-ish* are described in more detail in this section. Particularly differences in size and make-up, use of annotations and content will be relevant here.

56 For a detailed discussion of *P* and *P** the interested reader is referred to Plag (1999: 26-34).

The four diachronic corpora only differ marginally in size: The size of the Old English corpus YCOE comprises 1.5 million words as stated above, the Middle English PPCME2 (Release 3) has 1.2 million words, the Early Modern English corpus PPCEME (Release 3) consists of 1.8 million words followed by the PPCMBE2 (Release 1) for Modern British English with roughly 1 million words at the time of the collection of data[57]. These rather small corpora stand in opposition to corpora containing present-day language material. The corpus selected for the treatment of present-day English is the British National Corpus (BNC) with 100 million words that have been collected until the year 1993. Compared to other present-day corpora even 100 million seems rather small: the web-based corpus used in chapter 5, for example, boasts 1.9 billion words[58]. However, although the BNC as well as the historical corpora are all static corpora (i.e. no new material is added), they are all annotated, representative, and balanced and thus qualify themselves for this enquiry.

I will now introduce the annotation scheme, starting again with the diachronic corpora. Their advantage is that they all have been compiled in the same way and can be accessed via the same search engine *Corpus Search*, which may be used to create parsed corpora as well as search them[59]. A parsed corpus is syntactically annotated meaning that the syntactic structures are itemised. For this study the clause level is not relevant for the analysis of the results which are at the word level, but it is necessary for the query of the parsed corpus. More important is the part-of-speech tagging (POS tagging in short) which allows searching for items on the word level. POS tags do not follow a generally accepted standard which makes a thorough documentation of the annotation necessary.

Even though the language has changed considerably since Old English, the POS tags for adjectives have remained the same throughout the related historical corpora. Changes in the tags become relevant when a word class loses a category describing grammatical features that have vanished in the course of time: For example, the Old English corpus YCOE lists a tag for verbs in the subjunctive mood as well as extended tags marking case. These are lost over the course of time, hence in the Middle English corpus, there are no separate tags for them anymore. On the other hand, the language acquired new grammatical entities not yet present in earlier stages of the language. A case in point is the rise of the periphrastic *do* in Early Modern English, which

57 The information given here comes from the corpora's websites, i.e. from http://www-users.york.ac.uk/~lang22/YCOE/YcoeHome.htm for the Old English corpus YCOE and from https://www.ling.upenn.edu/hist-corpora/ for the other Penn corpora (last accessed 20.12.2019). Further information on the corpora can be found there.

58 See https://www.english-corpora.org/glowbe/ (last accessed 20.12.2019).

59 See http://corpussearch.sourceforge.net/ (last accessed 20.12.2019).

results in a separate tag[60]. The tag for adjectives in the historical corpora (Penn and YCOE) is ADJ including all types of adjectives. When comparatives and superlatives need a separate inquiry, the tags ADJR and ADJS, respectively, may be used. Similarly, when trying to find adjectives in the nominative case, for example, one of the extended tags is appended to the POS tag: ADJ^N. Knowledge of this fact may become relevant in the analysis of the results, but not for the search itself. The search for adjectives with suffixal -*ish* shall include all types of the adjective, hence, the tag ADJ suffices.

The present-day English corpus BNC obviously does not have tags for cases any longer. Since they had been lost from the language, their function gradually was taken over by an increasingly fixed word order. The search for adjectives with the suffix -*ish* remains unaffected by these changes: Again, we will look for all adjectives with the respective ending in the corpus. The corpus supplies the tags AJ0 for the general adjective, AJC for the comparative, and the label AJS for superlative adjectives. The BNC is also searchable via a web-based interface, the BNCweb, used for extracting information from the corpus (cf. Hoffmann et al. 2008: xiii).

The historical corpora only contain written material, as has been stated above. In the BNC, 10 per cent of the corpus are comprised of spoken data, however (cf. Hoffmann et al. 2008: 28)[61]. Owing to its different types of text, both spoken and written, it can also be considered a balanced corpus. It, too, is a representative corpus, however, if one wants to find more contemporary data of the last 20 years, a different corpus has to be selected, since the BNC features entries only until 1993. This need not be a drawback, however. For the trajectory of the suffixal -*ish* I tried to find corpora that go as seamlessly into each other as possible. While there is a small gap of about 50 years between the last of the historical corpora (i.e. PPCMBE2, 1700 – 1914) and the BNC (the first entries are dated around 1960), the use of the latter serves two purposes. On the one hand, it shall connect with the historical data, but on the other hand, it is supposed to represent current language use. Many of the more contemporary corpora (like the ones used in chapters 5 and 6) begin at a much later date than the BNC, thus making the gap between historical and present-day corpora even larger. Similarly, there are older corpora which are comprised of much earlier data, thereby closing the gap to the historical corpora. However, their reach on the other

60 The Index List of Labels for the YCOE can be accessed on the following website: http://www-users.york.ac.uk/~lang22/YCOE/doc/annotation/YcoeLite.htm#pos_labels. For the tagset used for the Penn corpora see https://www.ling.upenn.edu/hist-corpora/annotation/index.html. (last accessed 20.12.2019).

61 At the time of writing, an exclusively spoken corpus has been compiled – the Spoken BNC2014, which has been transcribed and comprises over 10 million words. The transcription have become available since the latter part of 2017. For more information please visit http://cass.lancs.ac.uk/?page_id=1386. (last accessed 21.12.2019). Simultaneously, a newer version of the written BNC from 1993 is being compiled. It is an ongoing project and as of yet it has not reached completion. For more information on the BNC2014, which includes both the spoken and the written corpora, see http://corpora.lancs.ac.uk/bnc2014/ (last accessed 21.12.2019).

end of the time scale is not comparable with the BNC in ending much earlier than 1993. Therefore from the available corpora the BNC constitutes the most suitable compromise. In the following section, the linguistic situation in Old English is briefly sketched. The periodisation for OE (850-1150) and the subsequent historical periods stems from the corpus compilers.

4.4 Old English: 850 – 1150

Old English was a synthetic language, i.e. its use of inflections to indicate grammatical relations in a sentence was still remarkably prominent. It even is described as ”the period of full inflections“ by Baugh and Cable (2002: 52), but in the inflectional paradigm for nouns, for example, not every spot was filled. That means that nominative and accusative case were not distinguishable by separate endings, they had syncretised already. However, compared to present-day English, it can still be called an inflectional language for its use of word endings to indicate, for example, subject and object in a sentence. The major word classes containing content words (i.e. verbs, nouns, adjectives) were declinable either in a strong or a weak paradigm. While this distinction was inherent in nouns and verbs, for adjectives it depended on whether they were preceded by a definite determiner (i.e. weak) or not (i.e. strong). This knowledge of the Old English inflectional system is relevant for the query as the various endings have to be reflected in the query itself.

The periodisation of a language stage can be a difficult and even controversial matter. It is not generally agreed upon when to pinpoint the Old English language stage exactly. Some set rather 'precise' dates, dating the beginning of Old English to 449 (i.e. when the tribes of the Angles, Saxons, and Jutes invaded and settled in Britain in large numbers) and its end to 1066 (i.e. when the Norman Conquest had taken place, leading to enormous socio-political change) (cf. Brinton and Arnovick 2011). Others give (linguistic) change some leeway and date the beginning to 450 and the end to 1150 (cf. van Gelderen 2006) because they recognise that changes will take time to manifest themselves fully enough to speak of a later period.

The corpus YCOE that is used for this study does so most explicitly, dating Old English from 850 to 1150. The majority of manuscripts had been compiled after 597 when the missionary St. Augustine introduced Christianity as well as literacy to the British Isles (cf. Lowe and Graham 1998: 18). However, the plethora of Old English texts owe their inception to King Alfred (his rule span from 871 to 899) who encouraged translations from the originally Latin texts into the vernacular (cf. Brinton and Arnovick 2011: 157). Due to the political power of King Alfred the manuscripts were translated into the (early) West Saxon dialect, a dialect that was on its way to

become a literary standard for Old English (cf. Brinton and Arnovick 2011: 157f.).

Many of the texts found in the corpus are written in this dialect and the dating suggests that the compilers oriented themselves towards that time of Old English literary flourishing. Even though Old English was on its way to developing a written standard, the language was far from being standardised. This is evident in the many spelling variants for the base words, e.g. *Englisc, ænglisc, æncglisc*, or *onglisc*, but also for the suffix itself, which appeared as *-isc, -esc*, or sometimes *-ysc* in the corpus.

4.4.1 Data

4.4.1.1 Search query

From the 1.5 million words of the YCOE, a total number of 110,136 tokens are available for investigation. Tokens, as used by the diachronic corpora of the *Helsinki Corpora of Historical English*, are understood as segments containing a main verb and associated arguments and adjuncts[62]. They thus have a different meaning than what is usually referred to as tokens in corpus linguistics, where a token is ”any instance of a particular wordform in a text“ (McEnery and Hardie 2012: 50). When I refer to tokens in this work this latter conception will be used and the deviant conception of tokens as used by the historical corpora will be indicated when appropriate. Tokens will henceforth generally be used as synonymous with the notion of 'hits'. Opposed to this general notion of tokens is that of types. Types are the ”particular, unique wordform[s]“ that do not include two versions of the same lexeme (McEnery and Hardie 2012: 50). An example to illustrate these two notions in practice may be the lexeme *learn* with its various inflectional forms *learns*, *learning*, *learned*. If they appear in a text that is to be investigated as a single item, only one type *learn* is counted, whereby the verb forms are all included in the number of overall tokens, hence resulting in four tokens. This distinction is relevant for the corpus analysis as we will encounter a plethora of variants in the early texts. For instance, the noun (or adjective) *Englisc* may appear with divergent spellings, such as *Ænglisc* or *Onglisc*. These will not count as separate types whenever they occur in a single hit, but instead as variants of one type.

These and other peculiarities of language have to be kept in mind before creating a search query. As said above, Old English did not have a standardised writing system yet, leading to many variant spellings. We will endeavour a query which seeks to find balance between the notions of

62 For more information see http://www-users.york.ac.uk/~lang22/YCOE/doc/annotation/YcoeLite.htm#tokens. (last accessed 21.12.2019).

precision and recall. The concept of precision relates the idea of finding only hits that are relevant to a corpus search. A high precision will result in findings that match the target of the search precisely, but bears the risk of having excluded potentially relevant hits (cf. Hoffmann et al. 2008: 78). Recall, on the other hand, is associated with a broader search query that aims at a high rate of completeness of findings thereby minimising the risk of having excluded hits that might have been relevant to the search. Maximising recall means that the highest possible number of hits for a searched item is found, but it is associated with a high post-processing effort as all the pseudo hits that will have been included in a broad query will have to be sorted out manually. The ideal state of 100 per cent for both precision and recall is illusory as the two are interdependent (cf. Hoffmann et al. 2008: 79), thus one will have to be optimised at the expense of the other. According to Hoffmann et al. (2008: 79), that one would typically be recall as linguists should strive for making claims based on a solid and reliable base of data. Therefore, having more data at our disposal will minimise the risk of overlooking relevant hits, consequently leading to a greater degree of confidence in the claims derived from such data. This approach becomes even more vital with historical stages of languages, which naturally have only few data available.

In practice, a query that yields a high recall but a low percentage of precision for the suffix *-ish* may only specify the resulting word class (i.e. adjectives with their corresponding tag ADJ) and the consonant cluster *sc*, since there had been variation in the vowel as stated above. This very broad query has two downsides that both lead to an abundance of pseudo hits. First, the order of items in the output is not specified, i.e. results may include the adjective *scearpum* 'sharp' which features the consonant cluster in the 'Anlaut' (i.e. the initial sound) instead of the 'Auslaut' (here: the final sound of the suffix, or coda) of the word. Second, it is not ensured that the results only include complex words, i.e. a combination of a base word and a suffix. Hence, simplex adjectives like *fersc* 'fresh' may occur with this query, too, since they coincidentally feature the targeted consonant cluster at the end of the adjective. In order to slightly increase the precision of the query without severely jeopardising recall, we will have to find a way to exclude the above mentioned pseudo hits beforehand, which will lead to an improvement of the query. As can be seen with this example, it is a delicate balance between the two measures.

Hence, the query will need to include the variants of *-ish*: *-isc, -esc*, and *-ysc*. However, merely specifying the suffixal variants will still yield many unwanted hits. As an inflecting language, we also need to consider the various case endings Old English had, together with their possible variant forms. To find the relevant inflections, the internet representation of the Bosworth and

Toller dictionary of Old English was used as a reference[63]. Bearing all the characteristics of Old English and its corresponding consequences for a query in mind, we arrive at the following query:

(55) Node: IP*

(ADJ*idoms *isc|*isca|*isc+a|*iscan|*isce|*iscean|*iscena| *iscere|*isces|*iscne| *iscon|*iscra|*iscre|*iscu|*iscum| *issces|*esc|*esca|*esc+a|*escan|*esce|*escean| *escena| *escere|*esces|*escne|*escon|*escra|*escre|*escu|*escum| *essces|*ysc| *ysca|*ysc+a|*yscan|*ysce|*yscean|*yscena| *yscere|*ysces|*yscne|*yscon|*yscra| *yscre|*yscu|*yscum| *yssces)

print_indices: true

This rather lengthy query requires some explanation. In syntactically annotating the corpus, the compilers oriented themselves at ”earlier versions of generative (X-bar) syntax in the choice of names for labels and some ways of representing relations“ (cf. Taylor 2003)[64]. In following the tree structure notation the output is represented as hierarchical labelled parentheses in which the levels are related by two search functions: dominance and precedence (cf. Taylor 2003). Only the former relation is relevant to the query of this inquiry[65].

First of all, the search is not limited to a specific sentence type, i.e. we are not only looking for derived adjectives with the suffix *-ish* in main clauses or subordinate clauses (which would require a specification of the node IP-MAT for the former and IP-SUB for the latter). Instead, we aim at finding these derivatives in any sentence, leading to the node IP*, where the asterisk (i.e. the character *) is a wild card character that stands for zero or more arbitrary characters[66]. The node IP* was used in all historical corpora to ensure comparability and to gain the largest output possible.

Second, in order to ensure the correct order of the derivational elements the query needs to specify that the suffix follows the adjective. This is done via the search function *dominance* which determines the hierarchical order of the elements in a sentence[67]. The base category ADJ exerts dominance over the sequences **isc*, **isca*, etc., which are not recognised as suffixes but as strings of letters which follow. Hence, the resulting output will look for adjectives that bear the respective strings represented in (55). Therefore, the search query above specifies that the

63 See here: http://www.bosworthtoller.com/ (last accessed 04.01.2020).

64 See http://www-users.york.ac.uk/~lang22/YCOE/doc/annotation/YcoeLite.htm for the full article (last accessed 21.12.2019).

65 More information on relations on trees can be found on the *CorpusSearch* information page, CSLite: http://www-users.york.ac.uk/~lang22/YCOE/doc/corpussearch/CSLite.htm (last accessed 21.12.2019).

66 See http://www-users.york.ac.uk/~lang22/YCOE/doc/annotation/YcoeLite.htm#glossary (last accessed 21.12.2019).

67 Precedence on the other hand is defined over sister nodes that are jointly dominated by a mother node, cf. Taylor 2003.

adjective immediately dominates the individual variants of the letter sequences representing the suffix, separated by the metacharacter *pipe* (i.e. |). The relation ”immediately dominates“ can be paraphrased like follows: ”x dominates y if y is a child (exactly one generation apart) of x“[68] and schematically represented in figure 4 (from Taylor 2003) below:

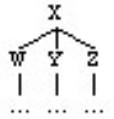

Figure 4. The relation 'immediately dominates'

The use of the asterisk and the pipe notation have been described above. Two characteristics of the query above still need explanation, however. First, the observant reader will have noticed that in some of the suffix and case ending combinations a vowel is separated via the addition symbol '+', e.g. **isc+a*. Due to Old English still making use of some runic characters and the difficulty to implement them in a corpus that runs with modern-day letters, the corpus compilers have converted these special characters as follows: Runic thorn '*þ*' becomes *+t*, ash '*æ*' becomes *+a* and runic eth '*ð*' has been converted to *+d*[69]. Second, the feature 'print_indices' numbers each occurring node when set to true, thus making it easy to find the relevant hits quickly (cf. Taylor 2003). It has been used for all subsequent queries in the historical corpora.

4.4.1.2 Results

The above query results in 1,872 hits (and 1,798 tokens, i.e. combinations of main verb and argument/ adjunct as used in the historical corpora) out of a total of 110,136 tokens. Hits, as understood here, refer to the individual adjective-suffix combinations that were found in the corpus (and is to be seen as synonymous with tokens in the sense of McEnery and Hardie 2012 above and used as such throughout this work. I will not go into further detail concerning the way tokens are understood in the corpora.).

With the morphological target derivative in question it may occur that a hit is marked as an adjective, but upon closer examination it is revealed to be a conversion. These pseudo hits have to be sorted out manually as there is no way of finding them via a query if they are tagged as adjectives. Tagging is a word-for-word process, i.e. combinations of an article and a following conversion noun are overlooked easily, regardless of whether the tagging process was

68 See http://corpussearch.sourceforge.net/CS-manual/SearchFunctions.html#iDominates (last accessed 21.12.2019). The relationship ”immediately dominates“ can be shortened to ”idominates“ or ”idoms“).

69 See http://www-users.york.ac.uk/~lang22/YCOE/doc/annotation/YcoeMeta.htm#the_text for details (last accessed 21.12.2019).

undertaken manually (as in this case where there is only little data available overall) or automatically (a process much more accurate with corpora that have a large amount of data at their disposal)[70]. An example of such a pseudo hit is the following:

(56) Þa ætsæton **þa Centiscan** þær beæftan ofer his bebod …
*Then remained **the Kentish** there behind against his command...*
”Then the Kentish remained behind against his command...“
(cochronA-2b, ChronA_[Plummer]:905.10.1183)

In the example above, *Centiscan* is a collective noun (indicated by the inflectional ending *-on* in the verb *ætsæton* 'remained') headed by the demonstrative *þa*[71]. Not only results for ethnic adjectives are affected by conversion, but also non-ethnic ones, as shown in example (57):

(57) Heo bið **hnesce** on æthrine & bittere on byrgingce.
*It is **soft** on touch & bitter in taste*
”It is soft on touch and bitter in taste.“
(coherbar_Lch_I_[Herb]:17.0.517,)

Example (57) shows a simplex adjective which happens to bear the same letter combination as complex adjectives with a variant of an *-ish* suffix. In the tagging process, the entire word is usually tagged without internally discriminating it, thus analysing simplex and derived complex words alike. After removing these pseudo hits, a total number of 1,217 hits (i.e. tokens) remains. The quantitative results for ethnic and non-ethnic adjectives may be contrasted in table 2 for reference:

Table 2. Frequencies for the two group of -ish adjectives in the YCOE

	Types	**Tokens**	**Hapaxes**	**Relative frequency**	**Type/Token frequency**
Ethnic ADJs	85	1,156	29	7.71	0.074
Non-ethnic ADJs	18	61	10	0.41	0.295
Total	**103**	**1,217**	**39**		

70 Some corpora make use of so-called 'ditto tags' that are a solution for multi-word expressions, such as *so that*. Rather than using individual tags for each lexeme, a ditto tag applies to the entire expression and specifies the sequence of the words, e.g. so_CS21 that_CS22, where CS stands for subordinating conjunction (cf. McEnery et al. 2006: 35). The numbers state that there are two words overall in the sequence and it specifies *so* as the first and *that* as the second one. This is not a solution to our problem, however, as these ditto tags are restricted in their application to more fixed expressions, rather than just a combination of any two words.

71 Old English did not yet employ articles like Modern English does, but the demonstratives that are used instead are often translated as such in Modern English, cf. van Gelderen (2006: 60).

Table 2 shows that the ratio of types and tokens for ethnic adjectives is much lower than that of non-ethnic adjectives which is exemplified in the type/token ratio (TTR)[72], a measure that indicates the diversity of a vocabulary. The higher the ratio (i.e. the closer to 1), the more varied a vocabulary is (cf. McEnery and Hardie: 2012: 50). Overall, both types and tokens are higher for ethnic adjectives which results in a corresponding relative (or normalised) frequency. It is calculated by dividing the number of tokens (i.e. 1,156 for ethnic adjectives) through the overall quantity of words in the corpus (i.e. 1.5 million) and relating it to a common base. This base of normalisation is standardly taken to be 1 million (cf. Hoffmann et al. 2008: 72), however, with small historical corpora, this factor is not feasible. In order to be able to obtain a meaningful relative frequency, we will normalise with a base of 10,000 throughout the historical corpora.

The difference between the two figures is a highly significant one. Non-ethnic adjectives, though less numerously appearing with the *-ish* suffix in Old English, represent a more open class than ethnic adjectives. New derivatives may be more readily formed since the non-ethnic type poses less restrictions on possible bases. Ethnic adjectives, on the other hand, are naturally restricted in their emergence: For each possible new ethnic adjective we need the formation of a new ethnic group that still lacks a label. Additionally, ethnic attributions to a specific group of people may involve prolonged processes that negotiate territorial, identitary, and religious aspects. The header *ethnic* is understood in a wide sense here (see the remarks in section 2.3.1 above) and will include not only people who share a common ancestry, nation or language, but also adjectives derived from city or regional names. The reason for doing this is twofold. On the one hand, city or regional names are commonly used to metonymically refer to their inhabitants, i.e. the citizens living in these areas. On the other hand, it will enable me to maintain a clear-cut distinction between the adjectives in prime focus and those that are serving to complete the picture. Whether or not they are further internally distinguished is of no importance to the questions pursued here. What is vital, however, is that the group of the so-called non-ethnic adjectives is clearly delimited. Nothing important hinges on this term here. In the case of non-ethnic adjectives, no such processes are required. These adjectives are less lexicalised and therefore much more salient and transparent than the more opaque ethnic adjectives are. For these reasons the discussion in this chapter will focus mainly on non-ethnic adjectives, with their ethnic counterparts serving as the remaining pieces of the puzzle against which they are compared. Possible bases for derived non-ethnic adjectives in OE are summarised in table 3 below.

72 It has been pointed out that the TTR is only a 'true ratio' if it is produced by dividing two mutually exclusive categories (cf. Schofield 1995: 167), otherwise it is rather a 'proportion score'.

Table 3. Individual types and their tokens, YCOE

Ethnic ADJ Types	Tokens	Non-ethnic ADJ Types	Tokens
Englisc 'English'	268	*ceorlisc* 'churlish, common'	27
Iudeisc 'Jewish'	202	*folcisc* 'common, vulgar'	10
Romanisc 'Roman'	106	*militisc* 'military'	3
Ebreisc 'Hebrew'	62	*utlendisc* 'outlandish'	3
Grecisc 'Greek'	61	*hæðenisc* 'heathenish'	3
…	…	…	…
Speonisc 'Spanish'	1	*cristallisc* 'of crystal''	1
Norðhymbrisc 'Northumbrian'	1	*gimmisc* 'jewelled'	1
ethiopisc 'Ethiopian'	1	*domesc* 'of doomsday	1
sarascenisc 'Saracen'	1	*tigrisc* 'of a tiger'	1
Constantinopolisc 'Constantinopolitan'	1	*mechanisc* 'mechanical'	1
Total	**1,156**	**Total**	**61**

Let us start with the leftmost column which contains ethnic adjectives. Table 3 shows that most of the tokens found belong to the lexeme *Englisc*[73]. This is not surprising since many texts were translated from Latin to English, a fact explicitly pointed out by the author of the following text:

(58) & of Lædene to **engliscum** spelle gewende
*& from Latin to **English** speech translated*
”and translated from Latin to the English language“
(coboeth, BoProem:1.6.3005)

Similarly, non-native passages are frequently left in their original form, but are translated immediately afterwards:

(59) In principio erat Verbum, ET RELIQVA:
þæt is on **Engliscre** spræce, On angynne wæs Word
*[…] that is in **English** language, in beginning was word*
”in the English language it is translated into 'In the beginning was the word'“
(coaelhom, +Ahom_1:23.11)

In both cases, the adjective denotes a relation to the language, indicating that the language referred to is *English*. A number of texts, especially those recording historical events, make mention of a collective of people of English decent as in examples (60) and (61) below:

73 Some of the forms, like the hapaxes, only appear in a specific case form in the corpus. In order to maintain consistency, I will only use headwords in the tables.

(60) and þær wæs þæs **Engliscan** folces mycel ofslagen and adrenct and on fleam bedrifen
*and there was the **English** people many slain and drowned and to flight driven*
”and many of the English people were killed and drowned and driven into flight“
(cochronC,ChronC_[Rositzke] :1066.44.2128)

(61) he com mid mycclum here **Engliscra** manna.
*he came with great army **English** men*.
”he came with a great army of English men.“
(cochronE,ChronE_[Plummer] : 1066.15.2493)

In the examples, the ethnic adjective is relational, indicating that the people that are killed belong to the *Engle* 'Angles' in (60), and the men that are part of the great army in (61) likewise belong to the people of the Angles. That is, *-isc* seems to add simply a sense of belonging in these cases. The frequent occurrence of ethnic adjectives like *Iudeisc* 'Jewish' and *Ebreisc* 'Hebrew' is due to the large amount of religious texts or texts referring to Scripture. In general, there is an abundance of adjectives also of a lower frequency that refer to tribes from the Bible: *Israhelisce* 'of Israel, Israeli' (e.g. cootest, Exod:8.8.2628), *Amoreiscre* 'Amorite' (e.g. cootest, Num:21.21.4306), or *Philisteiscre* 'Philistine' (e.g. cootest, Gen:21.34.920) are only a few examples.

A note has to be made about the categorisation of the adjective *Wylisc* 'Welsh, foreign'. It is an adjective with special properties as it can have both, an ethnic and a non-ethnic reading, depending on context. Let us have a look at the examples (62) - (64) below.

(62) and þær ofslogan xii **Wylisce** ealdormen
*and there slew 12 **Welsh** eldermen*
(cochronC, ChronC_[Rositzke]:461.1.66)

(63) And man rædde þæt man sloh Ris þæs **Wyliscean** cynges broþer for ðy he hearmas dyde
*And they decided that they slay Rees the **Welsh** king's brother because he harm did*
(cochronD, ChronD_[Classen-Harm]:1053.2.2021)

(64) eoforþrote, cicena mete, dulhrune, **wylisc** moru, hnutbeames leaf, næp, gearwe, hofe, …
*carline thistle, chickweed, pellitory, **Welsh** carrot, nut tree (=hazelnut) leaf, turnip, yarrow, alehoof, ...*
(colaece, Lch_II_[3]:8.1.1.3619)

Examples (62) and (63) illustrate the ethnic reading of the adjective in that both cases refer to individuals of a Welsh descent (i.e. the native population of Britons as opposed to Anglo-Saxons, cf. OED 'Welsh'). (64) on the other hand, allows for both readings in principle, showing that they

were interdependent. The author of the *Leechbook*, a medicinal handbook, lists around 45 different plant names in this example which together were thought to provide a curing salve against cancer. The plant *moru* 'carrot, parsnip' receives an identifying adjective *wylisc* to distinguish it from *englisc moru* 'parsnip'. While in this example the adjective allows for an ethnic reading as (62) and (63) above do, it also characterises the plant as 'foreign' and thus distinct from the English plant. In what follows I will categorise all instances of *Wylisc* as ethnic adjectives for two reasons. Firstly, all of the examples also allow for an ethnic reading, while not every hit likewise does so for the non-ethnic reading. Secondly, *Wylisc* develops fully into an ethnic adjective (i.e. *Welsh*) in later stages, dropping the non-ethnic interpretation completely.

Let us now turn to the non-ethnic adjectives from table 3 above. Upon closer inspection it becomes apparent that all of the examples are denominal: *ceorl*$_{N}$ 'churl', *folc*$_{N}$ 'folk, common people', *milite*$_{N}$ 'soldiers', *utland*$_{N}$ 'foreign country', *hæðen*$_{N}$ 'heathen, pagan'. Also the hits with the lowest possible frequency (so-called hapax legomena, or hapaxes, Greek for 'said once') make no exception: *cristalla*$_{N}$ 'crystal', *gim*$_{N}$ 'gem', *dom*$_{N}$ 'doom, judgment', *tiger*$_{N}$ 'tiger'. The adjective *mechanisc* poses a special case as it had been borrowed[74] from Latin *mechanicus* 'mechanic$_{ADJ/N}$', which ultimately derives from Greek *μηχανή* 'machine' (cf. OED 'mechanic'). Apparently, OE *mechanisc* has been an earlier Latin loan and appears only once with the *-isc* suffix, referring to an astrological instrument. It cannot conclusively be clarified whether OE *mechanisc* derives from the adjectival or nominal sense of its Latin etymon. It is further doubtful that the lexical item was transparent to the OE populace and had been analysed in terms of word-formation as there is no evidence of a corresponding Latin noun 'machine' in OE, only a native form *searu* 'device, contrivance'. Due to its uncertain status, *mechanisc* will not be integrated in the following analysis, reducing the number of hapaxes in table 2 to 9 for non-ethnic adjectives.

To make the case for the denominal non-ethnic adjectives stronger, I will supplement my own corpus examples with previous findings from other authors. For instance, Marchand (1969: 305) mentions a few examples such as *cildisc* 'childish' or *eorlisc* 'earl-like'. Ciszek (2012: 29) further provides the lexemes *heofenisc* 'heavenly' and *deuelisc* 'devilish', among a large number of ethnic forms. To illustrate OE non-ethnic adjectives, consider example (65) below.

74 Johanson 2002 introduces the term 'copying' to use in place of borrowing. While he mainly discusses copying in terms of structural or code copying, he mentions that his notion ”is construed in a rather wide scope“ (2002: 288). Thus, in principle, nothing speaks against using this term for lexical cases of borrowing.

(65) Gif hwa on **cierlisces** monnes flette gefeohte, mid syx scillinga gebete ðam ceorle.
*If anyone in **common** man's dwelling fights, with six shillings amend that common-man*
”If anyone fights in a *freeman's* dwelling, let him make compensation with six shillings for the freeman.“[75]

(colawaf, LawAf_1:39.127)

The adjective *ceorlisc* 'churlish' (or *cierlisc*, etc.) was taken to mean 'common, rustic', but also 'free' in this context. Correspondingly, a *ceorl* 'churl' was considered a 'freeman of the lowest class' (cf. Bosworth and Toller online, dictionary entry for *ceorl*). As such the term was not (yet) used in a negative way, but simply designated a citizen's social status. In law contexts such as the one in (65), this fact becomes apparent. Hough points out that ”[a]ll classes of society […] were protected by a wergild, the sum payable to their relatives to buy off the feud if they were killed“ (2014: 489). This *wergild* (literally 'man-payment, compensation, retribution') was allocated to noblemen (1,200 shillings) and freemen or 'churls' at the time of Ine, king of Wessex from 688 to 726 (cf. Hough 2014: 489). In law codes, *ceorlisc* 'common, peasant' or in a technical sense meaning 'of the rank of a ceorl' (cf. Bosworth and Toller online) was used to refer to men of this rank and to define their payments or compensations they received for an offence. These compensations did not only hold for manslaughter, but also for other crimes and offenses such as fighting indoors as (65) illustrates.

Example (66) shows an entry of two adjectives that are the only representatives of their type, i.e. hapaxes:

(66) & monig fatu **gimmiscu** & **cristallisce** dryncfatu & goldne sestras ðær wæron forð borenne.
*and many vessels **jewelled** and **crystal** drinking-cups and golden pitchers there were forth brought*.

(coalex, Alex:8.23.59)

The attestations of the two adjectives are found in a travelogue, specifically *Alexander's Letter to Aristotle*, a fictional account of a voyage to India in which Alexander encounters monsters of various sorts (cf. Greenfield 1986: 98f.). The text reflects the growing interest in Eastern legends (cf. Lehnert 1960: 172) and the passage in (66) lists the various artifacts obtained during that voyage. The adjectives occur in postnominal (*fatu gimmiscu* 'vessels jewelled') and prenominal (*cristallisce dryncfatu* 'crystal drinking-cups') position and describe the quality of the nouns they modify. As such, they can also be considered relational adjectives.

However, not all denominal non-ethnic adjectives were simply relational. Example (67) below

75 The translation is adapted from Halsall (1998, emphasis added), who names Thatcher (ed.) (1901) as his source.

indicates a grievance the clergy has against Abbot Equitius, who was not ordained to preach by the Bishop of Rome, but did so fervently and successfully:

(67) hwæt is þes **ceorlisca** wer, þe þus hafað him sylfum genumen þa ealdorlicnysse þære halgan lare & neþeþ þus ungelæred, þæt he agnað him sylfum þa þenunga ures apostolican hlafordes?

*who is this **common** man, who thus has him self taken the authority of-the holy teaching & dares thus unlearned, that he claims him self the ministry of-our apostolic Lord?*

”Who is this rustic who presumes authority to preach? Ignorant as he is, he dares to usurp a right reserved for you alone, our apostolic Lord.“[76]

(cogregdC,GD_1_[C] : 4.34.29.381)

The example indicates that the abbot is not considered simply a common man by the clergy, but as unlearned and unworthy of preaching, a function which is reserved for the Pope, Gregory I. The neutral relational reading does not apply in this case, instead it has shifted to accommodate the fact that the abbot, who has not been given permission to preach, is assuming this office. Thus, there is a mismatch between the behaviour expected of a Pope and the actual behaviour by the unordained preacher, which leads to a negative evaluation of the latter. As a result, he is compared to and labelled a *ceorl* 'churl', which has been applied to common men of the lowest rank. As an abbot, he is a member of the clergy and as such has a certain social standing. A comparison to a churl is therefore a degradation of his status. This link between rurality and low rank perhaps initiated the negative reading of *churl*, as labelling someone who lacks refinement, or who stands in opposition to gentility or nobility.

Finally, let us have a closer look at some of the lexical items which only occur once to obtain a sense of the productivity of ethnic and non-ethnic adjectives. The ethnic derivatives have a total of 29 hapaxes, the non-ethnic ones include 9 (recall that we have excluded the hapax *mechanisc*). As noted in section 4.2.2, hapaxes can give some indication about productivity as they correlate with the number of neologisms (cf. Plag 2003: 54), thus pointing to transparent new word formations. According to Plag (2003: 55) ”it is precisely among the hapax legomena that the greatest number of neologisms appear“. Corpus size is a crucial factor in this endeavour as a small corpus may lead to skewed results in that it indicates lexical items as occurring only once, but in fact they appear frequently enough outside of the corpus. This is a point we will come back to in section 4.6 below. The commonly applied measure for productivity that makes use of hapaxes is the calculation below:

(68) $P = n_1^{aff} / N^{aff}$

76 The translation stems from Zimmermann (1959: 20).

The 'productivity in the narrow sense' (*P*) (cf. Baayen 1993), i.e. the probability of encountering a new word, is calculated by dividing the number of hapaxes with the affix in question (n_1^{aff}) by the number of all tokens with that particular affix, N^{aff} (cf. Plag 2003: 57). The measure entails that the ”ratio of the number of hapaxes with a given affix and the number of all tokens containing that affix“ is calculated (Plag 2003: 56). A productive suffix is indicated by a relatively high value of *P* because this points to a large number of hapax legomena in the respective corpus (c. Plag 2003: 57). To put this calculation into practice, n_1^{aff} for ethnic adjectives is 29, N^{aff} is 1,156[77], which results in a productivity of the narrow sense of *P*= 0.025. For the corresponding non-ethnic adjectives we obtain a *P* value of 0.148 (with n_1^{aff} = 9, N^{aff} = 61). These figures indicate the tendency of non-ethnic adjectives showing a higher productivity with the *-ish* suffix than ethnic ones, even though the latter occur more frequently. The overall number of a corpus should not be ignored, however. The measure will also be employed for the British National Corpus, which is naturally much larger than the historical corpora. The resulting figures for productivity illustrated here can thus only be seen as a tendency, an indicator for later developments. As we will see the trend of non-ethnic *-ish* adjectives showing a higher productivity than their ethnic counterparts will continue.

4.4.2 Summary

This section has discussed some of the intricacies of Old English as the first recorded stage of the language. I have introduced the design of the corpus YCOE and motivated my search query. The results have shown that overall, the number of types and tokens is principally higher for ethnic adjectives, as made explicit by the relative (or normalised) frequency, which relates the token frequency to the overall number of tokens in the corpus. By comparison, ethnic adjectives show less variation in their vocabulary than non-ethnic adjectives, as the type-token ratio indicates. The higher number of ethnic types in general is accounted for mainly by the multitude of religious texts. The high frequency of the type *Englisc* specifically is due to many translations from originally Latin texts into Old English, which is referenced explicitly in the texts. For non-ethnic types we have seen that all of the hits are denominal. Given Marchand's (1969: 305) remarks, this is to be expected. Semantically, the ethnic types denote a relation between the referent of the derivative and the referent the derivative refers to. The non-ethnic types show a first development in that their meaning is not only relational, but they can also denote a type of

77 The calculation replicates Plag's approach to two types of *-ful* adjectives, *-ful* 'measure' (e.g. *cupful*) and *-ful* 'property' (e.g. *forgetful*) (2003: 57). He calculates each type separately to assess the differences in productivity of both meanings of the suffix.

comparison of an individual to a salient property that is identified in the referent of the base. Section 4.9 below will flesh out the semantic development of the suffix.

4.5 Middle English: 1150 – 1500

The English language had undergone a major shift by 1150, the starting date for the second period Middle English (ME) in the Helsinki corpora. As stated above, some authors prefer to give rather exact dates (e.g. Minkova and Stockwell 2009), but I will tend to the corpus compilers' periodisation scheme. Internal and external factors impacted the English language and two main features that distinguish OE from ME shall be briefly discussed here: 1) The loss of inflections, and 2) the impact on the vocabulary. The Norman Conquest (1066), often implied to be the driving factor for the massive changes the English language underwent has in fact sped up processes at work within the language itself (cf. van Gelderen 2006: 10). Above, we have stated that the inflectional paradigm for OE nouns did not have a distinct ending for every case and number. The inflectional endings for nominative and accusative case had already been merged (or levelled, cf. Freeborn 2006: 161). This process became even more pronounced during ME. Let us have a look at the Oe and early ME paradigms for *stan*, an *a*-stem masculine noun[78] (cf. Lass 2006: 69).

Table 4. OE paradigm for stan 'stone'

Case	Singular	Plural
Nominative	*stan*-ø	*stan*-as
Genitive	*stan*-es	*stan*-a
Dative	*stan*-e	*stan*-um
Accusative	*stan*-ø	*stan*-as

Table 5. Early ME paradigm for stan 'stone'

Case	Singular	Plural
Nominative	*stan*-ø	*stan*-es
Genitive	*stan*-es	*stan*-e
Dative	*stan*-e	*stan*-en
Accusative	*stan*-ø	*stan*-es

78 The character ø stands for 'zero/no ending'.

In both cases, we find case syncretism for nominative and accusative singular and plural forms. OE features five different endings (not taking the zero forms into account), in early ME this difference reduces to three distinct inflectional endings. While nothing changes for the singular forms as of yet, the plural forms already show changes having to do with sound changes that reduce the vowels in unstressed syllables. As we can see the distinct vowels in the weak syllables in OE *-as*, *-a* and *-um* collapse in schwa in early ME. As this trend continues, the inflectional endings syncretise and become less and less distinct, leading to an indistinguishable plural ending *-es* in the final stage of ME (cf. van Gelderen 2006: 124). The interaction of phonological and morphological changes gave rise to a syntactic compensation strategy that ensured the identification of grammatical distinctions after the obliteration of morphological endings. Thus, instead of marking the relationship of words within a sentence with case endings, word order as well as prepositions adopted that role, eventually leading to a more fixed word order and a more analytic language in comparison to OE (cf. van Gelderen 2006: 124, 126). As Lass (2006: 69) points out, this transition proceeds seamlessly rather than in a modular fashion, developing gradually and slowly over time.

Coming now to the second feature, the English language also underwent external changes that came as a direct consequence of language contact with French. While the vocabulary in OE had remained relatively stable and homogeneous with only minor influences mainly from Latin and Old Norse (cf. Minkova and Stockwell 2009), the Norman Conquest ”left a lasting mark on the composition of the English lexicon“ with English becoming a ”hybrid“ in terms of its vocabulary (Minkova and Stockwell 2009: 40). The Conquest installed a French-based ruling class in England which spoke a rural Norman French dialect. Anglo-Norman, the dialect that established in England at the time, consequently became the prestige language due to the fact that the Normans established a political and social dominance post-Conquest, lasting from its onset in 1066 until after the 14th century when English was reestablished as the official language for administration, commerce and learning (cf. Minkova and Stockwell 2009: 44). The relatively low rate of about three per cent of loanwords in Old English is met with a large increase of up to 25 per cent of foreign words in Middle English (cf. Minkova and Stockwell 2009: 43) which include an estimate of about 10,000 French words into the English lexicon (cf. van Gelderen 2006: 99). Especially in the second phase of borrowing (1250-1500) French words experienced an upsurge leading to a lasting influence on English due to the adoption of English by many Norman French speakers, according to van Gelderen (2006: 99). Contact between the languages gradually led to rising bilingualism in some parts of the society, especially with individuals who needed to have some command of both, medieval French and English, as for example merchants

or custodians (cf. Nevalainen and Tieken-Boon van Ostade 2006: 273). Schendl (2002) and Wright (2011, 2012) even assume a trilingual situation with regard to the educated and more literate part of the society, and in particular in written business communication, such as customs, accounts, wills and inventories (Wright 2011: 191). The Conquest and the ensuing Anglo-Norman administration had a disruptive effect on the standardisation efforts of late OE that tried to promote the dialect of West Saxon to a standard. As a consequence, Middle English came nowhere near a standard, which is evident in the many variants that *-ish* adjectives and the suffix itself could assume. We have seen a few variants in OE already. Middle English featured a number of new variants alongside older ones, such as *-isch(e)*, *-issh(e)*, and *-isskenn*, together with some cases of initial *-e* or *-y*. Variation in the base words was widespread as well, for example in the ME variant of *French*: *Fraynysche*, *Frenysche* as well as *Frensche* or *Frensch* where the complex character of the derivative becomes increasingly opaque as the ending collapses into a single sound (see also OED entry *French* for more variants).

4.5.1 Data

4.5.1.1 Search query

With the influx of many new varied forms of suffixal endings, a different approach to the one employed for OE above had to be devised. The variant *-ish* forms suggested by the Middle English Dictionary (i.e. the electronic version of the MED)[79], e.g. *-ishe*, *-i)sse*, *-ich(e*, or *-ch(e*, among others, lead to a large number of simplex words in the corpus output that happened to show the same letter sequence (e.g. *-ch(e)* as in *rych-e* 'rich') or even in derivatives that ended in entirely different suffixes (e.g. *-es(se)* as in *swet-nesse* 'sweetness', or *-ich(e)* as in *flehs-lich* 'fleshly' or *licom-liche* 'bodily'). As can be seen from the examples, this letter combination is abundant in the final syllable of adjectives (as well as in other words, but adjectives were searched for explicitly to narrow down the results). Although *-ch* could potentially find suitable results as the MED example *freinch* 'French' shows, these are rare and the measure of unwanted hits is disproportionately higher than genuine examples (the word could not be found in the PPCME2). In the other cases the endings resulted in a noun-forming suffix (*-ness*) as well as in examples with the adjective-building suffix *-lich* ('-ly' from today's point of view). Also with *-ich(e)* the MED mentions an example that can be interpreted as a form of *-ish* (*melkich* 'milkish'), but that does not exist in the PPCME2 data used for this study. In any case, these

79 For access see here: https://quod.lib.umich.edu/m/middle-english-dictionary/dictionary/MED23448/track?counter=1&search_id=2703302 (last accessed 20.12.2019).

forms seem to amount to only a minority of the examples found in Middle English, an assumption supported by the meagre output in the dictionary quotations themselves, which often show a single example for the variants above. However, to include all the suggested endings in the query will lead to a high recall but a poor precision. In order to balance the two measures out, I chose to exclude those suffixes mentioned above, which will lead to a potentially high number of results with a completely different suffix (e.g. present-day -*ly* and -*ness*, see above)

Concerning the approach taken with the ME data, the focus thus shifted slightly to ensure an increased rate of precision, nevertheless a high recall can be maintained as the resultant query is sufficiently broad which will be shown below. In order to be able to find cases which show a contracted form of the -*ish* suffix (i.e. with the initial vowel lacking as in *Frenshe* 'French')[80], but without including a myriad of simplex forms and others (e.g. *nesshe* 'soft'), artificial endings such as -*enshe* were included in the search query, resulting in a higher rate of precision. When it comes to search queries there is no 'one size fits all' approach even when the corpora are sufficiently similar to each other. Each query has to be attuned to the corpus it serves and needs to keep the peculiarities of the language under investigation into account. The process to arrive at a suitable query was thus twofold: First, due to the high rate of variation even in the suffixes themselves, possible endings were looked up individually in the corpus to confirm their existence. With the case system all but diminished, the corpus does not provide additional case endings. As mentioned above, the variants of the suffixal endings stem from the MED as well as the ongoing search in the corpus where a single hit with one of the initial vowels, i.e. -*i*-, -*y*-, or -*e*-, was counterchecked with each of the other two as well. Hits that only returned simplexes for a variant were sorted out at this stage and the suffixal variants do not appear in the final query. Second, out of the possible letter combinations that provide the basis for the -*ish* variants in the corpus, a comprehensive query was then devised from the positive results that were returned in the first step. The endings in (69) below, shown only for the -*ish* variant with initial -*i*-, serve as the blueprint for the variants with initial -*y*- or -*e*- that were checked in the corpus:

(69) *isc|*isce|*iscen|*isch|*ische|*ischen|*ish|*ishe|*ishen|*ishse|*ishsen|*isk|*iske|*isken|*iskenn|*iss|*isse|*issen|*issc|*issce|*isscen|*issch|*issche|*isschen|*issh|*isshe|*isshen|*issk|*isske|*issken|*isskenn|*insh|*inshe|*insch|*insche|*inssh|*innshe

80 The ethnic adjective *French* has not yet been uniformly used in the contracted form in ME, indicating that it was still recognised as a suffix. The situation changes in EME, where no uncontracted forms are found anymore.

The comprehensive query is shown below:

(70) Node: IP*
(ADJ* idoms *isc|*isce|*iscen|*isch|*ische|*ish|*ishe|*ishse|*iskenn|*iss|*isse|*issen|*issce|*issh|*isshe|*isske|*isskenn|*ynsh|*ynsche|*ysch|*ysche|*ysh|*yshe|*yssche|*ysshe|*ensch|*ensche|*ensh|*enshe|*ensshe)

While some of these suffix endings seem peculiarities of individual authors (e.g. *-iskenn*, *-isskenn*, which appear exclusively in texts by Orm), others are prone to occur with specific base forms (e.g. **ensche*, **ensh*, and so on, in derivatives such as *Frensche*, *Frensshe*, etc.). Derivatives ending in *-isch* or *-ische* show a tendency to select for ethnic adjectives such as *Englisch*. The only non-ethnic adjective *freische* 'fresh' (OE *fersc*) has been discarded for being a simplex form. The earlier OE form *-isc*(*e/en*) still produced 24 hits, all of which are ethnic such as *englisc* or *israelisce*.

4.5.1.2 Results

The query returned 326 hits out of 84,664 tokens the corpus provides in total. The majority of simplex forms has already been eliminated (see above), but nevertheless a distinction has to be made between genuine ethnic adjectives and ethnic conversion nouns, both of which were common in OE. After a manual search through the results these and leftover simplexes were removed and a total of 306 hits remained. Table 6 below shows the distribution into ethnic and non-ethnic adjectives.

Table 6. Frequencies for the two group of -ish adjectives in the PPCME2

	Types	**Tokens**	**Hapaxes**	**Relative frequency**	**Type/Token frequency**
Ethnic ADJ	15	289	0	2.41	0.052
Non-ethnic ADJ	9	17	6	0.14	0.529
Total	**24**	**306**	**6**		

Depending on type, the adjectives show a marked difference in the number of their tokens, reflected in the relative frequency count as well. Both types of adjectives are similar in that they show only a low occurrence of types, but if the ratio of types to tokens is taken into account, an entirely different picture presents itself. Considering the small amount of non-ethnic adjective tokens (i.e. 17) there is a relatively 'large' amount of types by comparison (i.e. 9), in contrast to the ethnic adjectives with a significantly lower amount of types relative to the number of tokens

by comparison. Thus the tendency for non-ethnic adjectives to exhibit a more varied inventory of word types continues.

It is striking that the large number of ethnic types and tokens in the OE corpus has decreased so rapidly here. The only slightly smaller size of the PPCME-2 cannot be the only reason. What we find instead is the influence of the French vocabulary, which not only enriched the English wordstock, but also caused many forms to be replaced. This is the case for many of the older ethnic adjectives as French rival suffixes -*ian* and -*ite* took the place of native -*ish*. The process is not yet completed in ME, but a closer look at PDE reveals a growing trend of the non-native suffixes, starting in ME (compare OE *egyptisc* vs. PDE *Egyptian*, OE *israelisc* vs PDE *Israelite,* also *of Israel*). Ciszek (2012) cites competition with French-based suffixes as well as an increase of *of*-NPs as a factor for the decline of ME ethnic -*ish*. The decrease becomes more noticeable as time progresses, i.e. if we compare the occurrence of the variant -*isc*(*e/en*) in the four subperiods given by the ME corpus, all 25 hits occur in the first subperiod (1150-1250).

Let us now turn to individual adjectives of both types. Table 7 below displays the three most occurring hits each as well as those types that have the status of hapaxes. Again, the headwords of the individual lexemes as provided by the MED have been used.

Table 7. Individual types and their tokens in the PPCME2

Ethnic ADJ Types	**Tokens**	**Non-ethnic ADJ Types**	**Tokens**
English 'English'	94	*shepishe* 'sheepish'	4
Jeuish 'Jewish'	73	*lifisshe* 'living, alive'	4
Frensh 'French'	42	*swinish* 'swinish'	2
…	…	...	…
No hapaxes for the Middle English ethnic adjective		*hevenish* 'heavenly'	1
		folish 'foolish'	1
		develish 'devilish'	1
Total	**289**	**Total**	**17**

Unlike OE, the ME corpus does not include any ethnic hapaxes. This can be due to its size or it might simply show that the forms available in Middle English are already established for the most part. Out of the 289 ethnic tokens overall, a total of 94 attestations are various forms of the type *English*. There had been no standard at the time, hence variants abound, e.g. *Engglissh*, *englisse* and *Engelysche* can be found for the headword *English*, as well as *Freynysche*, *Frensshe* and *Franysche* for the headword *Frensh*, indicating that the latter was still used in its

uncontracted form and hence complex in some instances. It comes as no surprise that *English* as well as *French* are among the most frequent terms. At the beginning of the ME period, i.e. periods M1 (1150-1250) and M2 (1250-1350), only few texts feature either of these adjectives. Later on, i.e. in periods M3 (1350-1420) and M4 (1420-1500), the mention of *English* rises to over 50 (from previously less than 10) while that of French increases only slightly (16, as compared to 2 in the earlier periods). It has to be mentioned, however, that the number of texts is not equally distributed for the ME subperiods. The earlier periods together amount to 12 texts if only the unambiguously dated ones are taken into account. Especially sparse is the inclusion of texts in period M2 with only three. Conversely, the later periods make up the majority of texts with 27 in total. The slight imbalance in texts is most probably the result of the aftermath of the Norman Conquest when administration was in French hands and official writing was conducted in French. English returned to the status of being only a spoken vernacular. Later in periods M3 and M4, English reappeared as a written language, so it is most likely that the meagre output of texts especially in M2 has to do with the socio-political situation at the time[81].

A majority of the occurrences is attested in historical texts, as for example John Trevisa's Polychronicon (M3) and Capgrave's Chronicle (M4), detailing events from the OE time on. Example (71) below shows a passage of Gregory's Chronicle (M4) which reports the events of the Battle of Agincourt (1415), resulting in an English victory during the Hundred Years' War. The conflicting parties consisted of the French and the English, and the excerpt gives an account of the losses the French side suffered.

(71) And on the **Fraynysche** syde was slayne the Duke of Launsonne, the Duke of Barre, the Duke of Braban, ande vij erlys...
*And on the **French** side was slain the Duke of Alençon, the Duke of Bar, the Duke of Brabant and seven earls...*

(CMGREGOR,112.376)

The complex form of the ME adjective *French* is still recognisable in this example. Both of the other chronicles seem to prefer the reduced form *Frensch*. Since all three are situated in the later periods M3 and M4, the forms are shown to still co-occur in later ME. Of the total amount of 42 tokens in the corpus for the type *French*, half of them show the reduced form of the suffix (indicated by omitting the initial vowel). Interestingly, in the earliest text, the *Ancrene Riwle* (dated 1150-1250, M1), the reduced variant *Frensch* occurs once.

The following passage from Capgrave's Chronicle implies a smouldering conflict between the

81 This gap has been identified and attempted to close by the corpus *Parsed Linguistic Atlas for Middle English* (PLAEME), which is a parsed corpus specifically directed at early Middle English (cf. Truswell et al. 2019). More information can be found here: http://www.amc.lel.ed.ac.uk/?page_id=1357 (last accessed 28.12.2019).

English and Normans shortly before the Conquest in 1066:

(72) and now hath he brout in Normannes with him to distroye this **Englisch** puple.
*and now has he brought in Normans with him to destroy the **English** people.*
(CMCAPCHR, 100.2090)

The passage records events from 1042, specifically the plot of Godwyn, Duke of Kent, to overthrow king Alfred Ætheling and to support Alfred's brother Edward the Confessor instead who had spent much time in Normandy in previous years. McDonald (2000: 81) claims that the author of the chronicle, John Capgrave, is known to have moralised the historical incidents, revealing a consistent bias in favour of the English which may explain the slightly harsher tone employed in (72) for pre-Conquest events.

The second most frequently occurring ethnic adjective in the PPCME2 is *Jewish*. The various forms appear exclusively in the text type 'Homily' with many still showing the earlier variant of the suffix *-isc*, common in OE. All but one of the six homilies have been composed in period M1, so it is not surprising to find these forms here and the transition of older *-isc* to later variant forms has not yet taken root in the language.

There is one form unique to a particular author and his work *The Ormulum*, composed by the monk Orm around 1200 (M1). As pointed out above, Orm employed the suffix form *-isskenn*. He devised these endings as part of an attempt to revolutionise the spelling in order to reduce variability and promote a more standardised spelling. A key characteristic is the doubling of consonants to indicate preceding short vowels in closed syllables (cf. Crystal 2003b: 42). In a time of great variation in spelling, he kept his system meticulously, with only one deviant form *Judiskenn*. Although Orm may be described as one of the first spelling reformers, his system was not adopted by others. Crystal (2012: 54) attributes this to the increased length words assumed by doubling consonants in this way. It would have taken scribes longer than before to copy a text, but nevertheless the system had its merits. The use of double consonants can help to distinguish long from short vowels and Orm's phonetic spelling thus has been of value to linguists long after its composition (cf. Crystal 2003b, 2012). An example is given below:

(73) & itt iss nemmnedd Sabbatumm Amang **Judisskenn** lede
*and it is named Sabbath among **Jewish** people*
(CMORM,I, 144.1187)

Let us now direct our attention to ME adjectives of the non-ethnic type. As indicated in tables 6 and 7 above, the output of the corpus search is rather sparse. With only nine types to go by, the expressiveness of the examples is limited. Due to that I will supplement the corpus findings with further examples from the literature. But let us start with what the corpus can tell us. All but four

types are hapaxes. These are the ones given above as well as the hapaxes *rabish(e)* 'furious, raging, unruly' and *rotherish* 'resembling oxen' (from *rother*$_{N}$ 'ox, cow, bull'). All but *rabish(e)* (from OF *rabi* 'furious, raging') are denominal and it begs the question whether this particular lexeme was analysed and considered a complex form at the time. The OED entry for *rabbish* lists it also as a complex form, but since a corresponding French form *rabice* existed, it is far from clear whether it had been recognised and analysed as complex and thus, I will exclude it from the calculation of hapaxes below. Most of the denominal adjectives go beyond the simple relational status we predominantly find in OE and come to denote a derogatory shade of meaning in most cases (cf. Marchand 1969: 305). Additionally the first examples of metaphoric transfer occur where characteristics ascribed to animals are applied to individuals. Examples from the corpus include *shepishe* 'sheepish' and *swinish* and given below is a passage from the Trinity Homilies in which drunk and unchaste individuals (or more precisely their behaviour, which includes the spitting out of food and drink) are likened to pigs:

(74) and þarfore ben icleped **swinisse** men.
*and therefore been called **swinish** men*.

(CMTRINIT, 37.516)

Further denominal forms in this period include *elvish*, *feverish*, *wolvish* and *womanish* and as we have stated in chapter 2 above, Marchand (1969: 305) indicates that the pejorative sense has likely arisen from *ceorlisc* 'churlish' and *hæþenisc* 'heathenish'. However, the corpus provides the hapax *hevenysshe* 'heavenly', which is recorded in a handbook text about astrology, written by Chaucer in the subperiod M3:

(75) And this forseide **hevenysshe** zodiak is clepid the cercle of the signes, or the cercle of the bestes
*and this aforesaid **heavenly** zodiac is called the circle of the signs, or the circle of the beasts*

(CMASTRO,668.C2.159)

The derivative *heavenish* is not recorded in Marchand (1969) and considered infelicitous in Dixon, who regards the base noun only licensed with *-ly* (2014: 219). Example (75) shows, however, that a) the derivative is attested in later Middle English, and b) it is used without a negative connotation, but instead neutrally to denote the twelve astrological signs, which are used to classify the movement and position of celestial bodies. Marchand does not indicate that there exist any denominal *-ish* adjectives with a neutral meaning after Old English. Yet also in the OED, *heavenish* is recorded with a purely relational meaning 'of or relating to heaven; celestial, heavenly' (cf. OED entry for *heavenish*).

We know from Jespersen (1961[1942]), Fisiak (1965), Marchand (1969) and others that the

picture the corpus provides us with is only a part of the puzzle. For instance, Marchand records deadjectival *-ish* forms originating as soon as 1379, all of which are adjectives of colour with the sense 'nearing, but not exactly' (1969: 306). The meanings of these colour terms seem to have sparked the formation of a variety of complex adjectives not related to colour. If we check with the MED online we find deadjectival forms like *smalish* (1425) 'smallish' *swartish* (1425) 'dark', *rudish* (1450) 'lacking in refinement, unpolished', *thikkish* (1425) 'somewhat thick' or *horish* (1398) 'somewhat white' (compare *hoarfrost*). The majority of lexemes recorded by the MED is found in texts dating to the middle of the 15th century, corresponding to our corpus' period M4. Two examples from the MED are given below to illustrate:

(76) Hise shuldris of a large brede, And **smalish** in the girdilstede.
*His shoulders of a large breadth, and **smallish** in the waist [lit. belt-place]*.
(a1425(?a1400) *RRose* (Htrn 409))

(77) ȝif he [the sun] semyth **horisch** [L clarus] in þe myddil.. it bodiþ tempest.
*If he [the sun] seems **hoarish** in the middle.. it bodes tempest*.
((a1398) Trev.*Barth*.(Add 27944))

Both examples exhibit the meaning 'approaching the quality of X' (with X standing in for the meaning of the base), a sense not yet present in the OE findings.

Let us now turn to hapax legomena found in the ME corpus. As has been shown in table 7 only non-ethnic adjectives returned a positive result. The comparison with ethnic adjectives therefore has to be deferred until the Early Modern period. The results for the non-ethnic variant have to be treated with caution too, however, because the corpora are not exactly of equal size with the PPCME2 covering 300,000 words less than the YCOE. The calculation for the five remaining non-ethnic hapaxes after excluding *rabbish* returns an increase in productivity with $P = 0.294$ (compare to OE P = 0.148). In order to obtain a better result, we would have to include more data, as for example the findings the MED provides. As there are no quantitative specifications, however, it is quite improbable to do this undertaking at this point. I will thus finish this section on a tentative note and postpone discussion of productivity until section 4.6.

4.5.2 Summary

The corpus analysis of the Middle English period presented some problems: a) due to many records being in French, the language data on English remained sparse until later in the ME period. This problem is especially evident in the subperiod M2, as identified by the corpus, and leads to an imbalance of results. The second problem b), is that we find only extremely few types for the non-ethnic variant, a fact which is probably connected to the former problem. This

scarcity of data leads to the fact that Marchand's observation of the first deadjectival types with *-ish* cannot be empirically verified with this corpus alone. By looking at additional resources like the MED (or PLAEME, which is of yet a desideratum with respect to a word-formational analysis of *-ish*), which has a different database as a source, we see that his claims are in fact justified.

The corpus results have shown that with the introduction of French-based suffixes, the space for ethnic coinages with *-ish* has diminished in comparison to Old English. Furthermore, there is overall less diversity with forms of the suffix than in the previous period and especially with ethnic bases, there is an early indication that the suffixal form is reduced and starting to become merged with the base in a number of cases. Since there are still many hits which indicate the complex nature of the derivative (e.g. *Frayn-ysche*), such forms have been retained for this stage. Semantically, the relational and comparative meanings found in OE are supplemented by an approximative meaning as witnessed in deadjectival forms. However, these could not be found in the corpus, but were obtained via the MED. Denominal forms are used with negative connotations due to metonymic transfer (*swinish*) and neutrally (*heavenish*), the latter of which shows a simple relational meaning.

4.6 Early Modern English: 1500 - 1710

Unlike the previous periods, Early Modern English (EME) was not characterised by disruptive invasions, but instead was shaped by major inventions such as the printing press that was introduced to England and the rise of standardisation, both of which left their footprint on the language. While the inception of the prolonged process of standardising the English language had taken place already in late ME with the adoption of the Chancery variety as the institutionally supported medium of writing in the 1420s and the introduction of the printing press by William Caxton in 1476, the majority of it can be situated in EME. Due to the impact standardisation left on the language, some linguists prefer to date the starting point of EME to 1450 instead (e.g. Freeborn 2006, Hogg and Denison 2006).

The East Midlands dialect, which was eventually to develop into the standard, qualified as such for various reasons. Firstly, the East Midland area combined factors that made it suitable for a high-prestige dialect, including the focal point of government and administrational offices, the renowned universities of Cambridge and Oxford as well as the fact that most citizens spoke this variety already (cf. Lass 1987, Nevalainen and Tieken-Boon van Ostade 2006: 275). As a result, the Chancery, i.e. ”the office responsible for the production of official documents issued by the

king and the government“ eventually adopted this variety and slowly started to normalise the various spellings present in earlier writings (2006: 275). Clerks who trained at the Chancery were responsible for diffusing this system into the North of England where it was adopted by local authorities (2006: 276f.). The introduction of the printing press aided in this process of standardisation in that Chaucer's decision to publish in English gave further support to the selected variety and maintained its status (cf. Nevalainen and Tieken-Boon van Ostade 2006: 278). Both, the rise of standardisation efforts and setting up the printing press in England can thus be conceived of as an intertwined development that set the stage for standardisation in the later period. Of course, at this point variations still occurred due to the lack of dictionaries and spelling books as Freeborn (2006: 290) observes. Owing to the abundant inconsistencies in the spelling a growing sense of the need for an agreed system of spelling arose, exemplified by Thomas Elyot's (1531) remark of ”the insufficiencie of our owne langage“ (in Freeborn 2006: 299). Out of this need and due to the lack of a language academy in the sense of the Académie Française (1635) works of codification came about of their own accord at the point of transition between EME and what is sometimes called Modern British English.

For most of the time span the corpus covers, standardisation is still in its early phases, so we can expect a number of variants to be found, albeit less than in the previous period. As there was no fixed spelling system yet ”even educated writers sometimes used 'phonetic' spellings“, for example in private letters (Freeborn 2006: 335). A common feature also found in the corpus is the ”persistent redundant final <e>“, which is attached to wrods from all types of word classes (Freeborn 2006: 262). Remnants from earlier periods, such as the spelling of *-ish* with an initial *-y-*, occur in the corpus, but in lesser frequencies than before and also in base forms: *skyttysh* 'skittish'. Particularly noticeable is the use of the allographs <u> and <v>, where <v> is used word-initially and <u> elsewhere. Compare ***v****plandish* 'uplandish' and *de****u****elish* 'devilish', both of which appear in the corpus. The alternation between upper and lower case, also present in OE, slowly gives way to using capitalisation with ethnic adjectives and lower case with the non-ethnic counterpart.

4.6.1 Data

4.6.1.1 Search query

In order to arrive at a suitable search query for EME, the one used for ME has been employed as a template, for which all forms that did not result in a genuine hit in the corpus were excluded as a second step. Due to the slow rise of more standardised forms, we can expect the EME query to

be more compact than the one for ME. This is in fact what we find. Consider the query given in (78) below:

(78) node: IP*
(ADJ* idoms *isch|*ische|*ish|*ishe|*issh|*isshe|*ysh*|*yshe|*yssh|*ysshe)

Compared to ME there are no spelling variants of -*ish* with initial <e> left. Again, the rate of precision was slightly increased to maintain a manageable output. Since all endings were checked individually, the result is sufficiently broad as for ME above and a high recall can be preserved. The resultant hits much more closely resemble Present-day English adjectives with the exception of the aforementioned "persistent redundant final <e>" (Freeborn 2006: 262) that is present to a high degree. Similarly while suffixal variants with a doubled <s> (e.g. -*issh(e)*) still occur, they do so at a much lower rate.

4.6.1.2 Results

The above query and subsequent manual review of the 3rd release of the PPCEME yields 774 tokens in total, divided into 486 ethnic and 288 non-ethnic adjectives. Overall, 69 types were found, 16 of which are ethnic and 53 are of non-ethnic origin. Excluded were a number of falsely tagged nouns, such as *the English*, etc. as well as simplexes (e.g. *parrish*$_{N}$ 'parish', *harrish*$_{ADJ}$ 'harsh', see OED online). The query did not explicitly search for occurrences of variants of *French*, since by this time the formerly complex word has become unambiguously condensed and can no longer be analysed as a complex form. Table 8 provides an overview over the quantitative results.

Table 8. Frequencies for ethnic and non-ethnic adjectives in the PPCEME

	Types	**Tokens**	**Hapaxes**	**Relative frequency**	**Type/Token frequency**
Ethnic ADJ	16	486	2	2.86	0.033
Non-ethnic ADJ	53	288	24	1.69	0.184
Total	**69**	**774**	**26**		

While the number of types has stagnated for ethnic adjectives (compare 15 types in ME), non-ethnic types have started to mushroom out by comparison (compare 9 types in ME). The token count rose in both cases, significantly for non-ethnic adjectives (17 in ME). Also the relative frequency records an increase from 0.14 to 1.69 with non-ethnic adjectives, while it remains

quite stable for the ethnic ones (2.41 in ME). The type/token frequency reveals again the gap between the two types of adjectives, showing that the non-ethnic vocabulary is much more varied than that for the ethnic adjectives ending in *-ish*. In fact, the result for the non-ethnic adjectives is lower than that for ME (0.529), suggesting a stabilising effect of types at this point. The number of hapaxes has increased from zero to two (ethnic adjectives) and six to a total of 24 (non-ethnic adjectives). Let us have a look at the individual EME types and their tokens as given in table 9.

Table 9. Individual types and their tokens in the PPCEME

Ethnic ADJ	**Tokens**	**Non-ethnic ADJ**	**Tokens**
English	178	*foolish*	71
Scottish	171	*popish*	49
Spanish	38	*waterish*	20
Irish	33	*reddish*	18
Rhenish	24	*devilish*	11
…	…	…	…
Cornish	1	*apish*	1
Jacobitish	1	*bookish*	1
		carrionish	1
		darkish	1
		sleepish	1
Total	**486**	**Total**	**288**

The types *English* and *Scottish* form the most frequent ethnic hits, due to the political situation between England and Scotland, which led to the creation of many documents such as state trials. Interestingly, the ethnic adjectives only have two hapaxes. The number of tokens has increased for non-ethnic adjectives since ME. As we can see from table 9, the first deadjectival types occur in the corpus (*reddish*, *darkish*), but they remain a minority. This is a surprising result, given that Marchand (1969) indicates the first deadjectival *-ish* adjectives to have occurred at the end of the 14th century, the first of which have denoted an approximation to the quality of a colour (e.g. *yellowish*, 1379, cf. Marchand 1969: 306, see also the MED).

At first glance the adjectives in EME seem to have converged into a standard form, however, there is still an abundance of variation, albeit not as striking as in ME. For instance *Scottish* differs in whether it appears with <c> or <k>, one <t> or two, let alone the four different variants of *-ish* it can have. Most adjectives occur in the standard form and variation decreases the further

the EME period progresses, as can be seen with *foolish* in table 10 below.

Table 10. Variants of foolish in the PPCEME

Variant forms	E1 (1500-1569)	E2 (1570-1639)	E3 (1640-1710)
foolish	3	19	15
foolishe	5	0	0
folish	6	3	0
folishe	5	0	0
folysh	3	0	0
folyshe	3	0	0
foolysh	1	5	0
folisch	1	0	0
folisshe	2	0	0
Total	**29**	**27**	**15**

Table 10 shows the gradual rise of standard forms. The findings are not surprising, what we see is the influence of the growing process of standardisation in EME, leading to less variation over time. While *foolish* appears in nine different shapes in the first EME period (1500-1569), only three variants are left by the second (1570-1639). By the middle of the 17th century only the standard form has survived. Let us have a look at some examples, starting first with an ethnic one that is amongst the most frequent hits:

(79) Next after that, in Conference had with the Duke of Norfolk on the **Scotish** Queen's part, the Duke declar'd his good Will that he bare to the **Scotish** Queen.
(THOWARD-E2-P1,1,91.310)

The type *Scotish* appears in this spelling almost exclusively in the state trial documents concerning the defendant Thomas Howard, Duke of Norfolk. Since the trial focuses mainly on his involvement in the plot to put the Scottish Queen on the English throne, it is not surprising that *Scotish* occurs so frequently in reference to Mary, Queen of Scots. The types *English* and *Spanish* frequently occur referring to the contemporary domestic and foreign political situation. Other types do not appear in a political context at all, such as *Rhenish* which collocates with *wine*(*s*) in all instances. The type *French*, whose form explicitly displayed the complex nature in earlier periods, albeit with a slow decrease in Middle English, is not among the results above. An additional search revealed that in the corpus of Early Modern English, it is no longer recorded with the unreduced form and has perhaps already uniformly been considered a simplex at that time (e.g. *Frensh*, *Frenshe* in the chronicles by Robert Fabyan, 1516, subperiod E1).

Moving on to EME non-ethnic types, the incipient trend to frequently convey negative attitudes with many denominal *-ish* adjectives continues, especially if the base noun denotes an animal. The base forms can be intrinsically negative (as in *currish*, from *cur* 'a low-bred dog', cf. OED entry *cur*) or the resulting derivative can acquire a negative flavour when some (undesirable) qualities identified in the animal base form are transferred to humans (e.g. with *swinish*, see also ME).

(80) In our English tongue the name Bore or Boore doth truely explaine their **swinish** condition

(JOTAYLOR-E2-P1,3,88.C1.373)

The passage describes characteristics that have been assigned to countrymen or peasants (cf. the entry *boor* in the OED online, with a now obsolete sense) in comparison to typical attributes ascribed to pigs. The *swinish condition* is described as being unclean and uncourteous comparing their human nature to hogs that have been fattened to supply bacon (*bacon-hog*, cf. OED online). These not very flattering descriptions serve to transfer characteristics commonly seen in pigs to humans that seem to have had a low social status at the time. Not all denominal *-ish* adjectives show such negative meaning aspects, however. The following example describes the quality of soil:

(81) The tounelet of West Tanfelde standith on a cliving ground hard by Ure, a ryver of a colowr for the most part of soden water, by reason of the colowr and the **morisch** nature of the soile of Wencedale, from whens it cummith.

(LELAND-E1-P1,83.113)

In Leland's travelogue he describes the surroundings of the small town ('townlet') of West Tanfield, specifically the colour of the river Yore ('Ure'). Seemingly the river's water must have been not very pleasant to look at as it is described as looking similar to the colour of *sodden water* (cf. OED online, entry *sodden*, adj.[2], now obsolete), i.e. earthy-brown due to the soil's nature around Wensleydale, the river's origin (see also Sylvan 1904). This interpretation is reinforced by Leland's characterisation of the nature of the soil, which is *morisch* 'moorish', i.e. boggy or marshy ground (cf. OED online, *moorish*, adj.[1]). The adjective *moorish* does not occur in this sense again in the subsequent corpora, but only as its homophone *Moorish*, which is not non-ethnic, but used to relate to the ethnic group of Moors (see also OED online, *Moorish*, adj.[2]). Coming now to the hapaxes for both subtypes of adjectives, the results in table 9 show that only two ethnic hapaxes exist in the corpus. The productivity in the narrow sense *P* is thus 0.0041 for ethnic adjectives. Concerning the non-ethnic hapaxes, we have to exclude six of 24 hapaxes in the EME corpus because they have already been attested in an earlier period, according to the MED, the ME corpus or both, e.g. *sheepish*. This highlights the problems of reliably determining

the productivity of historical corpora. Due to their restrictions in size, they can easily yield skewed results since they have a much smaller sample of the language available. Hence, although a form may have occurred in earlier times it might not have been recorded or a manuscript containing it has been lost irrevocably, leading to a distorted picture of the circumstances. However, if these false hapaxes are sorted out, the results nevertheless show a continued trend of a higher productivity for non-ethnic adjectives. The non-ethnic adjectives thus include 18 genuine hapaxes amongst its 288 tokens, leading to $P = 0.063$, a figure much higher than for the ethnic type.

4.6.2 Summary

The results for the period of Early Modern English show the increasing influence of the standardisation of the language. The number of variants progressively lessens as the period advances. The quantitative results indicate a stagnation of ethnic types, whereas non-ethnic adjectives flourish. The fact that the vocabulary of *-ish* adjectives is more varied with non-ethnic types has been shown with the type-token ratio since Old English and this general trend continues in EME. Overall, the rate of *-ish* adjectives amongst words in the corpus has increased steadily as the higher normalised frequencies in the PPCEME indicate. The results of the corpus analysis do not fully align with Marchand's (1969) observations as only in Early Modern English, the first few deadjectival types are recorded in the corpus. Semantically, the relational and comparative types attested with ethnic and non-ethnic denominal adjectives in earlier periods are still present in EME, but an additional type has surfaced with the approximative meaning denoted by the deadjectival derivatives.

4.7 Some further developments: Modern British English (1700-1910)

The following section will differ from the previous ones in that the quantitative analysis of ethnic adjectives will be omitted and only the most striking developments concerning the non-ethnic type will be discussed. The reason for this approach is that ethnic adjectives will not reveal anything new at this point and non-ethnic adjectives continue to flourish, but concerning their base forms the unambiguous ones concentrate on nouns and adjectives as has been the case before. The reason why I still decided to include a short discussion of the PPCMBE2's results is that it is this corpus which features a multitude of *different* deadjectival adjectives, which play a prominent role in the development of the suffix. Moreover, it shows further developments with individual types, concerning their classification or their orthographic properties. Furthermore,

this corpus is an attempt to minimise the rather large gap from the corpus of EME (1500-1710) to the corpus chosen to represent present-day English, which features texts from the 1960s on.

Amongst the 27 new non-ethnic types are a number of adjectives of light and dimension (e.g. *lightish* (2 tokens), *flattish* (4), *longish* (5)) as well as adjectives of quality (e.g. *baddish* (1 token), *smartish* (1), *stiffish* (1)). Similarly, denominal adjectives experienced an increase with the *-ish* suffix, including person nouns (e.g. *maidenish* (1 token), *boyish* (4), *girlish* (1)) and sensory nouns (*fawnish* (1 token), *copperish* (1), *saltish* (1)), among others. The adjective *ticklish* cannot be unambiguously assigned a word class as it can be both, deadjectival or deverbal (cf. OED online, Marchand 1969: 305). Interestingly, the denominal *moorish* has been previously classified as a non-ethnic adjective (see example (81) in section 4.6.1.2), but had to be exclusively assigned to the ethnic group in the present corpus. Beforehand it denoted the quality of soil (cf. OED entry *moor*, n.1), collocating with the noun *ground* in most cases. Here, however, it refers to the inhabitants of ancient Mauretania (cf. OED entry *Moor*, n.2) and its single occurrence refers to *nations*, thus qualifying it as ethnic and the two nouns as homonyms. Consider the example below:

(82) A confederacy of five **Moorish** nations issued from their deserts to invade the peaceful provinces.

(Gibbon-1776,1,1,369.240)

A further indication of ethnicity is the capitalisation of the word, which has become regularised in this period. In total, the corpus features 48 non-ethnic types amounting to 186 tokens and 23 hapax legomena. The latter figure includes types that have been established in previous periods, however, and after excluding them we are left with 16 true hapaxes. The complete list of hapaxes for this period is given in appendix B, table 4.

Concerning variation *-ish* has firmly established itself, leaving no variant forms such as *-ishe* or *-ysh*(*e*) in the output. Individual types show a minimum of variation in the derivative form (*Scottish* vs *Scotish*, *reddish* vs *redish*), indicating a slight uncertainty whether the final letter needs to be doubled before attaching a vowel-initial suffix. The same is true for words that end in a vowel (e.g. *blue*: *blueish* vs *bluish*). Here, a minimal preference for retaining the silent final <e> can be observed. Below are three examples to exemplarily illustrate the Modern British non-ethnic adjectives:

(83) This Spider was taken with a small **flatish** ball of eggs, of a **blueish** colour, which it held under its belly.

(ALBIN-1736,23.619)

(84) From a romantick folly, the growth of **boyish** brains, I had fix'd my fancy on being a sailor

(COLMAN-1805,39.668)

(85) ”Your writing is not very **womanish**,“ said the Colonel, as she gave him his task.

(YONGE-1865,167.216)

(83) is an example of Eleazar Albin's (1736) *A natural history of spiders, and other curious insects* in which he descriptively characterises various sorts of spiders according to their appearance. In his descriptions he often uses *-ish* adjectives to approximate the colour of parts of the animal as closely as possible. He still employs now non-standard or outdated forms as can be seen in the example. No mention of today's standard form *bluish* is made, but he alternates between *whiteish* and *whitish* in the same text, a practice that is not uncommon especially in earlier periods.

Example (84) is placed into the category 'Drama Comedy' by the corpus and published around 70 years later than (83) in the year 1805. In the scene, the speaker Peregrine, who has returned from a 30-year-long trip to India, explains himself and the reasons of his long absence to his friend. Sailing such a long distance has been a perilous voyage at the time that nearly left him dead, so he reasons that it must have been his younger self living out his childhood dreams of sailing away to adventure without imagining possibly dire consequences. The way *boyish* is used here opens up a slot for a negative connotation. The speaker apologetically uses it to convey that in hindsight it was a ”romantick folly“ and he has since matured. In the example, *boyish* is not unambiguously negative, but it becomes evident in the context of its use that the speaker considers his younger self as reckless and immature: The aged Peregrine admits that he has not acted as an adult is expected to behave, but rather showed behaviour more appropriate of children, specifically young boys.

The same holds true for (85), in which *womanish* refers to a woman (not as it is mainly used today, where it is used to refer to the opposite sex in a derogatory manner, see chapter 2) who writes for a *Traveller's Magazine* and sometimes takes on responsibilities of the editor, a practice apparently not yet very common around the middle of the 19th century. Since Ermine, the aforementioned woman, has also been answering letters of the editor in his handwriting, ”because [hers] betrays womanhood“ (Yonge 2001[1865]: 166), she has become skilled in disguising herself, leading to the colonel's remark above. Again, *womanish* is not used in a principally negative way, however, today the adjective *womanly* would probably be used instead. As in the case of (84), however, its use highlights the difference of the expected behaviour of both sexes and that Ermine's does not conform to the typical expectations directed at women at the time. Thus the foundation is established for *-ish* derivatives to be analysed in a negative and

neutral way, and section 4.9 will deliver on this analysis. Further developments of the *-ish* adjective will be discussed in the following section which concentrates on Present-day British English. The present section concludes the historical part of the analysis.

4.8 Present-day English: British National Corpus (BNC)

In this section we will turn to the representation of present-day English as recorded in the *British National Corpus* (BNC). The window the corpus provides spans from the 1960s to 1993 which will leave a gap of about 50 years to the last historical corpus (the PPCMBE2). The reason why the *British National Corpus* (BNCweb edition)[82] has been chosen nevertheless is that it is a large representative and balanced corpus with 100 million words and a varied text range. It contains British English from the latter part of the 20th century and is considered a generalised corpus due to its aim to balance out the types of genres and domains it seeks to represent. As I have previously mentioned, a newer version of the BNC, the BNC2014, has been issued, but currently only the spoken part of the corpus has been released. This continuation of the BNC is modelled closely on its original, but nevertheless is a separate corpus and does not change the original BNC's status of a static corpus, i.e. one which does not add more data over time, but stays stable. In order to make the findings more comparable to the historical corpora, a corpus that includes written language is essential. The written component of the BNCweb contains the majority of words, i.e. 90 million words or 90 per cent; ten million words are included in the spoken part (cf. Hoffmann et al. 2008: 28). Even so, both components are balanced in themselves, featuring several text domains that are clustered together in several overarching text categories. For example, the written part includes the text domains 'world affairs', 'leisure' or 'prose' and the derived text types 'newspapers', 'academic prose' and 'fiction and verse' (cf. Hoffmann et al. 2008: 28-31). This is not different in the spoken component which distinguishes between monologues and dialogues as well as between a more formal 'context-governed' text type (e.g. business meetings) and 'demographically sampled' everyday conversations (cf. Hoffmann et al. 2008: 32-34).

The BNC is an annotated corpus, making available annotations on the word level. Its inventory of POS tags obviously shows differences from historical corpora like the YCOE. Where OE had features like different cases visible via inflectional endings, present-day English no longer openly distinguishes cases except for the genitive in nouns and different pronoun forms. Since the function of case endings has been largely replaced by a more rigid word order, specific tag

82 The BNCweb is a highly user-friendly interface for the BNC developed at Lancaster University. For more information see Lehmann, Schneider and Hoffmann (2000).

extensions are not necessary. We have seen the drop of these extensions in the ME corpus already. Concerning adjectival tags, the most striking difference is thus between the OE corpus and the subsequent ones. The BNC makes use of the CLAWS5 tagset[83] and distinguishes three tags for adjectives in a straightforward manner: General adjectives of the positive form (AJ0), the comparative (AJC), and the superlative (AJS). We will next have a look at how the tags are integrated in the search query.

4.8.1 Data

4.8.1.1 Search query

Although the individual POS tags have a slightly changed appearance, their function remains the same. Following the principles set above, we are looking for a complex adjective which ends in the letter sequence *-ish*. The principal aim is to avoid different word classes and simplex forms (e.g. $wish_{V/N}$, $fish_{N}$, etc.) as effectively as possible. The first step is thus to specify the word class explicitly by using the tag for general adjectives (AJ0) and then connect the ending *-ish* to it. We are not looking for two separate entities, so in order to amalgamate the tag and the ending we can make use of the BNC's CQP syntax (short for *Corpus Query Processor*), the corpus's built-in search tool for advanced and more flexible queries (cf. Hoffmann et al. 2008: 12, see Ch. 12 for an introduction). From the elaborate CQP syntax we will choose a combination of metacharacters[84] that allows us to perform the task at hand. Specifically, we will combine the 'matchall' metacharacter full stop (i.e. '.') with the asterisk *, indicating that zero or more characters (or, letters) have to follow (cf. Hoffmann et al. 2008: 222). In practice, the initial query looks as follows:

(86) [pos="AJ0" & word=".*ish"]

In the CQP mode, the adjective is explicitly marked as a POS tag in the query while the letter sequence *ish* is recognised by the corpus as part of a word. The metacharacters ensure that it is word-final and part of the adjectives we are looking for. As was the case for the queries of the historical corpora, here we strive for a high recall as well. As it happens, a number of errors have to be excluded such as the wrongly tagged hit *rippy-fish* (cf. example CM4 2843 in the BNC) or the actual proper noun *Anish* (*Kapoor*) (cf. 2223 EBS 66). Furthermore, ethnic nouns are

83 The full tagset can be viewed under http://ucrel.lancs.ac.uk/bnc2/bnc2guide.htm#tagset (last accessed 21.12.2019). CLAWS is an acronym that stands for ***C**onstituent **L**ikelihood **A**utomatic **W**ord-tagging **S**ystem*, see http://ucrel.lancs.ac.uk/claws/. The current standard tagset is CLAWS7, which has also been used for the corpora of the *Brigham Young University* (BYU) some of which will be used in chapters 5 and 6.

84 Metacharacters are punctuation characters that are employed with a special meaning within search strings, cf. Hoffmann et al. (2008: 217). We have previously encountered the asterisk * and the pipe character β

amongst the results as well, which were not recognised by the automatic tagger due to the word-for-word tagging process. Thus, items such as (*the*) *English* need to be sorted out manually. The problem we encounter with large present-day corpora, however, is that a search query, such as the one in (86) above, often leads to a large amount of hits. In the present case the query results in 78,115 hits total of which a maximal amount of 5,000 hits are displayed in the corpus interface.

As I have stated above, the primary concern is the development of non-ethnic adjectives and with the present query we reach an obstacle. Among the 5,000 displayed hits is a large quantity of ethnic adjectives, their token frequency exceeds the more interesting non-ethnic ones by an amount infeasible to manually correct. For that reason, the search has been split into two parts, by devising a separate query aiming at non-ethnic adjectives. This is done by explicitly removing the ethnic adjectives from the broad query above, leading to more precision. The corpus query processor (CQP) language provided by the BNC makes this possible by the Boolean operator "!" (logical NOT) (cf. Hoffmann et al. 2008: 229, Evert 2016: 11)[85], which negates a substring or word. In our case, every single ethnic type has to be negated, leading to a rather lengthy query. After applying the operator, the total number of hits amounts to 9,112 occurrences. The manual check through the results revealed a number of regional ethnic adjectives previously undetected, or more precisely, not included within the 5,000 displayed hits above (e.g. *Devenish*, *Hardenhuish*). These were incorporated in the follow-up query below to be removed from the non-ethnic results as well.

In some instances, ethnic adjectives, which in present-day standard English are capitalised, have been written in lower case. In order to remove them with the help of the query, the ignore-case modifier %c has been appended to these ethnic adjectives (cf. Evert 2016: 14). The modifier ensures that *English* and *english* are both removed from the final results. However, it has only been employed where necessary and in one case it would lead to a lesser recall. We would want to exclude the regional term *Reddish*, but retain the colour adjective *reddish*, hence the ignore-case modifier is not used in this case. Finally, the metacharacter sequence ".*" has been retained to exclude prefixed ethnic hits (e.g. *un-English*) as well as ethnic compounds (e.g. *Anglo-Irish*). The resulting query is shown in (87) below.

85 For more information see http://cwb.sourceforge.net/files/CQP_Tutorial.pdf (last accessed 20.12.2019).

(87) [pos="AJ0" & word=".*ish" & word!=".*English" %c &word!=".*British" %c & word!=".*Irish" %c &word!=".*Spanish" %c & word!=".*Turkish" %c &word!=".*Kurdish" & word!=".*Danish" %c &word!=".*Swedish" %c & word!="Cornish" &word!="Rhenish" %c & word!=".*Polish" &word!=".*Jewish" %c & word!=".*Scottish" %c & word!="Moorish" %c & word!=".*Frankish" &word!=".*Finnish" %c & word!=".*Flemish" &word!=".*Kentish" & word!="Pictish" %c &word!="Carinish" & word!="Netherlandish" &word!="Lappish" & word!="Romish" & word!="Hunnish" &word!="Alemannish" & word!="Babylonish" &word!="Devenish" & word!="Huish" & word!="Yiddish" &word!="Reddish" & word!="Israelitish" & word!="Hardenhuish" & word!="Greshornish"]

The extensive query in (87) results in 8,009 hits in total (limited to a display of 5,000 as above). Although this query shows a much higher precision than the previous one in (86), tagging mistakes may still lead to a number of faulty hits. Nevertheless, instead of opting for even higher precision in the query, the remaining few erroneous hits were simply sorted out manually. These include a number of proper nouns and place nouns (e.g. *Beamish*, a simplex proper noun) as well as nominal compounds (e.g. *box-fish*). The display showing the examples can be set in either of two ways, of which I chose 'random order' instead of 'corpus order' so as to ensure that the examples are not skewed but randomised.

4.8.1.2 Results

The two queries resulted in 4,190 (4,048 in the written component, 142 in the spoken part) ethnic and 4,411 (4,202 written, 209 spoken) non-ethnic tokens after removing faulty hits. The absolute numbers were subsequently normalised to account for the different sizes of the corpus parts. In table 11 below are the figures for the ethnic adjectives.

Table 11. Frequencies for ethnic adjectives in the BNC

Ethnic ADJ	**Types**	**Tokens**	**Hapaxes**	**Relative frequency**	**Type/Token frequency**
Written part	43	4,048	2	0.45	0.011
Spoken part	9	142	1	0.14	0.063
Total	**52**	**4,190**	**3**		

The figure for the ethnic types in the written part needs explanation. It excludes both, prefixed ethnic adjectives (e.g. *un-English*) and ethnic compounds (e.g. *Anglo-Irish*). The compounds may introduce subtle meaning nuances, e.g. in the case of coordinative compounds, where the relationship between the two stems is an additive one. Marchand (1969: 89) differentiates between *Anglo-Norman* and *Anglo-French*, stating that the former shows a relationship of

subordinacy, while the latter can be considered additive because both, the English and the French, are considered to the same extent. He cites further combinations of this kind, usually followed by nouns like *treaty*, *agreement*, or *relations* (1969: 89). A current example from the BNC is the following:

(88) The **Anglo-Irish** Agreement of 1985 had a similar effect on the British in Northern Ireland. (BNCweb, 651 AHN 1554)

In this case, the impact that both, the English and the Irish, had on reaching said agreement can be considered the product of a coordinative endeavour. Nevertheless, the *-ish* adjective *Irish* is separately attested already and thus this example does not constitute a new type. To count them as new types would skew the results (cf. Lüdeling, Evert and Heid 2000: 59). Excluded were 33 ethnic compounds and 24 prefixed ethnic adjectives.

The relative frequencies mirror the different sizes of the corpus components. The base of normalisation used is the same as for the historical corpora, i.e. 10,000. As I have stated above, this is due to the fact that a larger figure will be untenable with the small historical corpora. With a corpus such as the BNC, the standard base of normalisation of one million would pose no problem, however. For the sake of comparison, let us thus have a look at the resulting figures if the standard value of one million is taken. The normalised frequency for the written part amounts to 44.98, for the spoken part it is 14.2. These figures might show the significant differences between the written and the spoken part more poignantly than the base of normalisation of 10,000. For the rest of the chapter, however, I will resort to the common base of 10,000 to ensure a better comparability with the historical corpora. The type-token ratio shows only a minor difference, which means that the ethnic vocabulary in the spoken part is slightly more varied, but the differences are not taken to be highly significant. Compared to the historical corpora we can see, however, that the figure is relatively low: 0.011 (written BNC), vs 0.033 (PPCEME), vs 0.052 (PPCME2), vs 0.074 (YCOE). The diversity of the vocabulary shows a steady decrease over time, which is in accordance with what I have said about ethnic terms in the sections above.

Let us now have a look at some individual results before moving on to non-ethnic adjectives. Table 12 below shows individual types for the written and spoken BNC. It indicates the three most frequent types together with the least frequent ones. The distribution of types is largely similar concerning the upper part of the table, i.e. *British* is the most frequently occurring type in both cases, followed by *Scottish*. With hapaxes, however, we have to be careful. For the written part, *Hunnish* and *Pictish* are hapaxes, the spoken part includes only *Turkish* as a hapax legomenon. All three types have already been established in previous periods of the language (cf. OED web) and thus do not function as indicators of productivity here.

Table 12. Individual ethnic types for the written and spoken part of the BNC

Written part	**Tokens**	**Spoken part**	**Tokens**
British	1,984	*British*	97
Scottish	602	*Scottish*	17
English	423	*Irish*	8
…	…	…	…
Hunnish	1	*Turkish*	1
Pictish	1		
Total	**4,048**	**Total**	**142**

The hapaxes are only defined as such with respect to the corpus in which they occur. Recall that the display of hits ends after reaching 5,000 hits. It might well be the case that if all occurrences in the corpus were investigated, more tokens for each of the low-frequency types would be found. Due to these difficulties and the fact that only three hapaxes were found in total, the discussion of productivity (in the narrow sense) is omitted here. Let us now turn to non-ethnic types and tokens as well as their distribution in the corpus as indicated in table 13.

Table 13. Frequencies for non-ethnic adjectives in the BNC

Non-ethnic ADJ	**Types**	**Tokens**	**Hapaxes**	**Relative frequency**	**Type/Token frequency**
Written part	288	4,202	134	0.47	0.069
Spoken part	81	209	48	0.21	0.388
Total	**369**	**4,411**	**182**		

The written part of the BNC shows a vast increase of types (288) compared to the historical corpora. The spoken component also shows a large number of types (81), but also due to its overall smaller size, there are less types than in the written section. The figures also continue the historical tendency for a larger share of non-ethnic types than ethnic ones since the Early Modern English period. This observation is in line with the fact that non-ethnic types are still transparent and we will see that this has an effect on productivity as well, while ethnic adjectives are largely semantically opaque and face a natural limitation on their productivity as stated above. The relative frequencies show no significant distinction between the ethnic and non-ethnic adjectives, with the latter figures only marginally higher than the former (compare table 11, ethnic (written/spoken): 0.45/0.14). Conversely, the type-token ratio shows a drop in vocabulary variation for non-ethnic adjectives in the written part (0.069, compare 0.184 in EME), but

features the second highest figure for the spoken component (0.388). Historically, the variability in the vocabulary has been highest in the ME period (0.529, PPCME2), but since the overall figures for ME are rather marginal (i.e. 9 types, 17 tokens), the numerical results suffer in expressiveness. Nevertheless the results for the BNC show that despite the lower amount of types and tokens in the spoken BNC, the variability in the vocabulary is much more profound for non-ethnic adjectives, which again is a continued trend since OE. The number of hapaxes is quite large for non-ethnic adjectives and we will turn to them in more detail below.

In table 14 below, individual types and their token frequencies are given for both BNC components.

Table 14. Individual non-ethnic types and their tokens in the BNC

Written part	**Tokens**	**Spoken part**	**Tokens**
foolish	654	*selfish*	32
selfish	386	*biggish*	13
stylish	307	*foolish*	10
childish	281	*newish*	7
sluggish	156	*snobbish*	5
…	…	…	…
apish	1	*timeish*	1
sixtyish	1	*headache-ish*	1
OK-ish	1	*four o'clock-ish*	1
Total	**4,202**	**Total**	**209**

At first glance the vast differences in token frequency between written and spoken results become apparent. Recall that the display provided by the BNC only shows 5,000 hits maximally. The first roughly 1,000 hits are shared by three types in the written part alone. Hapaxes occur in both components, yet only in the spoken part are they truly meaningful. For instance, the type *apish* found in the written component has been recorded in previous periods of the language and consequently does not count as a true hapax (cf. the OED which records its first appearance as early as the 16th century). Numeral types are frequent in the BNC and the low frequency of *sixtyish* in particular could be due to the limitations of the corpus display. It is not listed in the OED, however, while other numeral *-ish* derivatives are, which seems slightly arbitrary. By analogy *-ish* could virtually be attached to any numeral once such a derivative has been established and has in fact been shown to do so frequently. The corpus features a number of occurrences, including *thirtyish*, *25-ish* or year dates such as *1968-ish*. The type *OK-ish* really

only occurs once in the entire corpus as a follow-up search revealed (and is not listed in the OED either). The spoken section features much less tokens than the written section, the reason being that the word count in this section amounts to only 10 per cent of the whole corpus. Concerning the most frequent types in each section, there is some overlap with those types that show the highest amount of tokens. As with the ethnic adjectives above, I have excluded prefixed forms (e.g. *unselfish*), and a few compounds which add no new type (e.g. *pinkish-greenish*, *greenish* is attested separately). Furthermore, the corpus output included a number of types that are unanalysable for two reasons: a) they are simplexes (e.g. *lavish*), and b) their base forms cannot be unambiguously recovered (e.g. *skittish*). Compound nouns that are suffixed by *-ish* are exempt from this practice (e.g. *schoolgirl-ish*).

By present-day English, the number of bases *-ish* attaches to has greatly expanded. In the corpus, the previously established nominal and adjectival bases are frequently attested, alongside a few verbal and adverbial bases (e.g. *snappish*, *soonish*), proper name and compound bases (*Haydnish*, *schoolboyish*) as well as phrasal and numeral bases (*middle-of-the-nightish*, *eleven-ish*). All of these base types will be analysed with respect to Lieber's lexical-semantic framework in the following section.

Both occurrences of *tennish* appear in the context of time, one in the more formal context-governed part of the spoken corpus and the other in the more informal demographically sampled context. The example below stems from the former, specifically a conversation in the context of a business meeting:

(89) Lynne: ”Yeah, that's why they're here and really I would like to know by <pause> Friday m-- **tennish**.“ (BNCweb, JTB 257)

The speaker 'Lynne' expresses the desire to obtain more information about a number of workers and specifies the day, but not the exact time. She expresses the request itself by pauses (indicated by angle bracket notation as well as the two dashes) and a discontinued word (*m--*), presumably another time designation (for instance, *midday*) before giving the approximate time. Although examples explicitly including the designation for a point in time, e.g. *o'clock* are also found in the results, it is not absolutely necessary to utter it in this context and has probably been omitted due to reasons of efficiency.

Another example comes from the set of hapaxes:

(90) None: ”Well actually a girl friend of mine came round here yesterday, oh, lunch **timeish** was it, …“ (BNCweb, KC9 2825)

If taking the context into consideration, it becomes apparent that the word *timeish* (which does occur in the OED with its own entry and has been established in the 17th century) is actually part

of the compound *lunchtime* in (90). The separation of the word might have been owed to the transcription process or the automatic segmentation. When listening to the audio recording provided by the corpus, it becomes apparent that *lunchtimeish* is one single word and it also reinforces the impression that the speaker cannot exactly remember when her friend visited her, due to the falling-rising intonation of *was it*.

The proper name (Joseph) Haydn occurs as the base of two tokens in the corpus, and in (91) it is used neutrally, to indicate a comparison to the style of the composer:

(91) There was a **Haydnish** sonata, a gentle piano tracking up and back in patterns which you could half anticipate even if you'd never heard the piece before. (BNCweb, EDJ 2493)

The author of the example expresses that the musical piece is very similar to the typical style of the Austrian composer, which is interpreted in a positive way. The adjective is not relational, but denotes a comparison to the style of Haydn, and differs from the original only in pragmatically ignorable ways.

Let us now proceed to the hapax legomena among the non-ethnic adjectives. Among the 288 types in the written section are 134 hapaxes, the 81 spoken non-ethnic types include 48 hapaxes. However, the non-ethnic section also contains a number of hapaxes that are well-known and frequently attested outside of the corpus. In order to distinguish newly coined words from well attested ones we follow Plag (2003) who checked their listedness in the OED. His rationale for doing so is that ”unlisted words have a good chance of being real neologisms“ (Plag 2003: 55). The following table 15 shows an extract of five hapaxes each, in the written and spoken components.

Table 15. Written and spoken non-ethnic hapaxes and their listedness in the OED

Written BNC	**Listed in the OED**	**Spoken BNC**	**Listed in the OED**
18.00 ish	No	*actorish*	Yes
25-ish	No	*AM-ish*	No
82-ish	No	*amateurish*	Yes
1968-ish	No	*baggyish*	No
apish	Yes	*churlish*	Yes
Total listed:	**76**	**Total listed:**	**31**

The occurrences have been sorted in alphabetical order to make the two sections more comparable. All the negative cases (i.e. *No* entries) provide an increased likelihood for being real neologisms. Among all attested hapaxes in the written section, 58 out of 134 are not listed in the OED (roughly half of the hapaxes, or 43,28 per cent), and 17 out of 48 from the spoken

component are not listed, which amounts to 35,42 per cent. These figures result in a 'productivity in the narrow sense' of *P*= 0.01 (written) and *P*= 0.08 (spoken). The spoken section thus shows a slightly higher productivity than the written one. Reasons could include a high amount of spoken ad hoc formations that are coined for a specific purpose but do not find their way into the larger speech community and hence are not recorded in dictionaries.

The diachronic figures for productivity were higher than the ones given here (e.g. *P*= 0.148 in YCOE for the non-ethnic adjectives). That does not necessarily mean that productivity for *-ish* adjectives has declined altogether, however, upon closer inspection, it suggests a shift in the group of bases to which *-ish* attaches. Generally, the early hapaxes are now firmly established types. The probability of finding new types with *-ish* is still present, but now often with other types of bases such as numerals or phrases. Typically listed base words are simple nouns and various types of adjectives (e.g. of colour, dimension, sound and light, see Trost (2006: 104-107) for a classification of adjective types). Derivatives based on compounds, proper names, and phrases are less likely to be found in the dictionary. Numerals pose a special group as some derivatives are listed and others are not. These are especially prolific as *-ish* could tack on to virtually any numeral, both even and odd numbers, simple numbers and those with a following measurement unit, round numbers and those that are not. We will see in section 5.3 that this trend will continue to a form of *-ish* that is not bound. In the following we will address the properties of these new derivative *-ish* types by analysing them in Lieber's framework.

4.8.2 Summary

The present-day corpus provides both new perspectives as well as a point of departure from the historical corpora. First of all, it includes spoken language as well, a mode of language naturally not present in the historical corpora. Second, we see a large increase of base types to which *-ish* attaches. The YCOE and PPCME2 have only featured ethnic and non-ethnic denominal forms, since the PPCEME, also deadjectival types have been present. The present-day corpus features a large number of denominal (e.g. *slavish*) and deadjectival types (e.g. *longish*), but has also added to it a number of other word classes that serve as input for the derivative and which were not, or only in small quantities, present in earlier corpora. Among the base types are numerals (e.g. *1968-ish*), proper names (e.g. *Clarke-ish*), N-N compounds (e.g. *school-teacherish*), and very few phrases (e.g. *end-of-the-worldish*), adverbs (e.g. *forever-ish*), and verbs (e.g. *peckish*).

The quantitative evaluation of the results is not directly comparable to the historical corpora due to the differences in size. Only more general differences between ethnic and non-ethnic results

can therefore be stated. The number of ethnic types is much lower than non-ethnic ones, both in the written and spoken components and mirrored in the respective type-token frequencies. Generally, the type-token ratio is higher for the spoken part than for the written section, a difference that is especially pronounced for the non-ethnic adjectives. It has been shown that roughly half of the hapaxes of the written section were not (yet) listed in the OED, while the percentage for the spoken hapaxes was slightly smaller. Since the overall sizes of the two sections are vastly different (written: 90 million words, spoken: 10 million), the 'productivity in the narrow sense', which takes corpus sizes into account, is slightly higher for non-ethnic adjectives in the spoken section. The semantic evaluation will be part of the following section, to which we now turn.

4.9 Analysis in Lieber's LSF model

In section 3.4 above, the lexical-semantic framework first introduced in Lieber (2004) has been presented in detail. In the present section, her framework will be applied to the diachronic development of the suffix *-ish*. The main motivation for choosing this framework was that it can convincingly account for various types of word-formational phenomena with a simple, but effective formal apparatus that is aimed at cross-categoriality. With Lieber (2004: 5) I assume that a decompositional approach is necessary to capture the various meanings suffixes add to their base forms. We will see that in order to account for the diachronic development of *-ish*, we will have to extend her basic feature system for adjectives. So far Lieber has only discussed the class of adjective-forming suffixes as a whole and it is as yet unclear what the specific contributions of individual suffixes are. That is, Lieber introduced two features for adjectives, i.e. [-dynamic], indicating stative relational adjectives and [+/-scalar], accounting for gradable and non-gradable adjectives. The question whether the additional features identified for *-ish* can be used to identify similarities and differences between several similar adjective-deriving suffixes will be the focus of section 7.5.3.

Before discussing concrete examples for the different periods of English, let us briefly recap the basic features of her framework. She introduced a bipartite formal representation, consisting of the skeleton, which accounts for semantic-grammatical properties and makes use of a small set of binary-valued primitives (features in her terminology). Second, the representation includes enyclopedic information in the body, which may differ in size depending on the speaker. The lexical-semantic skeleton contains a function and one or more arguments predicated of that function, both of which are arranged hierarchically. The skeleton of a derivative is created by

subordination of functions, i.e. the function and argument(s) of the suffixal head subordinate the function and argument(s) of the non-head or base. The process of co-indexing the arguments of the head and non-head ensures shared reference and interpretation, indicated by shared indices (see Lieber 2004: 50). With the help of the formal apparatus, we can account for the compositional, polysemous nature of derivatives and are able to trace the development of polysemous readings via metonymic shifts.

We have seen in section 4.4.1.2 that derived ethnic adjectives in OE were relational in that they showed a sense of belonging. For instance, *Englisc* 'English' surfaced with the meaning of belonging or affiliation in the OE period as was shown with example (61), repeated here as (92):

(92) he com mid mycclum here **Engliscra** manna.
*he came with great army **English** men*.
”he came with a great army of English men.“
(cochronE,ChronE_[Plummer] : 1066.15.2493)

As I have stated above, the function of the suffix *-isc* in that case is to a) transpose the collective noun *Engle* 'Angles' into an adjective modifying the plural noun *manna* 'men', and b) to denote that the men are affiliated with the tribe of the Angles. This relational sense is one of the earliest attested in OE and is recorded in both, Marchand, who identifies it as the ”basic meaning of appurtenance“ (1969: 305), and the OED, whose paraphrase is given below[86].

(93) eOE: 'Of or belonging to England (or Britain) or its inhabitants'

Relational adjectives receive the feature [-dynamic] in Lieber's framework, indicating that the resulting derivative is a stative. Furthermore, she differentiates between gradable and non-gradable adjectives and in the case of *English*, the adjective receives the feature [-scalar]. The suffix denotes a relation between two referents, hence we assume two argument slots. This analysis is inspired by Motsch, who defines a relation between a base word (a complex adjective such as *angelsächsisch*, lit. 'Anglo-Saxon') and a reference word (the noun modified by the adjective, e.g. *Autoren* 'authors') (cf. 2004: 195). The relation between the two entities of the base and reference word is linked by the suffix and the relation is termed *UND (x, y)* 'AND (x, y)' by Motsch. The notion of relation postulates that there are two entities which are related to each other. In the case of A-N phrases, the adjective is the modifying element, which provides further information on the noun, which is modified. In the case of *Engliscra manna* 'English men' in example (92) above, *-isc* provides a link between the entity *men* who are further

86 The paraphrases will be given with the earliest attestation that is recorded in the OED, which in the present case is early Old English (eOE). The symbols *a*, *c*, or *?* given before some dates indicate *ante*, *circa*, and uncertain dates, respectively, cf. OEDweb, https://public.oed.com/how-to-use-the-oed/key-to-symbols-and-other-conventions/.

specified as being people of the Angles. The other associations have this connection between two entities as well. A comparison can only be felicitous when there are two entities which are compared to each other in some way. An approximation denotes an entity which is located in some proximity to another entity. Given these reflections, we can give the relation together with the argument slots in (94) and the concrete ethnic example in (95):

(94) *-ish*: predicate (x,y) 'X is associated with Y'

(95) isc_{ethnic}: predicate (x,y) 'X is belonging to Y'

Nouns receive the referential argument R, which is explicitly given in the structure as the highest argument and it co-indexes with the highest argument of the suffix or head. The preliminary skeleton for *-isc* thus looks as follows:

(96) *Englisc*
[-dynamic, -scalar ($[_i$], [ ], [+material, +B, +CI, +animate ($[R_i$])])]
-isc *Engle*

The collective noun *Engle* is marked with positive values for each of the features [+/-material], [+/-B], [+/-CI], and [+/-animate], indicating that the noun refers to concrete SUBSTANCES/THINGS/ ESSENCES, that it is a group or collective noun and that the referents are living organisms. Co-indexation of the highest head argument and the highest non-head argument results in the identification of reference in the derived adjective. In order to trace the development of *-ish* in a meaningful and consistent way, we need a further feature that will serve to distinguish types of *-ish* adjectives from each other. As it stands, the featural skeleton for the suffix tells us only that the resultant adjective is stative and not gradable. In order to denote the type of relation that *-ish* adds to the base, I propose the binary feature [+/-symmetric association][87], resulting in the revised skeleton in (97) below[88].

(97) *Englisc*
[-dynamic, -scalar, +SA ($[_i$], [ ], [+material, +B, +CI, +animate ($[R_i$])])]
-isc *Engle*

As stated above, *-ish* adds a sense of belonging or affiliation to the base that I will label 'association'. As we will see, this term is appropriate for describing the relationship between the suffix and the base and it is defined as an 'action of combining together for a common purpose' by the OED (entry 'association', sense 1.a.). This act of combining entities together may proceed in a symmetric or asymmetric manner, depending on the way referents and their (salient)

87 The feature [+/-symmetric association] will henceforth be abbreviated to [+/-SA].

88 The feature's setting remains the same regardless of whether the complex adjective is used attributively or predicatively. Hence, if we say that there is *a greenish car* or *a car that is greenish* it does not affect its semantics. The feature [+/-SA] is thus not immediately relevant for the syntax.

properties match each other. In the case of *Engliscra manna* 'English men', the individuals belong to the group of human beings (*mann* in OE could refer to individuals of either sex, cf. Bosworth and Toller, entry *Mann*) and likewise they are men of the Angles. There is a symmetry in the relation denoted by the derivative *Engliscra* and the phrasal head *manna* that it modifies, hence the feature [symmetric association] receives a positive value. The same symmetric link can be identified in the other ethnic examples, as for example with *Engliscre spræce* 'English language'. We will see below that there are various types of asymmetry which can have an effect on interpretation. Concerning conversion, Lieber favours a relisting approach in which an item that is already listed in the mental lexicon is re-entered (cf. 1992: 159) and that "conversion should not be equated formally with affixation" (Lieber 2004: 94). In her 2004 monograph, Lieber concentrates on verb-forming conversion and, following Plag (1999: 220) she states that verbal conversion exhibits a greater range of semantic diversity than formations with the suffix *-ize* (Lieber 2004: 91).

Within *-ish* conversions we must be aware of the fact that both are complex formations. In the example above, *English*$_{A}$ *men*, the noun that is modified receives the same skeletal features as the complex adjective, hence [+material], [+B, +CI] and [+animate]. They differ with respect to the body, however. For the ethnic *English*, we may assume encyclopedic knowledge to consist of the fact that *Engle* are <human> and that the belong to a certain <ethnicity>. Conversely, the body for *men* would perhaps include the knowledge that they are <human> as well and in the context of the Old English chronicle that they were <male>. As we can see, there is already an identification of skeletal features and a partial overlap of bodily properties. In the converted nominal (*the*) *English*$_{N}$, this information largely coincides. The noun *English* contains the same skeletal features as the adjective, but the relisted item seems to have added to it the information that was previously externally located in the modified noun *men*. Hence, in a sentence like 'The English$_{N}$ fight for the king', the noun *English* receives the bodily information of <human>, <ethnicity>, and, in this case, <male>. Whether the addition of information is reserved to the body or whether it also involves the skeleton, enlarging it with additional features, remains to be seen and is left for future research.

Before we delve into types of asymmetry, let us have a look at another sense that had developed in OE for non-ethnic denominal adjectives. In section 4.4.1.2 we have seen that at first, the adjective *ceorlisc* 'churlish' had been used to denote individuals that possess a certain societal rank, namely they are freemen of the lowest rank, a sense that is common in law contexts. The corpus example (65) is repeated below as (98):

(98) Gif hwa on **cierlisces** monnes flette gefeohte, mid syx scillinga gebete ðam ceorle.
*If anyone in **common** man's dwelling fights, with six shillings amend that common-man*
”If anyone fights in a *freeman's* dwelling, let him make compensation with six shillings for the freeman.“

(colawaf, LawAf_1:39.127)

Marchand's designation for the basic meaning of these early derivatives is still one of appurtenance (cf. 1969: 305) and in the OED we find a corresponding paraphrase for the early meaning of *ceorlisc*, which is now an obsolete or archaic sense and given below:

(99) *a*1000: 'Of or relating to a churl; of the rank or position of a churl; pertaining to churls'

As the paraphrase suggests, the early meaning of *ceorlisc* is neutral and relational. Again, we would assume two argument slots and the features [-dynamic], [-scalar], and [+SA] for this first instance of *-isc*$_{\text{non-ethnic}}$. The base noun *ceorl*, which is a concrete singular count noun and requires the referential argument R, denotes a living human being, hence we require the features [+material], [+B], [-CI], [+animate]. The base noun matches the added feature [+SA] semantically in that the individual denoted by the base aligns with the referent of the derivative: The suffix requires a stative, non-gradable individual who aligns or is symmetrically associated with an individual who is a member of the lowest rank of freemen. A churlish man in example (98) thus denotes a man who is aligned with this societal rank and shows the salient properties as appropriate to it. The skeleton for a relational non-ethnic derivative with *-isc* in OE is given in (100):

(100) *ceorlisc*

[-dynamic, +scalar, +SA ([$_i$], [ ],	[+material, +B, -CI, +animate ([R$_i$])])]
-isc	*ceorl*

The initial relational meaning with its associated feature represents the first step in the semantic development of *-ish* and is given in figure 5 below.

Figure 5. The first basic sense of the suffix -ish

The analysis of the drastic change in meaning in *ceorlisc* will be deferred until after I have introduced the next developmental step of *-ish*, which involves a neutral comparison in denominal adjectives and which therefore has the denotation [+SA]. This sense cannot be shown

with *ceorlisc*, whose base form changes in meaning, and it is not attested as such in the corpus or the OED. We can see that next step with *cildisc* 'childish', however, which is attested in OE with a neutral comparative meaning as the following paraphrase from the OED (entry *childish*, sense 1) suggests:

(101) OE: 'Of, like, or appropriate to a child or to childhood; childlike'

The paraphrase indicates that the meaning is not simply a relation, instead it denotes a comparison to childlike behaviour as witnessed in children (or individuals that are still perceived as such). A child is defined as a young person of either sex, who is below the age of puberty (see OED, sense 2.a.). The comparison involves the identification of some properties that are present in the referent of the base and the referent of the derivative. In the present case, the two referents align, or match, resulting in an equivalence of referents. If we think of it in terms of an underlying scale on which these referents are placed in terms of their similarity to each other, they would occupy the same slot on that scale in the present case. Like with the relational sense of the ethnic adjective above, two argument slots are present, indicating that 'x is compared to y'. Given this equivalence, the feature [+/-symmetric association] receives a positive value. The resulting skeleton for the neutral comparison is presented in (102) below:

(102) *cildisc*^{1}

[-dynamic, +scalar, +SA ([$_i$], [ ],	[+material, +B, -CI, +animate ([R_i])])]
-isc	*cild*

As we can see from the representation of *cildisc*, the skeleton is the same as that for the relational sense of *ceorlisc* in (100) above. The slight difference in meaning between a pure relation and a comparison in terms of properties such as behaviour or appearance is not present in the skeleton, which is underspecified. The connection the two referents in *ceorlisc* have is reciprocal, that is, a churlish man is at the same time a man and an individual possessing a certain rank. In the comparison of *cildisc*, the referent is like a child in a number of respects, but it does not necessarily denote a complete identification of all properties. Instead, it is commonly the behaviour or appearance that is compared with respect to children and which of these is compared is a matter of the underlying body that can differ from individual to individual. Hence, we can account for the multitude of comparisons that are made between referents. The difference in meaning between the senses *-ish* develops over the course of time is subtle, but it leads naturally to an expansion of senses (and attachable base forms) which is evident in the polysemy found in present-day *-ish*. The first shift in meaning is hence one from a purely relational to a comparative one, denoting an equivalence between salient properties of referents. This transition is depicted in figure 6.

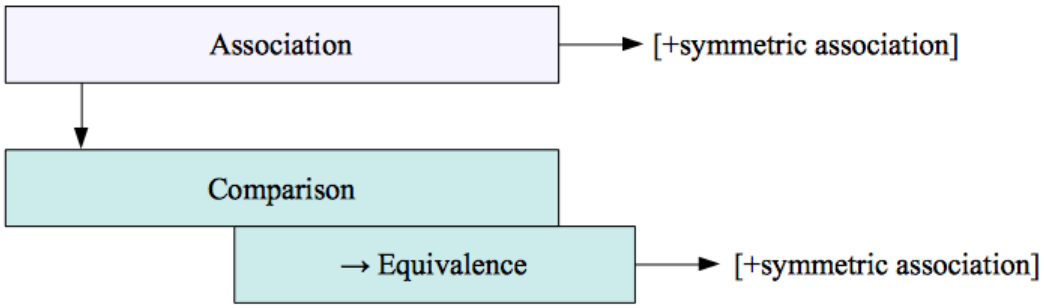

Figure 6. The first semantic transition in the suffix -ish

The identified sense of *cildisc* above is not the only one that is attested in the OED. A second sense, which will be notated as [-SA], had developed by the early 15th century and shows a mismatch between the referents and the properties associated with them (cf. OED, sense 2):

(103) *c*1405: 'With reference to a person who is no longer a child: not befitting maturity; foolish, silly'

In this case, the referent of the base denotes a child while the referent of the derivative denotes an adult (or someone who can no longer be considered a child or preadolescent), which results in an asymmetric association of the two. Hence, in an underlying scalar dimension, the two referents are located on different points on the scale, indicating a denotational distance. Like the earlier sense of *cildisc* it is a comparison of properties, but rather than denoting an equivalence, the properties identified in the referent of the derivative only resemble some aspects of the base noun. In more concrete terms, an adult or adolescent may behave in a way that is appropriate only for preadolescents and very young children, but considered immature for individuals of (post-)adolescent age. This mismatch of referents (or the properties identified in each) is often accompanied by a negative evaluation of the referent of the derivative. If the properties picked out for comparison are not adequate for the age, status, or behaviour of the referent of the derivative, the result of the mismatch is interpreted negatively. In these cases then, the asymmetric association manifests in a depreciatory interpretation. This is not surprising given humans' inclination for symmetry. This asymmetric association is also evident in nouns referring to animals, which serve as the base for *-ish*. The complex adjective *swinish* applied to humans also receives a negative evaluation in the process as only undesirable qualities identified in the animal are transferred to the human. It is clear that some of the animal bases are already negatively connotated to begin with. The type of association that is additionally established with humans might even serve to intensify that as it picks out salient properties that are negatively compared to the human referents. The resulting skeleton for ME *childish* thus receives a negative

value for the feature [+/-symmetric association], the rest being equal:

(104) *childish*[2]

[-dynamic, +scalar, -SA ([$_i$], [ ],	[+material, +B, -CI, +animate ([R_i])])]
-ish	*child*

We will see below that the situation is different with proper names as it depends on various factors whether a derivative with a proper name as base is interpreted positively or negatively.

Returning to the changed meaning of *ceorlisc*, it is most likely connected to the fact that while a *ceorl* was a freeman, he was also one of the lowest possible rank. The initially neutral relational sense changed with the perception of churls as uncouth and vulgar. In time, the application of the term *ceorl* or *ceorlisc* was generalised and used to refer to individuals, in which certain behavioural traits or similar features of appearance were identified. These individuals, however, did not have to belong to the social rank the term originally denoted. Instead, the term was used to demean individuals, even if they possessed a respectable societal status. In our case, we can see that in the example of Abbot Equitius, who preached without having been given official consent and instruction from the Pope and, additionally, who travelled in poor attire. The text indicates this some lines earlier where it says *he wæs swiðe yfellic on his gegerelan* 'he was very poor in respect to his clothing'. The extract from Gregory's Dialogues is repeated in (105):

(105) hwæt is þes **ceorlisca** wer, þe þus hafað him sylfum genumen þa ealdorlicnysse þære halgan lare & neþeþ þus ungelæred, þæt he agnað him sylfum þa þenunga ures apostolican hlafordes?

who is this ***common*** *man, who thus has him self taken the authority of-the holy teaching & dares thus unlearned, that he claims him self the ministry of-our apostolic Lord?*

”Who is this rustic who presumes authority to preach? Ignorant as he is, he dares to usurp a right reserved for you alone, our apostolic Lord.“ (Zimmerman 1959: 20)

(cogregdC,GD_1_[C] : 4.34.29.381)

As with the later sense of *cildisc* above, there is a mismatch of referents in the present case: A comparison is made to churls, but the referent of the derivative is an abbot, usually a respectable social status, and as such does not align with the referent of the base. The difference to *cildisc* is that while the base *cild* is neutral in either case with respect to connotation, the meaning of the base *ceorl* has changed and has started to become negatively evaluated. That is, due to the metonymic shift in the base noun, the only option for *-ish* to set the values of its features is [-SA]. When the meaning of the base ceases to denote the neutrally connotated freemen of the lowest rank, and is instead applied to any individuals who do not possess this rank, the association of referents is not a symmetric one any longer. This is also nicely shown with bases denoting animals. In these cases also, the only available option is [-SA]: A human being

compared to characteristics identified in animals will automatically lead to a mismatch of referents, hence an asymmetric association. For neutrally connotated bases like *child*, both options are potentially open and will be set according to the referent who is denoted by the derivative. Is it a child, the association is symmetric and the neutral connotation is retained, is it an adult, however, the link between the referents becomes asymmetric and results in a negative evaluation. In addition to the changed meaning in the base noun, the relation to the suffix is affected, indicating an interrelation between the meanings of base and suffix. While *childish*, having a neutral base noun, can be used with either a symmetric or asymmetric relation still today, the derivative *churlish* is only negatively evaluated due to the change of the meaning in the nominal base and the additional mismatch of the referents' salient properties. The earlier relational sense of *ceorlisc* has become obsolete and as stated above, the derivative is not attested with a sense of comparison of the type 'equivalence' as the neutral derivative *childish* in (102). The schematic representation of *-ish*'s senses at this point is given in figure 7 below.

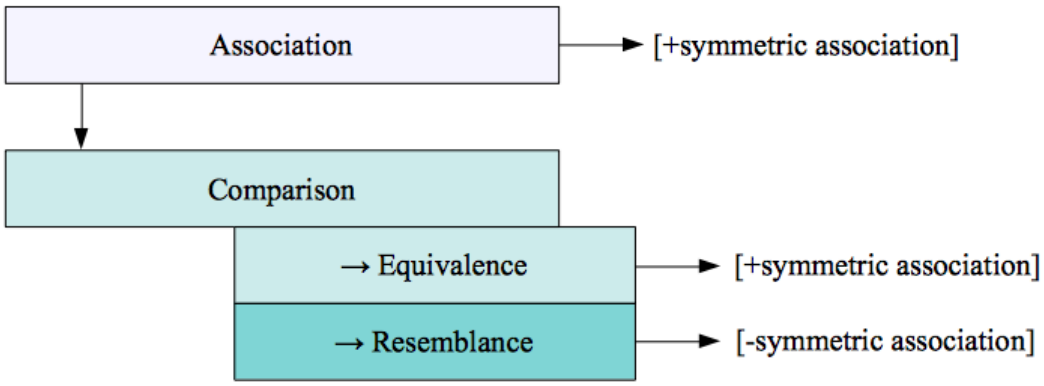

Figure 7. The second semantic transition in the suffix -ish

The final and most recent semantic development constitutes the approximative meaning found with adjectival bases. As previously stated, they can be shown to have first occurred in the Middle English period, but in the cluster of historical corpora, the first instances are represented in the corpus of Early Modern English (PPCEME), with colour bases (e.g. *green-ish*) and others (e.g. the relative adjective *dark-ish*). Productivity with deadjectival *-ish* forms does not increase before Modern British English, however. Marchand characterises the meaning of such deadjectival derivatives as 'nearing, but not exactly -', the OED gives the following paraphrases for *greenish* in (106) and *darkish* in (107a. and b.):

(106) *a*1398: 'Somewhat green'

(107) a. 1398: 'Somewhat dark' (in shade or colour)
b. 1559: 'Somewhat dark' (through absence of light)

The respective qualities the base denotes are approximated, but not fully reached, hence a greenish glass bottle does not denote the typical dark green found with wine bottles[89], but noticeably lighter or darker shades of green. Likewise *darkish* denotes that the quality of darkness is approached, yet not completely. On the abstract underlying scale we assume for adjectival predicates, the property the base denotes is located at the end of the scale, representing the quality to its full extent, whereas the property denoted by the derivative does not reach the endpoint of this scale. Again, there is an asymmetry between the two properties that are associated with the base and the derivative, respectively. Hence, deadjectival predicates receive the feature [-symmetric association]:

(108) *greenish*

[-dynamic, +scalar, -SA ([$_i$], [ ],	[-dynamic, +scalar ([$_i$])])
-ish	*green*

Given that *green* is a gradable adjective, the base receives a positive value for the feature [+/-scalar]. It is a stative and thus, like the suffix, it is [-dynamic]. Again, two argument slots are given for the skeletal suffix as it denotes that 'x approaches y'. The skeletons of the base and the suffix conform to each other with a higher degree than what we have seen with the others above, which can be interpreted as a factor leading to high productivity of such derivatives. As we will see, the meaning primarily present in adjectives (and numerals) is the one that will eventually be continued in the free morpheme *Ish*. The distinction to denominal derivatives with the sense 'resemblance' (i.e. [-SA]) is that the derivative denotes a resemblance of only a portion of the properties found in the base, while in the deadjectival case, the quality is approximated as a whole. For instance, an adult who is called childish might show a certain behaviour that is regularly identified in children. However, s/he will not unite every property ascribed to children. This would result in a sense of equivalence that is not found with this type of *childish*, but only when *childish* actually refers to a child. On the other hand, if the evening sky is described as darkish, the quality of darkness as a whole is approximated by the derivative. It is assumed that the different types of adjectives carry their associated scale structure with them and hence, this should be represented in the lexical entry of the base adjective. As the skeletons are under-specified, it is questionable, however, whether the scales surface in the skeletal structure. On the one hand, if that were the case, we would need further skeletal features that are specific to

89 Bottle green' is an accepted colour designation in the RGB colour space, its colour code is hex #006a4e, which a quick check of the internet revealed.

adjectives and not cross-categorial. The featural apparatus would therefore be enlarged and consequently lose some of its expressiveness. On the other hand, if the scales did surface in the skeletons, we immediately could gain a better understanding of what type of adjective is involved in the derivation and how it interacts with *-ish*. The answer to this question is left for future research.

The sense of approximation found predominantly in adjectives constitutes the most recent development and this further shift in meaning from comparison to approximation concludes the basic senses identified for *-ish*. As we will see with other base words, all of these senses resurface again, yet to different degrees. Similarly, a single derivative may have developed more than one of the four senses for *-ish*, resulting in polysemy. This will become evident with figurative uses of the derivatives which also arise via metonymic shifts. In figure 8 below is the schematic representation of the four basic senses identified for the suffix *-ish*.

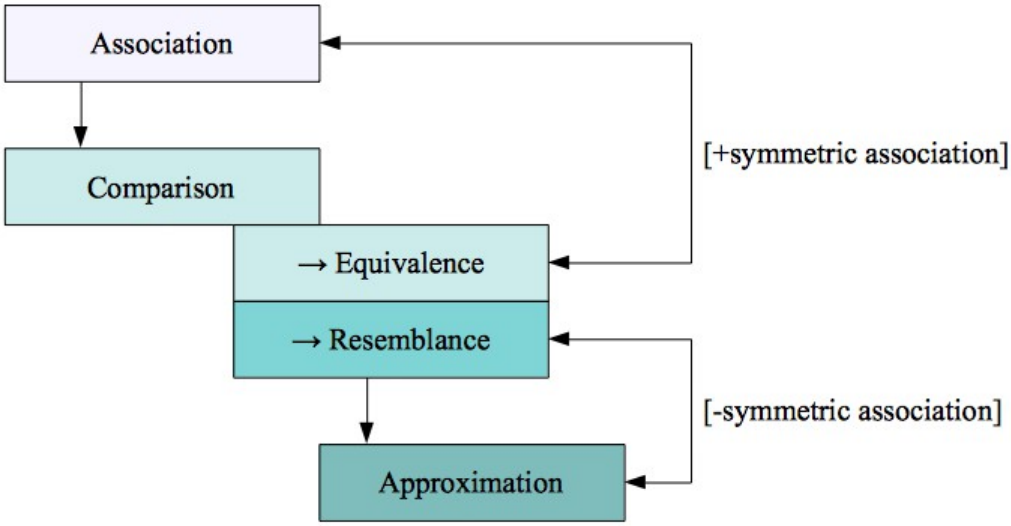

Figure 8. The third and final semantic transition in the suffix -ish

In the following, we will continue to analyse *-ish* derivatives with bases in their chronological order of development, starting with verbs. I stated previously that deverbal forms with *-ish* are extremely uncommon. Thus far, only about four or five exist, not counting formatives like *skittish*, which are lexicalised and whose base form and origin cannot unequivocally be reconstructed. In the case of *snappish*, we further face the problem that the base itself has undergone a metonymic shift: The OED indicates that the English verb *snap* is related to Middle Low German *snappen* (see Modern German *schnappen* 'to snatch, to snap') and the etymology of the stem *snap* connects it to Middle High German *snabel* 'beak, bill' (compare Modern German *Schnabel* 'beak, bill'). That is, certain animals use their beak to perform the action of snatching

their prey and they do so in a quick manner in order to succeed. This behaviour was then transferred unto humans to denote a manner of speaking (cf. OED, entry *snap*, v., senses I.1.a. (109a.) and I.2.a. (109b.)):

(109) a. 1530: 'Of animals: to make a quick or sudden bite *at* something'
b. 1579: 'To utter sharp, tart, or cutting words or remarks; to speak or reply irritably or abruptly'

The adjectival form *snappish* is first attested in 1542 in the OED with an already transferred meaning in that it denotes a person's behaviour. That is, a characteristic of animals that serves their dietary intake and hence is vital for their survival, is transferred to human agents who perform an action with their respective organ, but for a different purpose. Apparently, the derivative uses as its base the sense given in (109a.) above and adding *-ish* leads to a comparison of the relevant properties found in the animal with a human referent (cf. OED entries *snappish*, sense 1.a. and the cross reference of the entry to *snap*, v., sense I.1.a.). The referent of the verbal base (an animal) does not align with the referent of the derivative (a human). Again, we can identify an asymmetric association between the referent of the derivative and the action denoted by the verb *snap*. The resulting skeleton is given below:

(110) *snappish*
[-dynamic, +scalar, -SA ([$_i$], [ ], [+dynamic, ([$_i$], [ ])])]
-ish *snap*

The activity of snapping, which receives two argument slots to indicate that an agent is snapping at something or someone, is rendered into a state by the adjective and receives the negative value for the feature [+/-symmetric association] for the reasons given above. In some cases, the verbal bases are recorded with a type of approximative meaning as well, for instance *peckish* 'somewhat hungry', a further sense of *snappish* 'of the sea: Somewhat choppy or rough', or *mopish* 'given to moping'. In all of these senses, we can identify an underlying association that will result in the feature [+/-symmetric association] to be set to a negative value. For example, an individual described as peckish is not eating with a strong appetite, but is rather 'disposed to peck or eat' (cf. Marchand 1969: 305). The base of *peckish* had an earlier sense similar to that of *snap*: 'Of a bird: to strike with the beak' (cf. OEDweb, *peck*, v.1, sense II.2.a.).

The next development identified with the help of Marchand (1969) and the OED is that of adverbial bases, which is, however, not attested in the corpora until present-day English and there, too, only circumstantial. The first attestation with an adverbial base is *uppish* (1678), recorded in Marchand (1969: 306). The derivative is only used with a figurative sense as the etymology of the OED suggests: The adverbial base *up* is recorded with the meaning 'At some

distance above the ground; high in the air; aloft' (see OEDweb, entry *up*, adv.2) and as such denotes a position in space. The derivative's first, obsolete (111a.) and current (111b. and c.) entries are given below:

(111) a. 1678: 'Flush of money. *Obsolete*'
b. 1789: 'Inclined to be 'stuck up'; putting on airs; aiming at gentility'
c. 1862: 'Slightly elevated or directed upwards'

In the first entry (111a.), *uppish* denotes a lavish person, who is spending money in great quantities and who perhaps does not have the funds to do so. The quotation given in the OED web indicates this, see example (112) below.

(112) The one saying to the other that.. he would treat him.. with wine and oysters, whereupon the other replied..: 'What you are **uppish** then, are you?'
(1678, in Pollock *Popish Plot* (1903) App. B. 382)

The text implies that wine and oysters had not been on everyone's menue at the time, but were deemed luxury goods that could be afforded by the more affluent in society. The question implies that the individual offering the treat is not considered to be affluent enough to be able to do so. In this case, the position in space denoted by the base adverb *up* is transferred to a (perceived) social standing, first with respect to money alone, later more generally as an elevation in station. The tendency in behaviour evident in the paraphrase in (111b.) can again be interpreted as denoting an asymmetry: The individual denoted by the derivative *aims* at gentility and behaves in a way s/he considers fitting for that social standing. The proposed skeleton for *uppish* is given in (113):

(113) *uppish*

[-dynamic, +scalar, -SA ([$_i$], [ ],	[+Loc ([$_i$])])]
-ish	*up*

The skeleton for the adverb *up* is argued to be identical to the preposition *up*, which bears the feature [+Loc] to indicate a location in space (cf. Lieber 2004: 103). Recall that the feature [+/-Loc] is used for lexical items for which position or place in time or space is relevant (cf. 2004: 99). The positive value hence signals the presence of a spatial meaning (position or place), the negative value asserts an explicit lack thereof. The difference between the prepositional and adverbial uses of *up* is that the former requires an object, resulting in two argument slots, whereas the latter does not and hence only has one argument slot.

I will argue here that the skeleton for *nowish* is identical to that of *uppish*, i.e. it receives the negative value for the feature [+/-symmetric association] for the suffix and [+Loc] for the base, indicating the presence of a position or place in time. Since the feature [+/-Loc] covers both

space and time and the fact that skeletons are underspecified, this approach seems justified[90]. The meaning denoted by the feature [-SA] is similar to that of adjectives, however, in that a certain time is approximated. Whatever is designated as *now* is not completely reached, but merely approached.

From here on, the derivatives to be investigated are all exclusively formed in the present-day English period. Since the first attestations of some of the derivatives cannot be identified without lingering doubt, I will start with proper names for which the OED gives *Heine-ish* as an example and which is recorded in 1887:

(114) 1887: A **Heine-ish** sneer at the tendency of the Eternal-Feminine to relax the tension of our ideals. (Pall Mall Gaz. 17 Oct. 3/1)

The OED does not give a specific paraphrase for derivatives from proper names and neither does Marchand, the probable reason being that the list of possible referents that can serve as a base is nearly endless and derivatives can be formed by rule. Furthermore, some linguists advocate for proper names to be entirely without meaning (or sense) and to only refer (e.g. Kaplan 1979). Dixon (2014: 222) provides the following paraphrase:

(115) *-ish*, with P[roper] N[ames]: 'associated with'

In principle, the association as defined here can be of two types, symmetric or asymmetric. Proper names refer to a particular and unique individual, thus a comparison of properties to another individual cannot result in a convergence of the comparing referents. By default, the association between the referents is therefore asymmetric and thus [-SA]:

(116) *Heine-ish*

[-dynamic, +scalar, -SA ($[_i$], [ ],	[+material, +animate ([R_i])])
-ish	*Heine*

As it currently stands, the skeleton for the proper name *Heine* is underspecified to a large degree. It determines only that the referent of the name *Heine* is a concrete object that is a living organism. The specifics of what it means to be Heine are not encapsulated in the skeleton, but are considered part of the body. Since the knowledge individuals have about other individuals that bear a certain name can vary vastly, it is more appropriate to relegate this information unto the body, which is defined as differing from person to person. One could perhaps think of an identifier which anchors the proper name to a certain individual, but at present it is unclear

90 The fact that the feature [+/-Loc] applies to both, space and time, underlines well Lieber's focus on developing features that are of the right grain size and can be used across several dimensions. In this case, the physical location in space and the metaphorical sense of location in time have in common that they both describe a fixed point in some dimension. The feature in use here shows that it is cross-categorial as well: It does not only apply to verbs, prepositions and other morphological categories discussed in Lieber (2004: chapter 4), but also is felicitously applied to adverbial bases as shown above.

whether this identifier would be located within the skeleton of each individual proper name or is part of the body. The literature on the semantics of proper names is divided over its subject. Very generally and pointed out above, the question boils down to whether proper names are considered to have only reference (see Kaplan 1989, a proponent of the direct reference theory) and the given name becomes a ”rigid designator“ of the referent (Kripke 1980: 48, who applies the term to a name which designates the same object in every possible world), or whether proper names additionally have a sense in Frege's (1892) terms. Here is not the place to give a full-blown account of proper names, however, and the question whether a skeleton for a proper name includes more information than the one presented in (116) is left for future research. We can note here, however, that the setting of the negative value for the feature [+/-symmetric association] does not coincide with a negatively tinged evaluation of the derivative in all cases. We do find examples to the contrary:

(117) Marriage was introduced by an endearing Charlie **Drake-ish** master of ceremonies […] (BNCweb, K5F 1946, Newspapers)

(118) The simile was so striking and no doubt so apt, and one that was so delightfully **Eliotish**, that I could not take offence, […] (BNCweb, H9X 329, Non-academic prose and biography)

In these cases, the value is still set to [-SA] and a complete identification of referents is not possible. However, in the process of comparison, properties are picked out which are evaluated in a positive light with respect to the referent of the derivative. This is undoubtedly due to the fact that proper names are connected to individuals whose evaluation is different from different speakers' points of view and which can change over time. That is, the way the referent of the base is evaluated plays a dominant role in the interpretation process of the derivative in context. In the comparative qualitative analysis in section 7.5.2, I will give further insights into the uses and contexts in which individual derivational doublets occur and in sections 7.5.1.1 and 7.5.2.1 specifically, we will resume the question of different interpretations for proper names.

We can now move on to an analysis of compounds that serve as the basis for *-ish*. In the BNCweb corpus and the reference works, only N-N compounds are given as bases, but undoubtedly other constellations may be found as well. For *schoolboyish*, the N-N compound picked for illustration, the OED gives the following paraphrase[91]:

(119) 1784: 'Resembling or characteristic of a schoolboy; schoolboy-like'

91 The date given for *schoolboyish* only specifies the first attestation of this particular lexeme, but is perhaps not the first attestation of compounds with *-ish*.

A schoolboy is a kind of boy, namely one that goes to or still is attending school, hence the noun *school* modifies and specifies the head *boy*, which is characteristic of endocentric (or root) compounds. The underived noun *schoolboy* is given with the following paraphrase in the OED:

(120) 1579: 'A boy attending or belonging to a school. Also *allusively*: a person likened to a schoolboy in immaturity, lack of judgement, etc.

The paraphrase suggests two interpretations, a) a schoolboy is a specific kind of boy, and b) it refers to an individual who is no longer a boy but shows properties such as certain behavioural characteristics that are appropriate for boys but not for adults. Hence, there is again an asymmetry in the comparison of referents in b). If we check the OED further for the meanings of *boyish*, we can notice the similarity to the meanings of *childish* above in that the derivative principally has both options available for setting the value of the feature [+/-SA]:

(121) a. 1542: 'Of or relating to boys or boyhood'
b. *?*1545: 'Befitting or suggestive of a boy; childish, puerile'

The first sense paraphrased in (121a.) suggests a relational meaning, hence [+SA] and the sense given in (121b.) indicates that a given behaviour is appropriate for boys, but otherwise considered immature (for adults), hence [-SA]. The corresponding skeletons for the two different senses of *schoolboyish* ((122a.), symmetric association [+SA]; (122b.), asymmetric association [-SA]) are given below[92]:

(122) a. *schoolboyish*[1]

[-dyn., +scalar, +SA ([$_i$], [ ],	[-mat., +B, -CI, -animate ([$_i$])]	[+mat. +B, -CI, +animate ([R$_i$])])]
-ish	*school*	*boy*

b. *schoolboyish*[2]

[-dyn., +scalar, -SA ([$_i$], [ ],	[-mat., +B, -CI, -animate ([$_i$])]	[+mat. +B, -CI, +animate ([R$_i$])])]
-ish	*school*	*boy*

As the skeletons of the compound *schoolboy* show, the features are more elaborated than the first approximation of delimiting the skeleton in section 3.4, example (45), which only gave the feature [+material] in both cases to show how the prinicple of co-indexation works. There I have also mentioned that the paraphrase for *schoolboy* strongly indicates that the noun *school* references the institution, which renders the feature [+material] negative. Here the features converge only with respect to both nouns being singular count nouns. They differ with respect to the feature [+/-material] as just mentioned. Furthermore, they differ concerning animacy, with *school* denoting a non-animate thing (building or institution) and the noun *boy* denoting a living

92 To ensure readability, the features [dynamic] and [material] are abbreviated to [dyn.] and [mat.], respectively, and in subsequent such examples.

entity. Not only do the skeletons differ in this extended representation, but the corresponding bodies diverge likewise, in that the knowledge we have about boys is different from the knowledge about what an institution entails. The former references a living human being of young age, while the latter denotes an establishment whose purpose is to serve the public in a specific way, i.e. in educating young children of whom boys form one subset. The co-indexation of the two arguments of *school* and *boy* lead to a process of co-interpretation and due to the dissimilarity of the lexical-semantic representations, a complete identification is not possible in that the two representations cannot be predicated of the same entity (cf. Lieber 2004: 52). Therefore, semantic characteristics that pertain to the non-head *school* are placed in relation to those of the head noun *boy* and modify it in the way described above.

With respect to phrases that serve as a base to *-ish*, the OED and Marchand (1969) are of limited help when trying to paraphrase the meanings. The phrases given as examples in the OED, e.g. *at-homeish* or *devil-may-carish*, are largely lexicalised and thus non-compositional. For instance, the phrase *at-home* is a noun denoting a 'reception of visitors' in the following example (123) (see OED entry *at-home*, n.).

(123) 1883: Among the notable '**at homes**' of London.. are the Tuesdays at Mr. Alma-Tadema's. (J. Hatton in Harper's Mag. Nov. 844/2)

Due to this, I will discuss an example that comes straight from the corpus BNCweb, *middle-of-the-nightish*, whose example is shown in (124) below:

(124) It was still dark, **middle-of-the-nightish**, but I'd scribble something – I had to put it in my possession, take away the terror of it, put it under my control. No pen. No paper. No dreams. They'd gone. I was fully awake now. (BNCweb, BMS 1806, Fiction and Verse)

The example highlights that a certain time of day is modified by the suffix, particularly the time that denotes the middle of the night. The protagonist in the example notices the darkness and attributes it to a certain time of night, without being able to fully specify it. Hence, the suffix is used in this case to approach the exact time of night, which is not pinpointed to a certain hour. The relation of *-ish* to the middle of the night is thus one of approximation instantiated by the adjective *middle* and receives the feature [-SA]. Like in *midnight*, which the OED paraphrases as 'The middle of the night', the adjective *middle* specifies a particular time frame, which *-ish* further modifies in making it imprecise. In line with Lieber (2016: 108), the proposed phrasal skeleton is given in (125) below:

(125) *middle-of-the-nightish*

[-dyn., +scalar, -SA ([$_i$], [$_k$],	[-dyn., -scalar ([$_i$])]	[-mat., +B, -CI, -animate ([R_k])])]
-ish	*middle*	*night*

The highest argument of the suffix is co-indexed with the argument of *middle*, indicated by the index $_i$. The Principle of Co-indexation now permits the second unindexed argument to be co-indexed with the prepositional phrase's head noun's R argument, indicated by the index $_k$ for better readability. The suffix denotes an asymmetric association to the semantic content of the phrase headed by the adjective *middle*. Since the suffix is directly co-indexed with the adjective and deadjectival derivatives are characterised by an asymmetric association to their bases, the resulting interpretation is one of approximation. In other cases where the head of the phrase is a noun, the interpretation of the derivative differs. For instance, in *end-of-the-worldish*, where *end* is a noun (see OED entry *end*, n., sense 8.a. for the phrase), the resulting interpretation is one of comparison, particularly a given situation is likened to the end of the world, which is to say it is deemed catastrophic. Example (126) gives an entry for the phrase (cf. OEDweb entry *end*, n., sense 8.a.):

(126) 1964: I know exactly what a shock you had... But it isn't the **end of the world**, you know. (J. Creasey *Guilt of Innocence* xvi. 136)

With nouns, the semantics of *-ish* can be one of relation or comparison, and in the present case a given incident is taken to resemble a catastrophic event such as the actual end of the world, but it is not equivalent with it (the world does not really come crashing down in its literal sense, but is perceived as such by an individual). Hence, the type of comparison that is instantiated by *-ish* is asymmetric (i.e. [-SA]) and denotes a resemblance to properties of the phrasal base. Which properties are the basis for comparison can differ from speaker to speaker and as such this information is not part of the skeleton.

Lastly, we shall have a look at numeral bases with *-ish*. Numerals are not usually explicitly discussed with respect to morphological categories and when they do there is not much agreement as to their proper classification. In expressions like 'he bought two$_{Num}$ hats$_N$', cardinal numbers are likened to adjectives in taking the same prenominal spot (compare: 'he bought beautiful$_{ADJ}$ hats$_N$'). On the other hand, cardinals take the position of determiners in expressions like the following: 'She heard the$_{Art}$ dog$_N$ bark' vs 'She heard one$_{Num}$ dog$_N$ bark', the difference being one of definiteness[93]. Here they are assumed to form a category of their own. They are distinguished with respect to which types of numbers they denote, i.e. they may express relationships of quantity (cardinal numbers) or position and sequence (ordinal numbers).

93 There is also a historical connection between determiners and numerals. In Old English, articles did not yet exist in the way present-day English makes use of them. Instead, in place of definite articles OE used the demonstrative pronoun *se* 'that'. For the indefinite article *a(n)* the numeral *an* 'one' was employed (see van Gelderen 2006: 60): *þa genam he* ***an***$_{\mathbf{Num}}$ ***rib***$_{\mathbf{N}}$ *of his sidan* 'Then took he *one rib* from his side' (cootest,Gen:2.21.109).

The OED gives the following quote for *-ish* derivatives which are based on numerals and whose first entry is recorded at 1916 (cf. OEDweb entry *-ish*, suffix[1], sense 4.):

(127) 1916: 'round about, somewhere near'

Like with adjectives, numerals that are suffixed by *-ish* denote the sense of approximation, specifically to a certain time, age, or other quantities. The difference to the sense of approximation denoted by adjectives is that the numerical standard cannot only be approached from below but also from above that standard. In other words, in estimating an individual's age, say *thirtyish*, the values are not restricted to a small range below the standard of thirty, but may also exceed that standard to include a number of values above it. This also becomes evident in the paraphrase 'round about' from the OED in (127). In a sense, *-ish* introduces a kind of halo of values around the central number which is denoted by the base. Example (128) below from the corpus illustrates a numeral of time.

(128) 1 SP:PS1R8: […] You get back from work about (pause) **tenish**? (pause)
2 SP:PS1R9: (sigh)
3 SP:PS1R8: Ish?
4 SP:PS1R9: (whispering) (unclear) half past ten.
(BNCweb, F8U 1056, , Context-governed, quoted from BYU access of the BNC)

The first speaker in this excerpt (SP:PS1R8) inquires about the time of return of the second speaker (SP:PS1R9) and offers *tenish* as an initial estimate (line 1), the uncertainty of which he repeats and thus emphasises by uttering *Ish* in line 3 (after a long pause and no confirmative or negative answer besides a sigh on the part of his interlocutor). In line 4, the second speaker specifies the time of his return to half past ten. The exact values included in the halo of *tenish* might slightly differ from speaker to speaker, but generally they include a range of values before ten o'clock sharp and a range of values after ten. The utterance of speaker (SP:PS1R9) in line 4 indicates that half past ten does not count as a false proposition to the first speaker's inquiry.

Given that *-ish* with numerals denotes a sense of approximation, the resulting skeleton follows straightforwardly and is [-SA], indicating an asymmetric association to the number denoted by the base, i.e. approaching its value. The way in which the number is approached (i.e. from above or below or from both directions simultaneously) is not part of the skeleton, but belongs to the body: Given that this is information that differs with respect to different speakers and contexts, it is not specified in the skeleton, which remains underdetermined in this respect. Lieber's feature [+/-scalar] receives an extension with respect to its application to numerals and the feature is negative with cardinal numbers, but positively valued with ordinal numbers, which denote a certain position on an underlying (numerical) scale.

The proposed skeleton for *tenish* is given in (129) below:

(129) *tenish*

[-dynamic, -scalar, -SA ([$_i$], [ ],	[-scalar ([$_i$])])
-ish	*ten*

This concludes the analysis of the diachronic development of *-ish* with its different bases in this chapter. The following table 16 (next page) serves as a summary of the semantic developments of *-ish* derivatives since Old English. It is likewise an extension of table 1 from section 2.2.2, which served as a descriptive blueprint. Of course, the table still represents a simplification as individual derivatives might show an even larger set of polysemies. The purpose of this table simply is to summarise what was said above and in doing so, what meanings are principally possible. Furthermore, it shows that the initially established basic senses recur in later formations and with other bases. The above discussion has shown that all basic senses have established by the Middle English period and percolated to later formations up to the present day.

Table 16. Summary of diachronic morpho-semantic development of -ish

Period	Unit	Example	First attestation	Meanings	Skeletal feature
OE	N_*isc* (ethnic)	*Englisc*	eOE	Association	[+SA]
	N_*isc* (non-ethnic)	*ceorlisc*, *cildisc*	OE OE	First: Association Later: Comparison: > Equivalence > Resemblance	[+SA] [+SA] [-SA]
ME	ADJ_*ish*	*yellowish*, *darkish*	1379 1398	Approximation	[-SA]
EME	V_*ish*	*snappish*	1542	Comparison: > Resemblance Approximation	 [-SA] [-SA]
	ADV_*ish*	*uppish*, *nowish*	1678 (?)	Comparison: > Resemblance Approximation	 [-SA] [-SA]
PDE	ProperN_*ish*	*Heine-ish*	1887	Comparison: > Resemblance	 [-SA]
	Compound_*ish*	*schoolboyish*	(?)	Comparison: > Equivalence > Resemblance	 [+SA] [-SA]
	Phrase_*ish*	*end-of-the-worldish*, *middle-of-the-nightish*	(?)	Comparison: > Resemblance Approximation	 [-SA] [-SA]
	Num_*ish*	*tenish*	(?)	Approximation	[-SA]

4.10 Conclusion

The chapter has investigated the historical trajectory of the suffix -*ish* with respect to its quantitative development over the centuries as well as its morphological and semantic developments. It has been shown in sections 4.4 to 4.8 that non-ethnic types start to supersede ethnic ones by the Early Modern English period, which is the time frame -*ish* starts to become attached to an increasing number of morphological base types besides adjectives and nouns. The same sections have also shown that the diversity in the vocabulary, measured with the type-token frequency, had always been higher with non-ethnic adjectives than with ethnic ones, in turn indicating a potential for new formations. The assessment of the suffix's productivity proved difficult, due in part because of the lack of hapax legomena, especially in the Middle English period. What we could glean from the calculations of productivity are three tentative

developments. First, the productivity for ethnic adjectives in *-ish* shows a decline over time. Since we have omitted a calculation of productivity for present-day ethnic adjectives due to the difficulty of finding genuine hapaxes, the tendency is shown until Early Modern English only. Second, the productivity of non-ethnic adjectives, while not stable in itself, is higher than that for ethnic formations. Third, in the present day, productivity of non-ethnic adjectives is slightly higher for derivatives in spoken language than in written language.

Together with the propensity of *-ish* to occur with an increasing amount of bases, the number of senses also develops, but finds its peak of development in Middle English for which the sense of approximation found with adjectives (and later with other bases too) signifies the most recent development. The lexical-semantic analysis in section 4.9 has shown that the semantic addition of *-ish* is one of association, which can be of principally two types, symmetric and asymmetric. While at first *-ish* derivatives simply denoted a relation to a referent, termed 'association' here, the meaning soon changed to signify a comparison to properties found in the base. Depending on the type of base and the referent of the derivative, the comparative meaning is characterised as being of two types, a) what I have termed 'equivalence', which matches the properties and referents in a one-to-one relationship, and b) 'resemblance', which denotes properties and referents which do not match, but which approximate each other in a way. Lastly, the approximative meaning has developed principally with adjectives, but percolated to other base types in the course of time. The proposed feature [+/-symmetric association] is able to show how the meaning of *-ish* has evolved since Old English and can adequately account for the polysemy of the suffix in the present day.

It is this last meaning of 'approximation' which continues on in the most recent development of *-ish* from a suffix to an independent morpheme, which does not depend on a host. Since, as a free morpheme, *Ish* does not attach to a simplex or complex base word on which it is dependent, the Principle of Co-indexation does not apply to it. The framework of Lieber (2004 and others) has been specifically developed to account for word-formational phenomena, including derivation, compounding and conversion, and although her featural system is designed to apply to both simplex and complex words, the Principle of Co-indexation becomes inapplicable with respect to independent morphemes where there is nothing to co-index. The latest development of *-ish* > *Ish* will be the subject of Part II of this work.

PART II

5 The free morpheme *Ish*:

5.1 Introduction

A rather recent phenomenon is the development of a free form next to the suffix *-ish*. According to the OEDweb this free morpheme *Ish* (henceforth, I will write the free morpheme with a capital letter to distinguish it from the suffix) first occurred in the middle of the 1980s, more specifically, the first entry that documents this new usage is found in the Sunday Times from 1986:

(130) One of those neatly crafted middle-brow plays which, because they have a pleasantly happy ending (well, **ish**), might make people think that they've been handed a soft option (Sunday Times, Oct. 19, 1986, Review section, cf. OEDweb)

This form, although probably in spoken use before this entry appeared, is qualified as colloquial by the OED and its meaning is described as ”Qualifying a previous statement or description, esp. as a conversational rejoinder: almost, in a way, partially, vaguely“ (cf. OEDweb, entry *ish*, adv.). These meaning components are unsurprisingly reminiscent of parts of the meaning found in the suffix.

It is not very common that a formerly bound suffix develops into a free morpheme, but it is not unheard of. Similar developments come to mind, especially in noun-forming suffixes like *-ism*, *-ology* and the like. Let us ponder their free forms for a while and see if and to what extent they are comparable to *Ish*. Within the framework of degrammaticalisation.[94] Ramat discusses the development of the free forms *Ism*, *Ology*, *Ade*, *Onomy*, *Itis*, etc. as ”clear examples leading linguistic elements out of morphology“ (1992: 549). To illustrate the usage of *Ism* and *Ology*, consider examples (131) to (133) below:

(131) When all today's **isms** have become yesterday's ancient philosophy, there will still be revolutionaries. (BNC, HH3 1456, Non-academic prose and biography)

(132) It was Harold F. Brooks, […] who contributed to the debate on English studies at Cambridge carried by the press and other media early in 1981, by complaining that ”much of the resort to '**isms and ologies**' amounts to 'duncery' … (BNC, EWR 1299, Non-academic prose and biography)

94 I will discuss the notions grammaticalisation and degrammaticalisation in connection with *Ish* more fully in section 6.1.4 and 6.1.5 below.

(133) Now, they say, You get an '**ology**' … and your're a scientist. (BNC, K1F 612, Unpublished written material)

The nominal suffix -*ism*, for example (as in *commun-ism*, *social-ism*, etc.), has undergone a substantivisation process appearing now as a nominal free form *Ism* (cf. Ramat 1992: 549f.), which often occurs in the plural (cf. example (131)) and together with the equally created plural noun *Ologies* (cf. example (132)). Singular forms exist as well, but seem to be less common than their plural counterparts. The free form *Ade(s)* is modelled after the derivatives *lemon-ade* and *orange-ade* (cf. OEDweb, entry *ade*, n.) and probably gained momentum through the suffix use in the name of sports drinks (cf. *Gatorade*, *Powerade*). The free morpheme *Ade(s)* is primarily an American phenomenon, referring to any kind of fruit-flavoured beverages. The remaining free morphemes occur only sporadically and some of them seem to be ad hoc formations (e.g. *eses*, which occurs once and in connection with *isms* in the BNC and in this function not at all in COCA. Similarly, *itis* (cf. *bronchitis*) does not seem to be in active use in English or is only used occasionally: There were no hits in the BNC and only five which discussed the meaning of the suffix -*itis* in COCA).

The status of new free morphemes is not always easy to determine. Ramat states that "[m]isinterpretations certainly play a role in this lexicalization process" and briefly considers the form -*gate*, which originated from the compound *Watergate* (1992: 550). This form has been split off and applied to a number of other bases in the meaning 'scandal, disaster' (cf. *Monicagate*, *Irangate*, etc.). It cannot, however, be compared to the free morphemes above due to its origin (it has been classified as part of a compound, cf. Bauer et al. (2013: 19) and the OED qualifies it as a 'combining form', similarly to -*burger*, and many originally Greek-based forms like -(*o*)*cracy*. It can be assumed that the OED uses the term 'combining form' as an umbrella term and does not discriminate between combining forms which may or may not have an independent counterpart. However, in the case of -*burger*, there is an independent form, whereas in the case of -*gate*, there is not[95]. There is no independent noun *gate* with the meaning 'scandal' without referring to the subject of the scandal in the base word (*Monicagate*, for instance, refers to the extramarital affair of former U.S. President Bill Clinton with his intern Monica Lewinsky) (cf. Ramat 1992: 550). The status of formatives like -*gate* are not entirely clear. Bauer et al., for instance, call them *splinters*: They are defined as "originally (mostly) non-morphemic portions of a word that have been split off and used in the formation of new words with a specific new

95 The formative *burger* is said to have arisen via a process called 'secretion', a term originating in Jespersen (1925: 384ff., see Wischer 2010: 30). It refers to the process of turning a meaningless sequence of sounds into a derivational affix (cf. Wischer 2010: 36) by reanalysing the sequence and productively applying it to new bases. It is also known under the notion of '(clever) metanalysis' as it involves the conscious reanalysis of the segments of a word, cf. Hudson (2002: 423).

meaning (2013: 525). Conversely, Ramat claims that the formative -*gate* shows inclinations towards regular compound formation and says that ”the extraction of *gate* already conforms to the English compounding model wherein N_1 is the modifier and N_2 the head“ (1992: 550).

The discussed free morphemes have in common that they originated from noun-forming suffixes. Via the process of conversion they started to appear without their respective bases (cf. OED) and qualify to be classified into the noun class which is shown also by their inflectional properties (i.e. plural forms exist, except for *Itis*). With *Ish*, however, the matter is a bit more complex. It is not a nominal suffix, but forms adjectives and the outcome of the conversion process leaves us with a form that shows similarities to elements in the adverb class (cf. OEDweb, entry *ish*, adv.).

Another contribution to the degrammaticalisation theory is Norde (2009, 2010), who discusses *Ism*, but also *Ish*. She notes the differing processes which created these free morphemes: A process of debonding in the case of *Ish* and lexicalisation with respect to the forms *Isms* and *Ologies* (cf. Norde 2010: 144)[96]. She claims that *Ish* is not the result of lexicalisation because 1) ”lexicalized affixes become part of major word classes (primarily nouns or verbs)“, and 2), they are ”hypernyms of all the derived words with that suffix“ (Norde 2010: 145), which is clearly not the case for *Ish*. While *Isms* can refer to all ideologies which end in that suffix, *Ish* has a different semantics, which qualifies the previous statement and can best be paraphrased with *sort of*/ *kind of*. While it is worth discussing whether adverbs may be seen as a 'major word class', the second reason above highlights the distinct uses of the former affixes.

To sum up, it has been shown that the cohort of lexicalised affixes like *Isms*, *Ologies*, and the like differ from *Ish* with respect to their semantics as well as their formal properties. Because of this, *Ish* cannot be put on a par with the other free morphemes which developed out of suffixes, but has to be treated separately.

The chapter is structured as follows: Section 5.2 reviews literature that has taken an interest in the free morpheme *Ish*, but has done so with respect to individual aspects, e.g. its semantics (Bochnak and Csipak 2014) or its origin (Duncan 2015; Norde 2009, 2010). Section 5.3 introduces the corpus and the corpus data for discussing *Ish*. Finally, section 5.4 sheds light on the various properties *Ish* shows in these data with respect to all levels of linguistic analysis. The chapter will be concluded with a summary in section 5.5.

96 I will discuss the notion of debonding in the section 6.1.5 of degrammaticalisation below.

5.2 Review of previous literature

Literature on the free morpheme *Ish* is to date still sparse. That which exists centres mostly around the question of (de-)grammaticalisation while other contributions focus on the semantics or morpho-syntactic aspects of *Ish*. At present, I am not aware of any studies which focus attention on all linguistic aspects and which have conducted a thorough corpus analysis that serves as the basis for a more detailed elaboration of the properties of *Ish*. Further, the hedging categorisation and function is more or less taken for granted in work on *Ish*, but the details of what constitutes a hedge and which properties it has to fulfill have not been addressed. I will attempt to close this gap in chapter 6. In the present section, I will briefly review the literature which exists on the phenomenon of *Ish*.

To start out with those contributions that seemed to spark most interest in subsequent work, I will discuss articles which pursue the question whether *Ish* is an instance of grammaticalisation or degrammaticalisation. Those two positions are diametrically opposed to each other. Duncan analyses *Ish* as an instance of grammaticalisation on the grounds that it modifies Prepositional Phrases (PPs) and Verb Phrases (VPs) (2015: 3, 12). He assumes that the modification of PPs is the earlier one which he attempted to verify conducting a survey in which he controlled for age and gender. It appears that *Ish* attached to a PP meets with higher acceptance rates when the factors age and gender are cross-tabulated (p. 9). Combined with the survey is a syntactic analysis of *Ish* in which he suggests Freezing of an XP is triggered by the presence of *Ish*. He considers *Ish* to be the head of a Qualifier phrase which takes a VP or PP as a complement (cf. 2016: 101). It is not entirely clear if his data result from introspection and some of his examples seem infelicitous and not verifiable through corpus data (e.g. his example 12f. in Duncan 2016: 103, given below in (134)):

(134) ?On a track **ish** I ran.

The example is claimed to be evidence for the fact that *Ish* can form a constituent with a PP (cf. Duncan 2015: 3) in which the fronted PP is considered licit only when *Ish* moves with it (Duncan 2016: 103). While *Ish* may appear sentence-medially, examples such as (133) were not found in the corpus study below. Furthermore, the assumed trajectory of *-ish* modifying adjectives to *Ish* becoming a modifier of PPs and VPs (and finally Complementiser Phrases, or CPs) is not corroborated with a diachronic study, but based only on the above-mentioned survey. While the syntactic analysis is expanded in his 2016 article, the claim that *Ish* is an example for ”rapid grammaticalization“ (Duncan 2015) is abandoned.

The counter-claim of degrammaticalisation has found slightly more supporters. Suggested by

Kuzmack (2007) under the heading 'antigrammaticalisation[97]' and further elaborated by Norde (2009, 2010), this claim entails that the suffix *-ish* is seen as a grammaticalised entity which has become unbounded and has increased in semantic substance (cf. Norde 2010: 144). Specifically, Norde ascribes the process of debonding to *Ish*, a subtype of secondary degrammaticalisation and which takes place on the morphosyntactic level (p. 144). Degrammaticalisation is hence divided into two types akin to the conception of grammaticalisation as posited by Traugott (2002: 26f.), who considers Kuryłowicz (1975 [1965]) well-known definition of grammaticalisation as consisting of two parts. The definition is given below:

> Grammaticalisation consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a grammatical to a more grammatical status. (Kuryłowicz 1975[1965]: 52, as quoted by Norde 2010: 131)

Traugott (2002: 26f.; 2010: 270) proposes to refer to the first part of Kuryłowicz's definition, in which a lexical item becomes grammatical, as 'primary' as it refers to grammaticalisation proper. The rest is seen as secondary and entails an increase in bondedness, while also considered controversial (cf. Traugott 2002: 27)[98].

Thus, primary degrammaticalisation refers to cases where function words develop into lexical words and the secondary type entails processes leading to 'less grammaticalised' forms, e.g. bound morphemes becoming free morphemes (cf. Norde 2010: 135f.). Debonding is seen as a heterogeneous change because it applies to inflectional affixes and clitics as well, but only with derivational affixes debonding is said to also result in semantic enrichment of the unbound form (cf. Norde 2010: 137). The conception of semantics in degrammaticalisation is a crucial one and I will discuss this process in terms of applicability to *Ish* in section 6.1.5 and 6.1.6.2 below.

Pierce (2014, 2015) claims that *Ish* has continued to degrammaticalise further and cites the examples given in (135) and (136) below as support for this claim:

(135) I have another one that's **ish** to this (Pierce 2015: 395, cited from Michelle Buckholtz, personal communication, Jan. 19, 2013)
'I have another one that is *similar* to this'

(136) Other than emotion this causes me, the stuff I read is **ish** to me. (Pierce 2015: 395, cited from Youkon c, *Kitco* (forum), June 1, 2012)

Pierce argues that the examples he discusses provide evicence for the claim that *Ish* has developed lexical meanings such as 'similar' in (135) and 'nothing' in (136) above. As such, they have degrammaticalised from having affixal and thus, bound status to developing into a

97 The term is first used in Haspelmath (2004).

98 The term 'secondary grammaticalisation' itself is said to have originated from Givón (1991: 305), where it is applied differently from Traugott, cf. von Mengden (2016: 131, footnote 6).

grammatical free morpheme to its most current status as a free morpheme having lexical meaning. The meanings in (135) and (136) are not, however, fully transparent and clear in their usage and the examples might instead reflect a homophonous use of *Ish*, i.e. a metathesis of the expletive 'shit' to euphemous *ish*. This possibility is acknowledged by Pierce and supported by many of the results from the corpus analysis of the *Corpus of Global Web-based English* (henceforth GloWbE) in section 5.3.3. However, it is not entirely out of the question to consider *Ish* to slowly develop lexical meaning. Let us have a look at a short exchange between a Welsh voter and the leader of the Brexit party Nigel Farage (NF), the latter of which hosts a talkshow for the radio broadcasting company LBC Radio (*Leading Britain's Conversation*)[99]. The angry Welsh caller, a swing voter, who voted for Leave in the 2016 United Kingdom European Union membership referendum, complains to Farage to having made his decision based on false evidence.

(137) 1 NF: A. is a new caller from Newport. Good evening A.
2 Caller: Evening Nigel, how are we doing?
3 NF: We're doing ok **ISH** but uh...
4 Caller: Yeah, I'd certainly go with **Ish**. (30 May, 2019)[100]

Farage's answer in line 3 includes an example of *Ish* that does not display its suffixal use for two reasons. First, Farage makes a short pause between *ok* and *Ish*, giving a first indication that *Ish* is not bound to a host in this case. Secondly, *Ish* is stressed, indicated by capitalisation. As a bound morpheme, *-ish* does not receive stress. A third possible but not very plausible reason is that the adverb *ok* is not listed as the base of a derivative with *-ish* in the OED. However, since *-ish* attaches to adverbs and is a productive suffix to this day, it might simply be an instance of a novel base form. In example (137), the phrase 'We're doing ok' means that they are in an acceptable, decent state, but it could also be better. Attaching *Ish* mitigates this sense and shifts the meaning and focus to the implication that 'it could also be better'. The caller interrupts Farage and effectively denies the original meaning of *ok* 'being acceptable' and agrees instead with the meaning provided by *Ish*. *Ish* is not simply used as a mitigator here which downtones the meaning of the element it modifies, instead it strengthens the antithesis of the meaning of *ok*. This example is a clear case of the free morpheme *Ish* which does not allow the euphemous rendering of examples such as (135) and (136) above. Further evidence for *Ish* developing into a more lexical direction comes from a short excerpt of a dialogue found in the British science fiction TV series *Dr Who*:

99 I would like to thank Mareike Keller (p.c.) for pointing me to this example.

100 The entire exchange is available at https://www.youtube.com/watch?v=6vtpKpaEACE, 23:34 – 23:43 minutes (last accessed 16.11.2019).

(138) The doctor: Sorry. Stopped listening a while ago. OK. Same time you left, same place. **Ish**.
Clara: **Ish**. (0.2) Don't give me an **Ish**.
The doctor: These readings are very uhm (0.1) **ishy**.
(Dr. Who: Se 08, Ep 09, 2014, *Flatline*)

The doctor's means of travel is a time machine in the shape of a blue British police box (which is bigger on the inside than the outside – a recurrent joke in the show). The scene is set at the beginning of the episode, right after the main theme, and he and his companion Clara have just materialised in Bristol, which is apparently not the destination they aimed at. After travelling through time and space he means to return her home to London, but in the course of doing so, something went awry. In the scene, the doctor is preoccupied with attempting to decipher data on a screen and does not pay attention to his companion. In the first line, the doctor utters *Ish* after the phrase *same place*, referring to her home, which it scopes over and modifies. Clara, packed and ready to go, picks up the free morpheme and with it she problematises the imprecision *Ish* imposes on the noun phrase[101]. It is not exactly the same place they started from, but only somewhere in the vicinity of it, which turns out to be Bristol. Thus, the meaning of *same* is stretched quite far here. In doing so, Clara renders *Ish* into a noun itself, indicated by the preposed indefinite article *an*. The doctor reacts to her discomfort, but does not grasp its source, i.e. the possible implications it has for her to not be returned home. He attempts to explain the problem and insists that the readings are dubious, which is denoted by *ishy*. Thus, *Ish* becomes the host for the adjective-forming suffix *-y*, further cementing *Ish*'s status as a free morpheme. Since bound morphemes have to be attached to a host by definition, the two morphemes of *ishy* cannot be analysed as being two suffixes. The form and meaning of *ishy* resembles that of the colloquial terms *iffy* and *fishy* ('questionable, unreliable', cf. the OEDweb entry for *fishy*), on which *ishy* can be considered a play of words.

Examples (137) and (138) raise the question of how the development from a) bound to free morpheme and b) the different types of free morpheme can be modelled. As I have stated above, Norde (2010) and Pierce (2015) advocate for degrammaticalisation, but grammaticalisation has also been mentioned as a possible path of development. To reconcile these different views, I will present the arguments made in the pertinent literature and discuss whether *Ish* qualifies as an example for one of those developments, or in fact as a different one entirely (such as pragmaticalisation or lexicalisation). These questions will be taken up in sections 6.1.4 to 6.1.6 below and they will shed further light on the arguments and difficulties inherent in this line of

101 The time machine is depicted as having a mind of its own, which is accompanied by a tendency to materialise in locations different from where the doctor wants to go and hence, explains Clara's discomfort.

research.

A constructional approach is presented in Traugott and Trousdale (2013) in which, following Kuzmack (2007), the independent *Ish* is considered the descendant of the Middle English colour adjective derivatives which encode the meaning 'like, sort of' (2013: 234). This ”approximative“ *-ish* use of ME is suggested to have evolved into the free form through the process of constructionalisation, which requires a change in both, form and meaning (p. 232). Constructionalisation thus entails the ”creation of $form_{new}$-$meaning_{new}$ (combinations of) signs“ (p. 22) and proceeds in a gradual fashion. The change comes about through what they call 'neoanalysis'[102], the term preferred over the more well-known *reanalysis*, which is commonly assumed to be a mechanism of language change (cf. Traugott and Trousdale 2013: 36). Since constructionalisation is conceptualised as a twofold process, neoanalysis occurs on the level of semantics and on the formal level, leading to an epistemic marker and an unbound form, respectively (p. 235). The meaning of the free form is claimed to involve a shift further towards the grammatical pole in that it is connected to ”scaling degree modifier expressions“ (p. 236). The aspect of meaning described here is often called procedural meaning and is considered to be opposed to contentful, representational meaning. Nevertheless, the distinction procedural-contentful in their framework need not be conceived of as mutually exclusive. They point out the existence of hybrid constructions, including both types of meaning (p. 26)[103]. *Ish* as an independent element also seems to be considered as containing lexical, contentful meaning, but besides a short comment regarding similarities to the adjective word class (i.e. modification with *very*), they do not further elaborate on that point (Traugott and Trousdale 2013: 236).

Bochnak and Csipak (2014) approach the free *Ish* from a semantic perspective, calling it propositional *Ish*. This term is not entirely adequate as there are some instances where this type of *Ish* modifies not the proposition as a whole, but rather the predicate. They build their analysis on Morzycki's (2011) work on metalinguistic degree morphology and claim that besides the suffixal use, *Ish* has acquired two further uses which are closely connected: a proposition-modifying clause-final particle and a precision-regulatory device (2014: 432). The metalinguistic aspect of *Ish* is argued for in light of its capability to ”operate over propositions“, similar to metalinguistic comparatives (p. 433). In doing so, *Ish* ”targets a scale of precision“, which results in ”a weakening of the level of precision with which an assertion is made“ (pp. 433f.). Thus, *Ish* is generally conceived of as approaching a standard from below, which is claimed to be the

102 The term was first coined by Henning Andersen (2001: 231f., footnote 3).

103 This distinction is not unique to constructional approaches, but also finds application in, e.g., Relevance Theory. There, the question of mutual exclusivity is still a debated matter and I will take these notions up again with respect to the semantics of discourse markers in section 6.1.3.2 below.

unified semantic core of free and suffixal *Ish*/*-ish*, respectively (p. 433).

As Traugott and Trousdale (2013) above, Bochnak and Csipak (2014: 440f.) also consider *Ish* as a scaling degree modifier with epistemic, speaker-oriented meanings. The relation of precision manipulation and speaker-orientedness is assumed to come about indirectly: The weakening of the level of precision of an assertion is conceived of as a deliberate act by the speaker to show that he or she is unable to commit to a stronger proposition and is therefore going against Grice's Maxim of Quality which requires speakers to be relatively precise by default (p. 441).

The use and distribution of *Ish* is then compared to three similar constructions, i.e. the modifier *sort of*, the German modal particle *schon*, and sentence-final *...Not*. For their comparison of *Ish* to *sort of*/*sorta*, they draw on insights of a study by Anderson (2013) and conclude that both elements show hedging effects, but are dissimilar with regard to distribution (*sorta* is more constrained than *Ish* in that it primarily modifies predicates, while its propositional use is largely restricted, p. 445) and interpretation (as opposed to *Ish*, *sorta* is claimed to be able to approach a standard from above or below, while only the latter is possible for *Ish*, cf. p. 445f.). Both claims are somewhat problematic and will be discussed in section 6.2.4 below.

The German modal particle *schon* is different to *Ish* as well in that the former targets not-at-issue meaning while the latter targets at-issue content (p. 447). At-issue content is a term first employed systematically in Potts (2005), who credits Ladusaw with the coinage of this term (cf. Potts 2015: 193, footnote 1). It refers to meaning corresponding to Frege's (1892) 'sense' and what Grice (1975) has termed 'what is said' and concerns information conveying the central message of a speaker (cf. Potts 2015: 168). Strictly speaking, it is not the same as truth-conditional content, but it is often confused with it. Finally, *...Not* shares position and intonational characteristics with *Ish*, i.e. sentence-final position and focus intonation, but it is not of the same semantic class (cf. Bochnak and Csipak 2014: 448).

The last contribution to *Ish* consists of two papers by Oltra-Massuet (2016, 2017) who employs a primarily morphosyntactic analysis, continuing the term propositional *ish* and ideas developed in Bochnak and Csipak (2014). Oltra-Massuet's analysis is situated in the framework of Distributed Morphology and aims at a unifying analysis of the suffix and the free morpheme. Oltra-Massuet (2016) suggests that *ish* is syntactically unselective, which means that it is characterised by late insertion. It spells out a functional head $F°_1$, which is a complement to the functional head $F°_2$ that contains the feature [approx], as illustrated in (139) from Oltra-Massuet (2016: 311) below:

(139) $[_{FP}\ F°_{2\ [approx]}\ [_{FP}\ F°_1\ [\ldots]]]$

In doing so, she integrates ”syntactically and semantically idiosyncratic denominal and deverbal *-ish* adjectives […] into regular and productive *-ish* formation“, the latter of which includes

adjectival, numerical and adverbial bases (cf. 2016: 311). A degree variable providing a degree of precision is required and supplied by different means, in the case of propositional *ish*, it is not syntactically present, but provided by the type-shift operation PREC (see also Bochnak and Csipak 2014). She further claims that as the same vocabulary item, the free morpheme spells out a Sentient/Evaluative head, which corresponds to the syntactically parallel behaviour of speaker-oriented adverbs[104], which she compares with *Ish* due to its subjective flavour (cf. p. 308, see also Bochnak and Csipak 2014: 435). In particular, it it inserted into a Sentient/Evaluative head, which is in the scope of a Speech Act Phrase (SpeechActP) which carries the feature [approx] and hence, is attenuated. Below is the illustration of the spell-out as suggested by her (cf. p. 311):

(140) $[_{\text{SpeechActP}}$ Speech Act° $_{\text{[approx]}}$ $[_{\text{Sentien/EvalP}}$ Sentien/Eval° […]]]

This configuration allows her to account for a double hedging effect, indicating a lower speaker commitment to a) a proposition and b) the illocutionary force of a speech act. This double effect will play a role in my characterisation of *Ish* as a hedge as well, albeit I do not analyse it in the framework of Distributed Morphology. Specifically, we will see that in much of the literature on hedges, they are considered to either have an effect on the proposition or the illocutionary force, but not both (cf. Prince et al. 1982; cf. Mauranen 2004 for an alternative analysis). I will show, however, that *Ish* patterns with both, but to different degrees, thus supporting Oltra-Massuet's claim of a double hedging effect.

5.3 The data

5.3.1 Motivation

In order to analyse the occurrences of a free variant of the suffix *-ish*, a corpus has to be selected which reflects current language. Recall that the free variant started to occur in the mid-1980s (cf. OEDweb). Since language change is a gradual process, I expect to find suitable data in a more recent corpus, rather than in one reflecting the language of the inception stage of *Ish*. The *Corpus of Global Web-based English* (GloWbE, pronounced like the noun *globe*, cf. https://www.english-corpora.org/glowbe/) has been compiled in 2012 and released in 2013, so it displays language which is relatively recent. It is also a sufficiently large corpus with 1.9 billion words in total. The corpus COCA fulfills the two criteria of currency and size as well, however, only about nine tokens were found for *Ish* that are suitable. Thus, there has to be at least a third criterium for finding relevant hits. A factor that might be of relevance is in which type of text we

104 In fact, Oltra-Massuet considers *Ish* to be ”contextually categorized as an adverb“ (2016: 311).

could expect to find *Ish* more frequently. The corpus GloWbE is characterised by texts from blogs and other websites and these types of text are characterised by a high degree of informality and speech-like properties such as the use of what Crystal calls 'comment clauses', i.e. *you know*, *you see*, etc. (2004: 26). I do not expect to come across *Ish* in more formal varieties of language, such as academic texts which rely on precise formulations, for instance. Rather, relevant hits might be found in texts that can reflect a speaker's tentativeness in committing to a statement or in showing his or her lack of knowledge as to a precise constitution of a property or situation.

The selected corpus GloWbE is hence suitable for the endeavor not only because of its recency and size, but also because it entirely consists of web-based texts such as blogs. These come from twenty different English-speaking countries, which may show how the use of *Ish* spread or is different from its use in British or American English. In the next section the corpus will be presented in more detail.

5.3.2 The corpus: *Global Web-based English* (GloWbE)

The corpus has been compiled to represent English as it is spoken in twenty different countries that have English either as an official language or as a recognised language (for instance, in Sri Lanka). On the help sites concerning texts and registers used in the corpus, the respective countries together with their proportion of the web texts is given. The English-speaking countries consist of inner circle countries (see Kachru 1992 for a description of the originally three circles) such as Great Britain and the United States which contribute the highest amount of websites and words (between 60,000 and 80,000 websites and roughly 390 million words for each) and outer circle countries such as Nigeria, Malaysia, or Kenya. The latter countries have less words in total for each individual, but together form a larger group than the only six inner circle countries (i.e. the United States, Canada, Great Britain, Ireland, Australia, and New Zealand[105].

One methodical flaw of the corpus that cannot be entirely avoided is the country designation. The corpus compilers have used the 'Region' function of Google to narrow down where a website originates from. However, as the help site explains, if a .com address has been used, Google might not guess correctly the country of origin. The place of origin for a website has

105 Two remarks concerning Kachru's classification are in order. Firstly, he leaves South Africa and Jamaica out of the picture because of their complex sociolinguistic situation that prevents them from being neatly situated within one of the circles (Kachru 1992: 3). Secondly, the status given for Hong Kong may not be entirely correct. Politically, it is classified as a 'special administrative region', while GloWbE lists it as a country like the others. It can be assumed that this has been done out of reasons of simplification and the region's status is not essential for the ongoing discussion. The Three Circles Model by Kachru has been criticised as static and surpassed by dynamic models, e.g. Schneider 2003, 2007. However, the intricacies these models represent in terms of how to characterise different types of World Englishes is not of importance here. The reference to Kachru's model serves only to further distinguish the types of English the corpus includes.

been determined by using the IP address of the computer to show its physical location. However, this may be prone to error as the physical location for a US website might be in India, thus leading to wrong conclusions as to a web page's origin. This need not be a disqualifier for using the corpus, however. The corpus compilers explain on their help pages that in the case of failure to locate an IP address correctly a second measure of Google is used: Google can 'see' where visitors of and links to a website come from and if most of them originate from a certain country Google will guess that the website originates from that country. The compilers concede that the method is not perfect, but given the large size of the corpus as well as results from dialect-oriented searches (e.g. the noun *bammy* is predominantly found in Jamaican English and marginal or non-existent in the other varieties), the risks are negligible.

The range of texts is comprised of 40% of general websites (including blogs, as a strict separation could not be avoided), and 60% of (informal) blogs exclusively (cf. Davies 2015)[106]. The general websites include types of text that feature more formal language as well, making the corpus an interesting mix that seeks to balance the registers. The corpus is POS tagged, but for the search of *Ish* this was not practical for two reasons. First, if the POS tags for *Ish* are displayed, the corpus yields 47 differently annotated results for *Ish*. These results are not always entirely transparent, as for example the 8th result for *Ish* with the tag 'VV 0_JJ_NP1@' shows. The tagger views the presented tags as potentialities and is not sure if the selected categories an example belongs to are correct. The character @ indicates that the latter category to which it is appended is the most likely one. In particular, it considers the output as being either a base form of a lexical verb (VV0), a general adjective (JJ), or a singular proper noun (NP1), which is the most certain category for (most of) the examples[107]. In fact, in reviewing the example output from this tag, we find that amongst them are proper names as in (141) and the free morpheme *Ish* that we are searching for, as in (142):

(141) **Ish** and I stuck to downloaded movies, books and music. (CA B, globetrotting mama.com)

(142) … I guess I have been pretty busy recently. Not. Well. **Ish**. (GB B, hawth.me)

Furthermore, it is not clear why a certain tag has been selected by the tagger at all. For instance, the results for the first tag (VV0_JJ) are the most frequent ones with 779 in total and amongst them are genuine free morphemes such as examples in (143), examples of metathesis, i.e. a swapping of sounds (i.e. *ish* in place of 'shit', presumably originating in radio broadcasts where

106 For more information see https://21centurytext.wordpress.com/introducing-the-1-9-billion-word-global-web-based-english-corpus-glowbe/ (last accessed 21.12.2019).

107 The full tagset CLAWS7 used for the BYU corpora can be viewed under the following link: http://ucrel.lancs.ac.uk/claws7tags.html. (last accessed 21.12.2019).

expletive language is otherwise censored) as in (144) , non-English examples in (145)[108] and attempts to transcribe features of dialect or speech defects in (146), where *ish* is written in place of the copula 'is':

(143) heres my solution, not much help but it works..... **ish** (US G, scienceline.org)

(144) I wish a ninja would try that **ish**. (US G, verysmartbrothas.com)

(145) ish beliyaal veish aven, the man of Belial, and the man of iniquity (US G, bible.cc)

(146) They got too mush poweh, and the Hokage **ish** jush a puppet. (US G, fanfiction.net)

A second reason why using the POS tag function of GloWbE to search for *Ish* is not the best option is simply that there is no extensive amount of results for it in total (i.e. 2,245 hits altogether). The examples have been manually searched through and pseudo hits have been sorted out. Among those are hits as in examples (141) and (144) to (146) above, but also simple spacing errors (cf. 147), acronyms (cf. 148) and abbreviations, for instance in place of 'issue' (cf. 149):

(147) … she is twenty **ish** -hmmm... (IN G, satyamshot.wordpress.com)

(148) …, the condition is called ”isolated systolic hypertension,“ or **ISH**. (US G, nhlbi. nih.gov)

(149) I don't know if any of you guys read it, but the last **ish** of BatRob pre-preboot was pretty beautiful... (GB G, mindlessones.com)

Furthermore, for some hits it could not be clearly determined whether they constituted genuine examples of the free morpheme and they were thus excluded from the analysis. Example (150) illustrates one of these ambiguous cases. It comes from an online diary of a trip from Ethiopia to South Africa and describes the dangers of underestimating a hippopotamus in full sprint:

(150) … though we agreed later that it wasn't actually charging us but had probably been startled by the other camper's spotlight. **Ish**! (TZ G, mapenzioverland.net)

The *Ish* at the end of the sentence could indicate that the writer qualifies the whole experience of having escaped a potentially deadly situation with an expletive, thereby also expressing relief. The use of the exclamation mark can be seen as an indicator for this interpretation. On the other hand, *Ish* could modify the whole proposition 'It (i.e. the hippopotamus) had been startled by the other camper's spotlight'. It is further prefaced with the adverb *probably*, which may indicate that the speaker is not wholly certain that the animal was only startled by the flashing light and not on the verge of attacking them. The group came to that conclusion after the situation had taken place and the nerves had been calmed down ('though we agreed later') and that they had

108 Example (144) is Hebrew and *ish* is translated to 'man'.

misinterpreted the animal's behavior in the heat of the moment ('that it wasn't actually chargin us').

Also excluded were cases in which the suffixal variant was explicitly referred to metalinguistically:

(151) A list of derivational morphemes will include suffixes such as the – **ish** in foolish, -ly in quickly, and the – ment in payment. (HK G, engres.ied.edu.hk)

Other metalinguistic uses, such as reference to the free use of *Ish*, have been included, however. For instance, the author of a blog – Deborah – answers to a remark in the comment section and explains her nickname *Debbish* which is also the name of the blog:

(152) … Debbish was the nickname I was given by a group of friends while at Uni as I used to add '**ISH**' to the end of everything (or just use it as a word to mean 'sort of'). (AU B, debbish.com)

Her answer illustrates that as a language user, she is aware of the nuanced functions *Ish* has developed and uses it with high frequency ('add 'ISH' to the end of everything'), which had also resulted in her nickname.

5.3.3 Results

Taking the above pseudo hits out of the results, the remaining hits after this process are 1,193 total instances of *Ish*. Table 17 on the next page summarises the insights for -*ish*/*Ish* and displays their distribution over the twenty countries of the corpus.

Results include both, general web texts (G) and blogs (B). However, general web texts account for the majority of hits, which mirrors the distribution in GloWbE overall (cf. GloWbE text information on https://corpus.byu.edu/glowbe/.). The inner circle countries are clearly leading in their usage of *Ish*. Out of 1,193 instances of *Ish*, a portion of 1,064 hits falls on the six inner circle countries, and only 114 originate from the remaining outer circle countries. Above we have said that Kachru's classification did not consider South Africa and Jamaica, and if they had, it would not make a significant difference to the distribution: Only 15 times has the free morpheme *Ish* been used in South Africa and Jamaica, respectively (10 hits in the former case, and 5 in the latter). The major share of *Ish* is occurs in web texts from Great Britain with a total of 548 hits, which is distantly followed by the United States (180 hits) and Australia (107 hits). If we recall that the first (recorded) instance of *Ish* was found in the Londoner *Sunday Times* (cf. OEDweb), this result is not surprising.

Table 17. Number of overall hits for Ish according to country

Code	**Country**	**Number of occurrences of *Ish***
US	United States	180
CA	Canada	70
GB	Great Britain	548
IE	Ireland	89
AU	Australia	107
NZ	New Zealand	70
IN	India	17
LK	Sri Lanka	5
PK	Pakistan	4
BD	Bangladesh	2
SG	Singapore	16
MY	Malaysia	17
PH	Philippines	1
HK	Hong Kong	20
ZA	South Africa	10
NG	Nigeria	5
GH	Ghana	8
KE	Kenya	11
TZ	Tanzania	8
JM	Jamaica	5
Total:		**1,193**

In order to analyse *Ish*, however, a more fine-grained distinction of the results is necessary. As we are dealing with web texts, their orthography cannot be measured against standard orthography in written texts. As Crystal points out in his 2011 book, the language of the internet has to be characterised as a mixed medium, containing features of both spoken and written language. GloWbE is a suitable choice of corpus also because it contains a mixture of more formal as well as more informal texts. It can be used to highlight the gradient character of the development of *Ish* in that it shows the gradual detachment of a potential base. The inventory of *Ish* for GloWbE has to be scalar instead of being constituted of a binary dichotomy of the suffix *-ish* and the free morpheme *Ish*. The reason for assuming a scalar inventory is that besides suffixal uses and the occurrence of the genuine free morpheme, many more hits cannot satisfactorily be classified as either of them. We can use examples (153) and (154) to illustrate

this claim:

(153) My legs clearly hadn't recovered from the fast (**ish**!) 5k I'd run on the treadmill the other night. (GB G, alexsarchives.org)

(154) … and their son was selling it cheap. **Ish**. (GB G, mariankeyes.com)

In both examples, a suffixal variant exists and both are listed as such in the OED. However, instead of just adding examples like these to the suffix department, I propose these examples to be classified as their own group located more in the middle of a scale where the suffix and the free morpheme constitute end points opposite of each other. The justification of a separate class of items stems from the orthography. The writers added the variant forms of punctuation and boundaries consciously to give the clauses a distinct emphasis. Example (153) emphasises the writer's non-committedness of the run being fast by adding an exclamation mark behind *Ish*. Furthermore, by enclosing *Ish* in brackets, the writer sets it off from a potential base, thereby initiating a pause between the two elements (*fast*, *ish*). Similarly, the full stop in (154) is used to indicate a slight pause and structures the text differently in that it gives *Ish* the function of an afterthought that has been added in a conscious attempt to clarify the subsequent modification of the total absolute adjective.

Another interesting case concern examples in which the contribution of *Ish* appears doubly (or even triply) marked with the help of orthographical means. In both of the following examples, the use of the interrogation mark additionally emphasises the uncertainty the speakers express by using *ish*. To illustrate, consider examples (155) and (156) below:

(155) I bought my first PS2 after its first major price drop in 2001 (**ish**?) - to 400 DOLLARS! (GloWbE, AU G, kotaku.com.au)

(156) Primary school class, in a public school, has what.... 25 kids? **Ish**? (GloWbE, AU G, thepunch.com.au)

In general, the orthographic distinction might be considered only a minor one and speakers might give the orthographic means used here different weight, but the existence of such means and their potential impact on the interpretation of *-ish*/ *Ish* cannot be entirely ignored. In section 5.4.1 below I will go into a little more detail in describing the range of orthographical means for *Ish* used in the corpus.

Ambivalent examples like the orthographically marked ones here make a third distinction necessary: a transitional group which includes items that cannot still felicitously be considered suffixes, but they also do not yet classify as full-fledged free morphemes. A representation of the development of the suffix *-ish* to the free morpheme *Ish* must therefore make reference to the fact that this development is gradual, rather than abruptly 'jumping' from suffixal use to free use

of the morpheme. To be sure, a classification into three groups is still not able to fully capture the many fine-grained and detailed distinctions of this development and the multitude of varying forms. In order to balance manageability of the data and their intrinsic heterogeneity, I decided to make a tripartite distinction. One reason for retaining three groups instead of four or more is that it is highly unlikely to find out the exact path of development of individual items in group two. We cannot know whether orthographic marking is what spurred on other developments or whether it represented only a subsequent step to highlight earlier developments away from the suffix. While I categorise various types of forms in the second group, I will shed light on the several broad subgroups that can be found within.

The following table 18 (next page) records the decision of a broad development over three groups and below, I will go into more detail as to which subgroups we can encounter. The formulation of subgroups for all three superordinate groups follows a stringent classification which rests on objectifiable criteria, the sorting of individual items into these various subgroups has to remain subjective to some extent, however. Again, it is necessary to stress that the boundaries of these groups are fluid and that the reader might classify individual hits differently. In order to increase objectivity, I conducted a small-scale survey with examples from the corpus[109]. The results, although not entirely representative, confirm the diversity of the phenomenon in that they were very inconsistent as to the classification into one of the groups. It shows that the phenomenon is still developing and as such any sort of category remains in a state of flux. The notation I use to distinguish examples of the three groups is henceforth as follows: *-ish* marks the suffixal use, *ish* the transition, and *Ish* the genuine free morpheme.

In general, many of the examples are numerals, especially in groups one and two, which is not surprising given the large range of new numerals that potentially could be formed. A number of those are already codified in the OED and a quick search reveals that *twentyish*, *thirtyish*, *fortyish* and *ninetyish* are listed, but *fiftyish*, *sixtyish*, *seventyish*, and *eightyish* are not. Frequency might play a role here, and a quick search in GloWbE shows that *fiftyish* (10 hits), *sixtyish* (6), *eightyish* (1) are indeed existent, albeit in rather low frequencies. However, it is not feasible nor useful to list all existing numeral derivatives in a dictionary. On the basis of a transparent word-formational pattern ($base_{Num}$ + $suffix_{-ish}$) new derivatives may be formed easily.

109 The small-scale study was conducted in a reading group with varying numbers of participants. They were presented with a questionnaire with 30 items from the corpus and were asked to a) indicate to which major group they belonged and b) which element was modified by *Ish*. Although small and non-representative, the study showed that even in such a small group, the answers varied widely, emphasising the novel and not-yet-set-in-stone nature of *Ish*.

Table 18. The distribution of -ish/Ish over the 20 countries identified by GloWbE

Region Code	Group 1: *-ish* (Suffix)	Group 2: *ish* (Transition)	Group 3: *Ish* (Free morpheme)	Total
US	60	103	17	**180**
CA	28	37	5	**70**
GB	157	333	58	**548**
IE	23	56	10	**89**
AU	28	74	5	**107**
NZ	23	46	1	**70**
IN	8	8	1	**17**
LK	4	1	0	**5**
PK	2	1	1	**4**
BD	1	1	0	**2**
SG	7	8	1	**16**
MY	9	6	2	**17**
PH	0	1	0	**1**
HK	3	14	3	**20**
ZA	2	8	0	**10**
NG	3	2	0	**5**
GH	6	0	2	**8**
KE	4	5	2	**11**
TZ	4	4	0	**8**
JM	1	4	0	**5**
Total:	**373**	**712**	**108**	**1,193**

Not only the transitional second group is heterogeneous, but also the first and third groups show some variation in the forms I have sorted in them and thus they require explication. Concerning the first, suffixal, group, it is important to note that these were not targeted by the search query, but are rather mainly due to spacing errors, which can be seen as a token of the nature of web-based texts in which they occur. As a result, I will not make any quantitative statement about their distribution, but rather approach them qualitatively. Examples that have been sorted into it include numerals (157), adjectives (158), nouns (159), compounds (160) and phrases (161), as well as examples where either the base or the suffix is marked with inverted commas, but nevertheless can be analysed as a suffixed usage (162), (163).

(157) Two men, similar in age and build, both **60 ish**, both about 5 foot 8 inches. (GloWbE, CA G, http://flointhecity-aworkinprogress.blogspot.com/)

(158) I'm sure that Sony and nintendo (more likely Sony) have **similar ish** plans so it'll be cool to see how these mega companies square off (GloWbE, GB G, computerandvideogames.com)

(159) …, and there is a big difference between something being child like and being **child ish**. (GloWbE, GB B, myfaq.co.uk)

(160) I am tempted to become too philosophical about art, too "**ivory-tower- ish**," (GloWbE, CA B, cardus.ca)

(161) Anyway this post doesn't serve a particular purpose but I hope you enjoy this slightly more **'day in the life' ish** type of post! (GloWbE, GB B, dreamsthatglitterxoxo.com)

(162) and within my group of friends, there's a sense of family, almost (not in the **'cult' ish** way). (GloWbE, CA G, hoopcity.ca)

(163) He's been gardening organically for **40''ish''** years across the road and he never buys seed potatoes. (GloWbE, AU G, littlehomeinthecountry.blogspot.com)

Examples (158), (161), (162), and (163) show a typically attributive use of the complex adjective and (159) is a frequently attested *-ish* adjective. Here it becomes especially clear that the hit appeared among the results because of a spacing error. Example (158) is not listed in the OED, but since *-ish* can be considered a productive suffix, it is not surprising to find it attached to a new base. In (161) and (162), the phrasal and nominal bases, respectively, are marked with inverted commas, giving the readers a clue as to what is modified by *-ish* in the first case and the modified noun in (162) is set off to indicate the inappropriateness of the word in this context. In (163), it is the suffix which is marked, but due to its attachment to the numeral, the fact that *fortyish* is attested in the OED, and its attributive position modifying a noun, it is not difficult to read it as the suffixal use. Other markings of the relationship of base and suffix include a hyphen:

(164) And yes, it is a **welfare - ish** situation, but we created the problem and inbalance with reservations and restrictions; (GloWbE, CA G, wondercafe.ca)

(165) Starved, or too little epoxy will show as a **whit- ish** glitter. (GloWbE, CA B, bearmountainboats.com)

Both, (164) and (165) make use of a hyphen, but arguably for different reasons. In (164), the hyphen explicitly sets off the base from the suffix, marking its peculiar status as an unlisted word and at the same time preserving the form of the base. The hyphen does double duty here in that it can help parse an unknown complex word (compare ?*welfarish*) and indicate the novelty of this particular combination of base and suffix. In (165), it is used to separate the complex word

whitish at a line break. The adjective is frequently attested and listed in the OED and the fact that its silent <*e*> is omitted speaks in favour of typographical separation.

The second group is the most heterogeneous and diverse of the three. Due to its intermediate status, this is not surprising: its boundaries are not clear-cut and it includes examples which lean more closely to either end of the continuum, along with examples that do not show a preference in either direction. In the corpus we see that we do not only find examples like the numerals above, but also frequently digits, both even and odd, to which *Ish* is added. This is not a new development, but what actually is innovative is the frequent addition of measuring units to the numeral or a range of numerals before *Ish* or both:

(166) … use the side of the road to speed up to **50km/h ish** then jump into the road... (NZ G, kiwibiker.co.nz)

(167) We'll have four breakout areas, in the different corners of the room, in **15-20 minute ish** sessions. (CA B, electricarchaeology.ca)

In (166) the measurement for speed is added in abbreviated form, and in (167) a five-minute range including the time unit 'minute'. From the corpus analysis in section 4.8 above it is apparent that the concept of keeping numeral and measuring unit together is not entirely new. It was found in the occasional addition of the unit of time 'o'clock' as in *four o'clock-ish*. The suffix character of those infrequent examples is ensured by immediate hyphenation after numeral and time unit. The cases in GloWbE extend beyond these cases, however. Not only do they include time designations of the full hour, but also minutes or seconds in an often specified way. Further, units of speed, length, mass, height, weight, age, temperature, or currency are frequently found, too. It could be argued that examples like those merely represent suffixal uses of *Ish* with an extended range of bases in a corpus of internet language where orthography is not reliably used in any case. However, these examples may also be seen as a further advancement towards the genuine free morpheme. The scope of the complex numeral expressions has productively enlarged and includes various specifications of measure. The tendency is towards a larger scope, as evident in phrasal bases and more complex numerals, which reaches its endpoint with the free morpheme that modifies entire propositions. The inception for this development may well have come from cases like *10 o'clock-ish*, where the suffix has started to become reanalysed. The fact that these phrasal numerals are so frequent suggests that the most recent developments of the suffix with phrasal and numeral bases (see table 1) have started to be used together to create less bound instances of *-ish* and eventually lead to the morpheme being recognised as an element capable of standing alone and modifying larger units such as propositions.

With numerals, both a more narrow and a wider scope is possible and these distinguish examples

from the first and the second group. Consider examples (168) and (169) below:

(168) (This is the girl who grew only a centimetre over the whole school year, has now grown up and out a whole size since the beginning of the holidays **3 weeks ish** ago) (GB G, rationingrevisited.com)

(169) We called up GH **three ish weeks** ago and they said it would take 2 weeks – 3 weeks to process... (GB G, pomsinoz.com)

As examples (168) and (169) above show, both variations are possible: In (168), *ish* has a wider scope, including the measure unit 'weeks'. As such it is considered part of the second, transitional group. In (169), *-ish* follows right after the numeral. In the OED, *three-ish* (and other variations, like *threeish*, *3ish*, or *3-ish*) is non-existent. However, (169) could easily be conceived of as an example of the suffixal *-ish* with a new numeral base. Example (168) above, however, poses the problem of including an inflected noun before *ish*. If this example should count as a derivative with an extended base, then we run into the problem of inflection not being outside of derivation anymore (cf. Bauer et al. 2013: 505). A few counterexamples exist, but are claimed to only occur with irregular inflections, which is clearly not the case for plural *-s* above. Examples like these account for the slow changes with *Ish*. The existence of these numerals including their units of measure are further evidence of the emergence of a free morpheme, even if they do not represent entirely unambiguous examples of it. I thus add those to the transitional group immediately left to the genuine free *Ish* examples on the scale.

Next to orthographical markings, numerical ranges and numerals co-occurring with measurement units, also inflectional morphology can be considered a subgroup of 2. Example (168) above shows the regular plural *-s*, but also past participle endings (170), inflections marking aspectual forms (171) and superlative as well as comparative forms (172) appear in the corpus:

(170) After a lovely **relaxed (ish)** week off for half term I think its the PTA stuff that does that to me! (GloWbE, GB G, lizloz.co.uk)

(171) As we worked out on Sunday, I informed Adrian of my delight at seeing a **rippling (ish)** torso staring back at me... (GloWbE, GB G, thesun.co.uk)

(172) Right now I am working on a film called 12 Rounds Reloaded playing a **younger (ish)** Detective on the hunt for a man (Randy Orton). (GloWbE, CA B, vancitybuzz.com)

All three examples are additionally orthographically set off and such combinations occur frequently in the corpus. A fifth subgroup are phrasal units, which are distinguishable from the phrasal bases of the first, suffixal, group in that they do not modify a noun or noun phrase (as (161) above shows), but are phrases in themselves, which are modified by *ish*. These phrasal units are mostly numerical phrases, indicating a time frame or a distance to a location. Have a

look at example (173):

(173) I think we're gon na have **about three months back home ish** in the new year so I'd quite like to get some cats then,... (GloWbE, GB B, uplateatnightagain.com)

There is one group of remnant items left that subcategorises on the one hand into elements leaning closer to group one and on the other hand into items which resemble the third group. The first of these concerns predominantly complex numerals which do not have measurement units that distinguish them and they also occur without additional orthographical markings. Below are three examples:

(174) I arrived at the event at **12:30 ish** to find Aypok and Peter (Aypoks mate) setting up an SMS. (GloWbE, GB G, guardian.co.uk)

(175) Using the washing machine (7kg) is **1.20 ish** and the dryer (about 9kg?) is 1.60 ish. (GloWbE, GB G, thestudentroom.co.uk)

(176) An ex courier one has done over 200,000km and just recently had some engine work done I think (after 200k). A mates at **140k ish**, mine at 110k. (GloWbE, NZ B, kiwibiker.co.nz)

Looking at these examples, we could argue that the time designation of 12:30 is more complex than 12 sharp. Likewise, the amount of 1.20 needed to operate a washing machine is a more detailed amount that one pound. The measurement unit is simply omitted in both cases and hence, they qualify for felicitous classification in the transitional group. The last example is perhaps the most difficult to decide upon as the letter *k* behind the numerals indicates a thousand in the International System of Units (SI)[110] and is thus called an SI prefix or unit prefix. It can be considered a special notation for signifying the number 140,000, a short mnemonic which is widely understood. As *-ish* is able to append to numerals of any size, the arisen difficulty is therefore a consequence of the rather coarse-grained system of distinguishing three groups. The reader might be more inclined to categorising these examples as belonging more clearly in group one and leaning towards group two. I, however, have considered them vice versa to show a development from the original suffix in that their bases are intrinsically or notationally more detailed and complex. As such I group them into the second, transitional, class, but emphasise that they are leaning closer towards group one, which a more fine-grained classification system would show.

The other subcategorisation of these remnants concerns elements which lean closer towards the third group, but are not yet considered to be a full-fledged free morpheme. This classification arises from their nature of representing scope ambiguities, where *ish* may be analysed as

110 The abbreviation stems from the French word Système international (d'unités).

modifying a narrow scope (e.g. an adjective), or a wider scope (a proposition). Examples (177) - (179) exemplify this subgroup:

(177) So it's fine... **ish**... For now... (GloWbE, IN B, theartfuldodgers.blog.com)

(178) went on our very first group dog walk today. it went ok (**ish**).. (GloWbE, GB B, mygermansheperd.co.uk)

(179) It's nothing new, although the tools are (**ish**). (GloWbE, GB G, guardian.co.uk)

(177) is ambiguous in scope in that *ish* could potentially modify only the adjective *fine*. The OED lists the complex adjective *fineish*, which is thus in the range of possibilities. Due to the orthographical marking that sets *ish* off from the adjective, it is considered part of the second group and does not constitute a suffix. A wide-scope reading implies that *Ish* actually modifies the entire proposition that it is fine. In such a case, it would be considered as part of the third group. Likewise in (1778, *ok* occupies the slot for adjectives and *ish* could potentially modify only the adjective. In this case, *ok-ish* (or variant spellings such as *okayish*, *okay-ish*, etc.) is not listed in the OED, but *ok* could potentially serve as a base for *-ish*. Similar to (177), a reading indicating a wide scope would include the proposition that it went ok. Hence, (178) behaves like example (177) in being ambiguous between the two readings. Finally in (179), *ish* can be analysed as modifying the adjective *new*, however, the lexeme is elided in the subordinate clause. The wide-scope reading 'the tools are new' concerns again the propositional use of *Ish* and thus the example leans towards group three. All of these have inherent ambiguities, which are not present in the genuine free morpheme. As such, they are analysed as being located inbetween groups two and three. In my three-way classification system that translates into considering them as belonging to the intermediate group as they have not fully developed into the free morpheme *Ish* yet. It is to these that we now come.

The free use of *Ish* first and foremost concerns propositional uses (180). In this group we also locate examples such as (181), in which *Ish* modifies the predicate, (182) where *Ish* modifies an entire clausal unit, and the smallest subgroup where *Ish* serves as the answer to a question (183).

(180) I am a Jew (**ish**), but it doesn't matter to me, either, I just thought it was an interesting question. (GloWbE, US B, patheos.com)

(181) Watched (**ish**) the debate on Food Trucks. I sympathize with the downtown owners. (GloWbE, US B, edcone.typepad.com)

(182) For the price of a Frasor/Lyon re-signing (**ish**) I thought Baker would have been an excellent end of rotation piece. (GloWbE, CA B, blogs.thescore.com)

(183) I watched the minister on the news yesterday when asked if the hospital would be built for 2016. His reply.... "**ish**" in the most nonchalant and arrogant fashion. (GloWbE, IE G, thejournal.ie)

The propositional use as indicated by example (180) is perhaps the most commonly found among the examples in the third group, followed by modified predicates. The other two are found only rarely, but are not considered to still exemplify the transitional group, especially those representing single answers to questions. Clausal units such as those in (182) are perhaps among the most debatable for classification in the third group. As they amount to only a few hits, reclassifying them would not call into question the distinction established here. The examples showing scope ambiguities are also not plenty and a recategorisation to the third group would not result in a significantly overall different distribution between groups two and three. If we extract all those examples in the remnant group indicating more complex numerals, which do not bear the mark of any of the other subcategories of the transitional group – i.e. no orthographical markings, measurement units, or ranges of any sort – they amount to 79 hits. Thus, a reclassification into the first, suffixal group, would not result in a shift in the overall distribution of groups one and two. Given that, frequently, the measurement unit is simply omitted, they will remain in the second group here.

Due to the fluidity of the individual items in the three groups, I will not quantify them here, but retain the three overall groups identified in table 18 above. Furthermore, the items in the second group remain unquantified as there is frequently overlap among the subgroups. That is, an individual example may depict a numerical range in addtion to being orthographically marked and so on. Bearing the above remarks in mind, we arrive at three groups which show the gradual detachment and independence of *-ish* from its base via an intermediate stage *ish* and arrive at an entirely unbound morpheme *Ish*. This development, along with the identification of the principal subgroups of *ish*, is depicted in figure 9 on the next page. Both, group one and three in the graph depict their relative heterogeneity in a simplistic fashion as they do not show their subgroups. The intention, however, is to show that the development from the suffix to the free morpheme proceeds over several pathways, which is depicted in the graph with the second group and its subgroups.

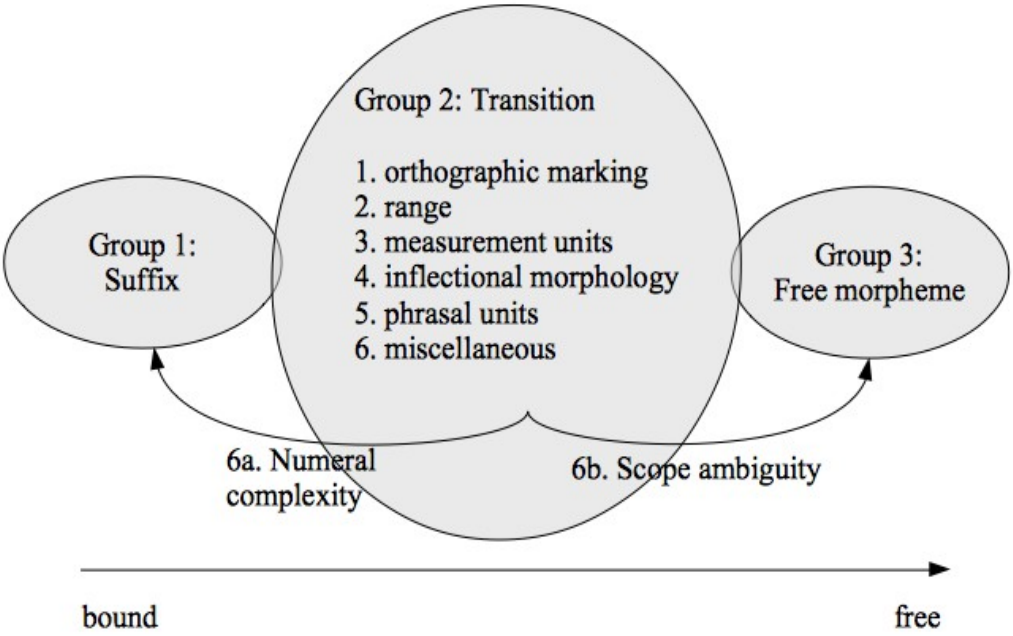

Figure 9. The three groups in the transition from the bound morpheme -ish to the free morpheme Ish

5.4 Properties of *Ish*

This section will identify some of the most salient properties of *Ish* as has become evident from the corpus analysis. Above I have emphasised that no clear-cut distinction between the three phases of development is possible to maintain at all times. Thus, occasionally the properties apply to examples from the transitional group 2 (*ish*) and the third group (*Ish*) alike or may be used to show the differences between the two groups. Furthermore, the representation of linguistic levels in separate sections gives the impression that they are strictly modular (see, e.g. Chomsky (1965, 1984) and Fodor (1983) in favour of the modularity hypothesis, Pinker and Jackendoff (2005) as proposing counterarguments in the debate). However, that is not the case and the representation in sections should not be understood as such. It is frequently the case that topics concerning one level might spill over into another level as, for example, with the topic of word class, which is a matter of morphosyntax. Therefore, the following subsections are intended to show a conception of linguistic levels that is not strictly modular, but conceived of in terms of an interaction between individual levels. We will first discuss some of the main orthographic properties that could be identified in the corpus analysis.

5.4.1 Orthographic properties

This section concentrates on the numerous possibilities found in the corpus to detach *-ish/Ish* from a potential base. Therefore, it is strictly-speaking not a property of *Ish* itself, but rather a property of the conditions in which *Ish* may be found. Bearing in mind that a corpus of web texts does not follow standard conventions of punctuation as well as the creativity of language users in such a medium, a variety of orthographical means can be found. Probably most common is the method of detaching *Ish* by enclosing it in parentheses as, for example, (153) above has shown. It is repeated here for convenience as (184):

(184) My legs clearly hadn't recovered from the fast (**ish**!) 5k I'd run on the treadmill the other night. (GB G, alexsarchives.org)

It is the graphically most visible means to separate an element from the rest of the text. It allows for the addition of further punctuation marks, such as the exclamation mark in the example, but also frequently question marks to emphasise the writer's uncertainty about a matter or his or her unwillingness to commit to it. In some cases, the writer specifies his or her confusion by adding an explication:

(185) Jessica Williams, the new (**ish**? I don't watch it regularly) correspondent... (US B, splitsider.com)

In doing so, the fluency of the text is disrupted, but it allows the writer to remain in the comfort zone of not having to commit to a stronger proposition that might not conform to the writer's knowledge about a matter. Another commonly found means of punctuation is the use of ellipses (i.e. the triple-dot punctuation):

(186) Just proves that we AKBs are... well... you know... passionate... **ish**. (GB B, aclfarsenal.co.uk)[111]

In example (186), the use of ellipses is clearly exaggerated and does not usually occur in such a concentration. However, together with the discourse markers *well* and *you know* it illustrates nicely the writer's reluctance to commit to the assertion that the Arsenal fans can be felicitously described as passionate.

Less common is the sole insertion of punctuation marks before *Ish*:

(187) Indeed, the end of civilization is near! **Ish**! (US B, scienceblogs.com)

111 The corpus provides an extended view of the examples which is useful for further information on the context in which they occur. However, that often does not suffice and in order to understand an example properly, checking the URL of the website is often necessary. That in turn is sometimes a tricky matter as not every website is still up and running. In the case of example (185) above, however, the URL could be checked for the abbreviation *AKBs* which was not explained in the snippet of the extended view. It turned out that *AKBs* stands for a fan faction of Arsenal supporters (hinted at with the URL's name) and translates into *Arsene knows best* (Arsene Wenger has been FC Arsenal's football trainer since 1996). This short excursus shows that it can sometimes be hard for outsiders to follow the idiosyncracies in the language of closed social groups.

(188) The information on this was helpful, **ish**. (GB G, bbc.co.uk)

(189) I guess you are 50? **Ish** or so... (GB B, inspectorgadget.wordpress.com)

(190) The collective noun for owls is a parliament. See? Not so tenuous. **ish**. (GB B, blogs.ucl.ac.uk)

The detached versions of *Ish* may have derivational counterparts, as in example (187), *nearish*, but do not have to ((187) thus constitutes an example of the transitional second group of *ish* above). All of them signify a slight pause between the otherwise adjacent modified element and *Ish*.

All of the discussed means of punctuation can have the function to structure the text differently. With the marked detachment of *Ish* from a base, the writer puts emphasis on the use of *Ish* and highlights its demarcation from the suffixal use. The main orthographic means to detach *Ish* and make it stand out is the use of brackets and punctuation marks (i.e. single dots, ellipses, question marks and exclamation points), often in a combined fashion.

5.4.2 Phonological and phonetic properties

When looking at free morphemes which formerly only occured as suffixes, it is striking to observe that they are all nouns and vowel-initial: *Ism* ('consumerism'), *Ology* ('archeology'), *Ade* ('lemonade'), *Itis* ('bronchitis'), and *Ish* and a number of others (i.e. minor ones like *ocracy* 'democracy', which is listed in the OED or *onomy* 'autonomy', which is not, cf. also Anttila 1989: 151). The observation that all of the morphemes are vowel-initial is not limited to English, but is found also in other languages, for instance, in German (*Ismus* 'ism', *Itis* as in 'Bronchitis', etc.). These often have a colloquial status and are frequently not listed in dictionaries (e.g. *Itis* is not found in the well-known German dictionary *Duden*).

The monosyllabic morphemes (i.e. *Ism*, *Ade*, *Ish*) consist only of a nucleus and a coda. While in some theories a syllable is required to have an onset, i.e. begin with a consonant (e.g. Optimality Theory, cf. Féry and van de Vijver 2003: 6; cf. also Hockett 1947; see Blevins (2001[1995]: 84)), English clearly is not a language where the Obligatory Onset parameter requires to be set to 'yes' (cf. Blevins 2001[1995]: 87f.). However, Plag notes that ”syllables in general have a strong tendency to have onsets“ (2003: 81f.) and thus the question remains, why predominantly vowel-initial suffixes are reanalysed as free morphemes[112]. The difference between the suffixal and free

112 A few consonant-initial suffixes occur as free morphemes, e.g. *hood*$_{N}$, a clipping from *neighbour-hood* and predominantly used in slang and apparently also *ness*$_{N}$, which describes ”[a] quality or condition denoted by *-ness* […]; a word ending in *-ness*“ (OEDweb, entry *ness*, n.2). As a word, *ness* has been attested from 1651 on and usually occurs in the plural. The following example is taken from the OED: ”I shall only point at some of the *nesses*.. of the peoples coinage.. soul-saving-ness“ (R. Leigh, Transposer Rehears'd 134, 1673).

morpheme uses of *Ish* is that in the former case, the vowel-initial suffix -*ish* is integrated into the prosodic structure of the base, becoming part of the prosodic word (cf. Plag 2003: 83), and shown in example (191a.), whereas the monosyllabic free morpheme constitutes a prosodic word on its own. With a consonant-initial suffix, there is a prosodic word boundary already established between the base and the suffix, as illustrated in (192) (Examples (191b.) and (192) originate in Plag (2003: 83), the suffixes are indicated in italics).

(191) a. bla.ck*ish* [bla.ck*ish*]$_{PrWd}$
b. mon.str*ous* [mon.str*ous*]$_{PrWd}$

(192) help.*less* $_{PrWd}$[help.]*less*

When listening to the very few audio files in which *Ish* occurs, a slight, but notable pause can be detected before *Ish* is uttered. The said audio files obviously do not originate from the GloWbE corpus, but have been encountered in the use of the BNCweb. Furthermore, occurrences of *Ish* can also be observed in a number of TV shows, which are of course scripted, but conclusions about the natural use of *Ish* can nonetheless be drawn. We have mentioned that *Ish* occurs in some news interviews and in these the use of *Ish* is more authentic. This marked pause between *Ish* and any other previous element also indicates its independent morpheme status.

Germanic languages generally follow the Germanic Stress Rule, stating that the first syllable of the lexical root receives main stress (cf. Lass 2006: 67), e.g. *GREENish*[113]. As opposed to the suffixal use, the independent *Ish* is stressed when it is uttered at the end of a clause or as an answer to a question. While the internal syllable structure follows the maximal onset principle for the derived words below (i.e. ”a ...VCV... string is universally syllabified as ...V.CV...“, Crystal 2003a: 325, which means *blackish* is syllabified as /'bla.kɪʃ/), the utterance of *Ish* is qualified by a marked increase in pitch. Both, the pause before *Ish* and its stressed nature can be exemplified with example (194) below[114].

(193) /'tʃʌɪldɪʃ/ 'childish', /'blakɪʃ/ 'blackish'

(194) A: It was you doing the games were you?
B: Erm, ye-- ye-- <pause> **ish**. (BNC, KE0 797, Spoken conversation)

In (193), the British English pronunciation of *childish* and *blackish*, respectively, is shown, according to the OED. The stress position remains on the first syllable for the derived words in British and American English (the latter of which is not shown here).

113 Since the introduction of much French-based lexis after the Norman Conquest, which follows the Romance Stress Rule, the stress system of English has become much more complicated (cf. Lass 2006: 68).

114 The BNCweb offers audio files for a number of their spoken data; the file for the example may be found here: http://bnc.phon.ox.ac.uk/data/021A-C0897X0416XX-AAZZP0.wav?t=569.8025,574.6625 (last accessed 12.10.2019).

In (194), however, *Ish* serves as the answer to A's question and its tentative quality is reinforced by the hesitation marker *Erm* as well as the reduplication of *ye* and the pause (the transcription notation is taken from the BNC, the names of the participants were rendered into A and B, respectively).

5.4.3 Morphological properties

Free morphemes, as opposed to bound ones, are characterised by the fact that they can stand alone in a clause or sentence and thus can function as a word. The emergence of free morphemes from suffixes, which are bound morphemes by definition, has taken place only sporadically in the history of English (cf. section 5.1). The process involved in creating these morphemes is disputed. Anttila (1989: 151, see also Ramat 1992: 550) counts these examples as instances of lexicalisation; a view that is refuted by Brinton and Traugott, who state that they are created by mechanisms of word-formation in that they are clippings which have undergone the process of conversion (2005: 9). The OED characterises *Ish* as having arisen from the morphological process of conversion as well (cf. OEDweb, entry *ish*, adv.).

The lexeme *Ish* under discussion has some properties in common with other free morphemes, most notably the non-existence of a base host to which it has to be attached. While it does of course modify other elements, it is not formally dependent on another morpheme to occur in a clause. This still is the case for the suffixal variant *-ish*, but is no longer true of the free variant that has become reanalysed and developed into a morpheme which is able to modify elements not directly adjacent to it. In section 2.2.2 above, the numerous bases were introduced to which the suffix *-ish* could be attached. However, while the number of bases (as well as the scope of *-ish*, cf. compound bases and phrasal elements) steadily increased, the suffix was never able to modify whole propositions as the free morpheme does:

(195) While I agree with what you say, **ish**, i completely disagree with banning playdoh... (NZ B, stuff.co.nz)

It further becomes evident that *Ish* has become unbound in that it can function as the sole answer to a question (see example (183), repeated here as (196)):

(196) I watched the minister on the news yesterday when asked if the hospital would be built for 2016. His reply.... ”**ish**“ in the most nonchalant and arrogant fashion. (IE G, thejournal.ie)

Ish is monomorphemic and section 5.2 has shown that it started to become a base itself for other suffixes to attach in the short excerpt of the British TV series *Dr Who* (138), where the character of the Doctor states that the readings of his time machine have started to become *ish-y*. The

formative is of course a pun on the derivative *fishy*, which also denotes that something is not quite as it should be. Nevertheless, usages like these may help pave the way for *Ish* to become firmly established as a base word in word-formation.

How can we classify the free morpheme, however? Which morphological word category does it fit into? The discussion of these questions will be concentrated on in the next section 5.4.4 below; here it will suffice to briefly state the developmental path as suggested by the OED. As I mentioned above, according to the OED, *Ish* is an adverb which has been formed by conversion of the suffix *-ish*. It is therefore unmarked for the adverbial suffix *-ly* as is the case for a number of other adverbs as well and can be attributed to the simple adverbs (cf. Quirk et al. 1985: 438). It has been argued that adverbs and adjectives belong to the same morphological category (e.g. Emonds 1970, 1976, in Oltra-Massuet 2016: 311, footnote 8). So far, there is not much evidence for *Ish* to be considered an adjective, as it is not used in the comparative or superlative but so far Traugott and Trousdale (2013: 230) have provided one example for a gradable use of *Ish* (see 198). It is not entirely inconceivable to assume that cases like (197) and (199) will develop later.

(197) ?This is very/completely **Ish** to me.

(198) Show starts at 10pm-*ish* (very, very **ish** because we'll still have the Chucking-Blossom fundraiser goin on). (fbxshows.com, 2010)

(199) ?That situation seems more **Ish** to me than the one you encountered last week.

In section 5.2 above we have also discussed whether *Ish* can be considered to further developing into a noun, also primarily shown with example (138) from *Dr Who*, but so far these are isolated cases and we cannot make any generalisations yet. The reasons why *Ish* nevertheless may be felicitously placed in the adverb category are exemplified below. The question of category is equally relevant to the linguistic levels of morphology and syntax, which is evident in the term 'morphosyntactic' used in corpus linguistics to describe annotations on the word level (i.e. POS tags, e.g. in Lemnitzer and Zinsmeister 2006: 64). Since the notion of 'word class' pertains to an abstract category of words which share similar grammatical properties in a sentence and which thus has repercussions on the position and combinatorial possibilities with other elements in clauses and sentences, this aspect is further discussed in the section below.

5.4.4 Syntactic properties

Placing an element in the adverb class can be a delicate matter and it is not without controversy to add to an already greatly heterogeneous word class. For a number of linguists items labelled *adverb* form a kind of ”catch-all“ category used for elements which do not fit into any of the other word classes and which have a multitude of functions not easily boiled down into one

coherent set of features (cf. Huddleston and Pullum 2002: 563, Hoye 2020: 1f., Quirk et al. 1985: 438). This heterogeneity of elements in the adverb class prompted some linguists to exclude a number of items rather than keep them as subsets (cf. Quirk et al. 1985: 438). Furthermore, Duncan (2015: 2) disagrees with placing *Ish* in the adverb class and names the fact that it cannot be fronted and cannot appear between auxiliaries as a reason for doing so. In fact, linguists working on *Ish* have not reached a consensus in that matter. Traugott and Trousdale (2013: 236) cite its ability to be modified by *very* (cf. example (198) above) as an indicator that the category of adjectives is considered a possible class for *Ish*, but simultaneously note the absence of comparative or superlative use. Oltra-Massuet (2016: 311) considers the adverb class the most probable as it is shown to pattern with speaker-oriented adverbs syntactically, but does not further discuss the matter. It seems, at least from a synchronic perspective, that the matter of word class remains unresolved as of yet. The reasons why *Ish* may nevertheless be congruously placed in the adverb category are exemplified below.

As an adverb, *Ish* can modify adjectives (200), verbal elements (201), and, less commonly, adverbs (202), as well as entire sentences (203) and noun phrases (NPs) (204). However, contrary to most other adverbs, *Ish* may also qualify complex numerals (205) (but see Quirk et al. 1985: 450 concerning adverbs as modifiers of cardinal numbers). It may also be argued that in these cases we are dealing with an extension or further development of the suffixal *-ish* variant, as the transitional group 2 (*ish*) above has emphasised and not yet with the full-fledged free morpheme of group 3 (*Ish*).

(200) Mr C, I think we live in the same neighbourhood (**ish**) if you shop at Tesco Burnage (GB B, manchestercycling.blogspot.com)

(201) I even like Bane.. **ish**, … (GB G, totalfilm.com)

(202) Just putting into perspective, (Humorously… **ish**) why some men (and me in particular) aren't quite comfortable with female bosses. (US G, huffingtonpost.com)

(203) Vietnam? Well we were at war with them around that time (**ish**!) but are at peace now... (US B, blogs.discovermagazine.com)

(204) I appreciate most of the films on this list – I find some of your ranking quite disturbing however... Minority Report (a P.K.Dick story – **ish**) ranking over some of the beauties […] seems a bit misguided. (US G, snarkerati.com)

(205) You need a baking tray about 26x18x3 cm (**ish**) to make enough for six... (GB B, diaryofteacher.blogspot.com)

As modifiers of adjectives, adverbs generally premodify (cf. Quirk et al. 1985: 441, 445). *Ish* then has to be seen as an exception to this tendency as it – like its suffixal counterpart –

postmodifies adjectives (as well as other elements) in almost all cases. Adverbs generally show a great diversity in the position they can take in a sentence (cf. Quirk et al. 1985: 490) and they have even been described as ”the most mobile of all clause constituents“ (Hoye 2020: 3). With *Ish*, however, possibilities are limited to clause-final and clause-medial occurrence, respectively:

(206) She's not a bad dancer, she has good timing and she's light on her feet (**ish**). (GB G, forums.digitalspy.co.uk)

(207) Watched (**ish**) the debate on Food Trucks. (US B, edcone.typepad.com)

In (206), *Ish* is in clause-final position, while in (207), it occurs in the middle of the clause after the (implicit) subject and the verb and before the object. Cases of the latter kind are much rarer than the frequent clause-final position which seems to be the norm. In section 6.2.4.2 I will discuss syntactic properties like position for a set of selected hedging expressions and it is argued that *Ish* belongs to this group as well (see 6.2.5.2). A more detailed discussion of position is thus deferred to the sections on hedges.

Ish may occur both in matrix and dependent clauses, the former is more likely than the latter, however:

(208) I started making a few Young American friends. **Ish**. (HK G, sites.cdnis.edu.hk)

(209) I don't know how pm works but I would be happy to send them to you if you get me your address! Or drop them at your office if it's near Piccadilly circus **ish**??!! (GB G, mumsnet.com)

Matrix clauses are not hard to find as they constitute the predominant clause type for *Ish* to occur in. Example (208) contains the subject *I* and the predicate[115] consisting of the verbal group (*started making*) as well as the object noun phrase (*a few Young American friends*). It is thus an independent clause that can stand on its own. In example (209) the speaker offers to deliver medication pills to his or her addressee, but with the restriction that the drop-off point is in the vicinity of the speaker. *Ish* is used in the conditional clause and refers to the prepositional phrase *near Piccadilly circus*. Occasionally, *Ish* is also found in interrogative clauses:

(210) Does the hexagon/honeycomb tile style work? Or is that too pre-1950? **ish**? (US G, savethepinkbathrooms.com)

The example belongs to group 2 since *ish* is separated from its modified element solely by orthographical means, i.e. the question mark, and does not show further signs of advancement on the scale. Nevertheless, by adding an additional question mark after *ish*, the speaker emphasises

115 Note that the conception of 'predicate' here is compatible with the one advocated in traditional grammar, i.e. it consists of the verb (or verbal group) and the object (NP). More recent approaches split up this binary conception and consider the object as an argument of the predicate, but not as part of the predicate itself. This conception is compatible with dependency grammar (see Osborne, Putnam & Groß (2012) for details).

the inquiring character of the previous questions and sets *ish* apart from them.

5.4.5 Semantic properties

As I have previously stated, the suffix *-ish* has three main senses according to the OED:

(211) a. 'Of or belonging to a person or thing, of the nature or character of'
b. 'Of the nature of, approaching the quality of, somewhat'
c. 'round about, somewhere near (the time or period of)'

Others classify the senses differently, e.g. Traugott and Trousdale (2013: 234), who identify ethnic, associative and approximative senses. In Bauer et al. (2013), *-ish* is collectively termed a 'similative' suffix, but they do discuss its ability to attach to ethnic nouns as well. In section 4.9 above, I have shown that the decompositional analysis in Lieber's (2004) framework revealed three broad senses, one of which can be further distinguished into two sub-senses and they are all connected via metonymic links and show a historic progression. The senses I identified were given in figure 8 above and the last sense of approximation is the one of interest to us here.
It is this last sense that is the point of departure for the free morpheme *Ish*. It is prevalent in adjectives and numerals in the suffixed use and it is this sense that is continued for *Ish*. The meaning of *Ish* may be paraphrased with *sort of* or *more or less*:

(212) well im (sic!) so far having fun..... **ish**..... (US G, eu.battle.net)

(213) Yes sirs and madams, I'm done with it, I think. **Ish**. (US G, dreamingmywaythrough.blogspot.com)

For example, (212) may be rendered into 'I'm *more or less* having fun' and (213) into 'I'm *sort of* done with it'. In doing so, it is not categorial whether one or the other paraphrase is used. In some cases, *Ish* is found next to other markers of attenuation, like *kind of* (214), hesitation markers (215), the use of a well-established discourse marker which can be used to initiate a reservation about a statement (see *well* in (212) above) or even introduce *Ish* itself as in (216) below, or attenuating expressions like *I think* (see 213):

(214) First off I'm going to apologise for wandering off topic... kind of, but not really... **ish**. (GB G, warseer.com)

(215) We'll always have a trip to Hawaii, er, **ish** (GB G, theregister.co.uk)

(216) I actually love her hair, I had a similar style a couple of years ago (well, **ish**). (GB B, bohomoth.com)

An illustrative example concerning the stacking of other attenuating devices additionally to *Ish* comes from the COCA corpus, depicted in (217) below. The example stems from an interview

with Elon Musk in which he is persistently asked about the costs of the development of a new Tesla car.

(217) 1 Stahl: How much more has the project cost than you thought it was going to cost so far? Twice as much?
2 Mr. Musk: Probably...
3 Stahl: Three times as much?
4 Mr. Musk: No, probably twice as much, I think, **ish**, thereabouts.
(COCA Spoken; CBS_Sixty, 2008)

It is striking that Musk is very tentative when asked about the costs ('Probably...', line 2). When the interviewer does not cease prompting Musk about the costs and even proposes an enormous increase than the originally calculated costs ('Three times as much?', line 3), Musk intervenes in denying the latter and tentatively suggests the double amount of the anticipated costs (See line 4). In using these four attenuating devices, Musk not only satisfies the interviewers incessant questions, but also saves face by not fully admitting the actual (increased) costs for the project. Attenuation is a function *Ish* has in these cases and I will defer a more detailed discussion of its functions to the next section, 5.4.6, which includes pragmatic aspects.

Above I noted that in reanalysing *-ish* as a free morpheme part of its suffixal meaning has been retained. Particularly the sense of approximation in the suffix, or senses (211b.) and (211c.) by the OED play a role in the semantics of *Ish*. They do not do so unchanged, however. Sense (211c.) is applied to numerals, especially to 'names of hours of the day' and 'numbers of years' (cf. OED online, entry *-ish*, suffix) and indicates a vague measurement of these units. The OED defines the sense of 'round about', for example, 'with reference to an amount, quantity' which has the meaning 'about, approximately; not much above or below; nearly' (OED online, entry *round about*, sense 5.a.), which is exactly what the suffix *-ish* denotes when it is appended to numerals. Sense (211b.) of *-ish* in the OED is used with adjectives and the latter two descriptions 'approaching the quality of' and 'somewhat' accurately denote the quality of vagueness of the suffix. When using a derivative like *oldish*, for example, the quality 'old' is not reached completely: a speaker may not use the strongest quality of an adjective without mitigation when s/he is not absolutely committed to the truth of that statement.

The same is true when turning to the meaning of the free morpheme. It is generally expressing a weakened commitment to a proposition, and thus combines the essence of senses (211b.) and (211c.) of the suffixal use, namely 'somewhat' and 'round about'. The combined sense is therefore not limited to a particular word class to come to full effect, but may be used to qualify a predicate or even a proposition. The two senses identified by the OED are combined in my sense of approximation (which pertains to both, adjectives and numerals, see table 16 in section 4.9),

and for the free morpheme, we may paraphrase the meaning more broadly as 'sort of, more or less, about'.

Ish can have both a narrow and a wide scope as can be seen in the examples below[116]:

(218) Yup, stuff like this is why I live in the ”socialist“ nation of Australia (we have free public healthcare! **Ish**). (US G, whatever.scalzi.com)

(219) Men and Women are at it like rabbits. **Ish**. (GB G, firehose.prweek.com)

In example (218) above, *Ish* can be discussed as showing narrow scope: it scopes over the noun phrase that is modified by the adjective *free*. Concerning its semantics, *Ish* is thus similar to the suffixal variant (and in fact, *freeish* is a derivative that is both found in corpus data and attested in the OED). It may be questioned if group 3 (i.e. the genuine free *Ish*) is the appropriate group to place this example in because apart from its distinctive formal nature (it is not attached to any base formally), it is noticeably similar to the suffix variant as shown above. It can, however, felicitously be placed in group 3, due to its formal nature. That means it is obviously not the same as the derivative *freeish*, and it is also not only detached from its base via orthographical means, but is distinguished by its placement at the end of the sentence with the adjective *public* and the compound noun *healthcare* placed inbetween. Consider the modified sentence below:

(220) We have **freeish** public healthcare.

Semantically, there appears to be no intrinsic difference between (220) and (218) above. In placing *Ish* at the end of the sentence, however, the speaker does add a pragmatic flavour to the statement in emphasising the attenuative quality of *Ish* by giving it the form of an afterthought. Semantic and pragmatic characteristics of *Ish* can be shown to frequently play a combined role in these examples.

In (219), *Ish* does not qualify a single element that has its counterpart in derivative morphology. Instead, it scopes over the entire proposition 'Men and women are at it like rabbits'. As such, the unbound genuine *Ish* is able to impact propositions by modifying the truth value. The proposition cannot be considered true under an unmodified interpretation. Only when it is weakened by the addition of *Ish*, is it rendered true. Thus, what is considered true is expanded with the application of *Ish*, alternatively *Ish* can be interpreted to introduce a third truth value, which states that the truth holds, but to a lower degree.

A further characteristic concerns the direction of approximation to the standard value, given an underlying scale of degrees. Recall Bochnak and Csipak's (2014: 433, 445f.) claim that *Ish* (and

116 Scope is often not strictly unequivocally applicable. In many cases, the examples vary between a narrow and a large scope between individuals. This has also been the result of the small-scale study mentioned above. In the present case, example (218) may also be interpreted as illustrating both.

-ish) targets ”a degree strictly lower than a standard“ (p. 445), which differentiates it from the hedge *sort of*. While this is true for most cases, there are a few instances of *Ish* where this does not hold. Whenever *Ish* modifies numerals (time designations, age, etc., but also measurements), its meaning is not restricted to some lower bound, but instead may pick either interpretation as the paraphrase '*more* or less' indicates. Consider the examples in (221) to (223) below.

(221) I should add its [sic] often people my age... **ish** (49) that get all upset and sometimes I think its (sic) because we are projecting our own prejudices onto our younger generation and the fact is that's not where they are at. (GloWbe AU B, thehoopla.com.au)

(222) But keep in mind our world is changing- the context that people my age (38 and **ish**) experienced with biraciality/transracial adoption will be way different than people growing up today, when there are way more people with "mixed" backgrounds (GloWbE US B, mybrownbaby.com, 2012)

(223) I did not succeed in cutting down on sheer quantities of oats. Will continue doing that. Also start weaning down the amount of sugar I add (it's only a teaspoon... **ish**) (GloWbE AU G, www.donttheyknowwhoiam.com, 2012)

In example (221) *Ish* signals vagueness concerning the definite delimitation of age, and in doing so, it may approach the standard (i.e. 49) from above *or* below. It is thus not limited to the interpretation of age under 49 years old. The fact that the definite age designation is placed *after Ish* in (221) may count as evidence that it is not the suffixed version of *Ish* (cf. *49-ish*), but indeed the free morpheme. Further, in example (222), the interpretation of age 38 and *above* this standard is more likely than an interpretation strictly lower than the standard. This assumption is reinforced by the surrounding context, in which the speaker writes about different attitudes concerning transracial adoption in her day (i.e. individuals her age (38) and older) versus today (individuals younger than her). Finally, example (223) makes use of a measurement phrase (*a teaspoon*) and not a numeral per se. It does not lend itself to a suffixal interpretation and can also imply more or less. The former interpretation, i.e. that the speaker used slightly *more* than a teaspoon of sugar, comes more natural here, since she is trying to cut down on sugar. The example is embedded in a context that revolves around eating healty and calorie loss. Thus, for *-ish* and *Ish*, the statement of approaching the standard only from below has to be modified to allow for an approximation from both directions with respect to numeral expressions.

For examples like these, Lasersohn's (1999) notion of pragmatic halos might be useful here. As we have said in section 2.3.3.2 above, the halo model is situated at the interface of semantics and pragmatics, so its treatment can be considered appropriate here. The denotation that it is only one teaspoon is at the centre of the halo and any small quantity deviating from it in either direction that is pragmatically ignorable is part of the halo and indicated grammatically by *Ish*. That is, if

the amount of sugar differs with respect to a few more or less granules, it can still felicitously be regarded a teaspoon full of sugar. Hence, the proposition is considered true. Sugar is generally not measured in individual granules, but considered collectively, as a mass. The standard amount used in the kitchen, e.g. for baking, is often measured in (heaped) tea- or tablespoons. That is, like Lasersohn's example of Mary's arrival (see example (28) in section 2.3.3.2; cf. Lasersohn (1999: 522)), which cannot be precisely measured in the real world, the amount of sugar allows for some leeway, which is exploited by *Ish*.

Since *Ish* does not function solely to indicate pragmatically ignorable differences, but serves also to modify the truth conditions of propositions, indicates that the application of *Ish* has semantic consequences. The halo model is suitable to sketch the contribution of *Ish* and is applicable also to hedges (cf. Lasersohn 1999: 545). In chapter 6 below we will come back to his notion of halos and compare it to recent research on another hedge, *sort of*, which supports an interpretation of *Ish* as a hedge (cf. Anderson 2013a).

5.4.6 Pragmatic properties

The discussion of the pragmatic properties of *Ish* can roughly be grouped into four segments: Characteristics of hedging devices as a general descriptive category, indicators of illocutionary force (Speech Act theory, cf. Austin 1962, Searle 1969), preference organisation (Conversation analysis, cf. Levinson 1983, Heritage 1984, Pomerantz 1984) and research on dislocations (e.g. Kalbertodt et al. 2015). This does not mean that these properties are exclusive to *Ish* or comprehensive. Further research will undoubtedly reveal additional properties and connect similar devices to *Ish*.

As stated above, adverbs can function as modifiers of adjectives. As such, Quirk et al. (1985: 445) state that in this case they generally premodify the adjective and function as degree markers which co-occur with adjectives that are gradable. Adverbs obviously do not only modify adjectives in such a way, as mentioned above. They can modify other adverbs (*extremely* quickly), prepositional phrases (*well* within the time), indefinite pronouns (*nearly* everybody), noun phrases (*rather* a mess, *sort of* a joke), among others (cf. Quirk et al. 1985: 448-452). The adverbs in such cases are called intensifiers, a term which is used as a hypernym for amplifiers and downtoners, respectively (cf. Quirk et al. 1985: 445)[117]. Examples for each constitute the following in (224), which are taken from Quirk et al. (1985: 445, emphasis in original):

117 Quirk et al. mention another group of adverbial modifiers – emphasisers – but these are fairly similar to the aforementioned intensifiers in that they ”add to the force (as distinct from the degree) of the adjective“ (1985: 447). It seems, however, that they are only comparable to the amplifier section of the intensifiers rather than the downtoners.

(224) a. Amplifiers: *amazingly* calm, *deeply* concerned, *awfully* sorry
b. Downtoners: *a bit* dull, *nearly* dark, *somewhat* uneasy

The first set of intensifiers ”scale upwards from an assumed norm“, while the latter have the effect of scaling in the opposite direction (cf. Quirk et al. 1985: 445). A person that is *deeply concerned* about his or her exam results, for example, is in a highly troubled state and may contact the professor to find out more about their performance than a person who is only unsettled about it and is not troubled by waiting until the results are available. On the other hand, someone who feels *somewhat uneasy* in a room, for example, does not yet reach his or her personal limit of uneasiness and absconds, but may stay (albeit with probably mixed feelings). The semantics of the adverbs themselves can be positively (*amazingly*) or negatively (*awfully*) connotated without having an impact on their effect as intensifiers (i.e. they are both amplifiers). The adverb *Ish* would then clearly classify as a downtoner, although it does not premodify its subjects as is shown, for example, in (200) to (205) above. The term downtoner is sometimes used interchangeably with hedge and the functions explicated above mirror the ones used for what is described as a hedge. Note that this is only one conception of hedges, albeit not the only one. What a hedge may entail and which difficulties the term brings with it will be the subject of exploration in section 6.2.3 below.

In speech act theory, too, the notion downtoner finds application, specifically in assessing the force or strength of an illocution of a speech act. Linguistic devices which can modify illocutionary force are usually divided into a dichotomy, hence those boosting the force and those attenuating or weakening it (e.g. Holmes 1984). Those devices weakening the force are analysed within a general pragmatic concept of mitigation, first elaborated in Fraser (1980), in which he focused on speech acts whose effects are unwelcome to the hearer (p. 342). This conception of mitigation is referred to as its narrow sense by Caffi (1999: 884). It is linked to Brown and Levinson's (1987) work on face and taken up again in Thaler (2012) who analyses the weakening of a speaker's commitment to the truth of a proposition as an instantiation of his or her negative face want, i.e. ”by reducing his responsibility and providing him with a greater freedom of action“ (p. 909). Nevertheless, Thaler does not treat the conception of face merely as face-*threatening*, but instead in the more neutral way of face *wants*. Caffi (1999) too, is more inclined to employing mitigation in its broader sense, i.e. as a synonym for weakening, downgrading, or downtoning as one of two ways of modifying illocutionary force (the other being reinforcement) (cf. p. 884). Applied to *Ish*, we can say that it is a downtoner (or one of the other notions treated as synonymous), which weakens the illocutionary force of a speech act, particularly in showing a mitigated commitment of a speaker to the proposition expressed as in

(225):

(225) the rest of the unit is understood (**ish**) (GloWbE, GB G, silkysteps.com)

The speaker is not fully committed to the truth of the proposition that the rest of the unit is indeed understood. Instead s/he tones down this commitment by adding *Ish*, implicating that there are some issues concerning understanding in the rest of the unit.

Ish may also serve as an illustrative example for preference organisation, a notion prevalent in conversation analysis. Introduced in a lecture by Sacks (1971, see Bilmes 1988: 162) and further developed by Pomerantz (1984), it constitutes a fundamental principle for the organisation of conversation. The concept of preference organisation functions on the basis of adjacency pairs, which are pairs of utterances including classic examples such as question – answer, apology – minimisation, or offer – acceptance, among others (cf. Levinson 1983: 303). Preference organisation, then, regulates the possible second parts of such a pair once a first part has been uttered. Preference organisation is applicable to those examples where speakers are engaging in conversation, showing a sequence of turns, in which the first pair makes conditionally relevant a second pair which in turn can manifest itself in two ways: a preferred response option and a dispreferred one. The latter is typically accompanied by delaying devices as it indicates the marked option, while the former is uttered without them. The term *preference* implies a hierarchical structure, which organises the potential second pairs in preferred second parts and dispreferred second parts, respectively (cf. Levinson 1983: 307). However, it is not to be understood as a notion relating to the personal and subjective preferences of a speaker (cf. Egbert 2009: 44). Instead of such a psychological meaning, what is meant here is rather the linguistically relevant notion of preference, which addresses observable regularities in a conversation of two individuals. In terms of the organisation of talk, acceptance (to an invitation, for instance) is preferred to declination, a positive response (of any kind) to a negative response[118]. In other words, preferred second pair parts are unmarked, while dispreferred seconds are marked (cf. Levinson 1983: 307). This markedness in dispreferred responses is noticeable in a specific delivery: Speakers will usually initiate some kind of delay, such as prefaces to their answer (e.g. *well*), an account of why the preferred answer cannot be chosen, pauses, or hesitation markers (cf. Levinson 1983: 307f.). It is not essential to include all of these characteristics to mark an utterance as dispreferred, however. To illustrate the use of preference organisation, three examples from two different corpora and a dictionary entry are chosen which

118 Agreement is usually the preferred option, but in some cases preference is reversed, e.g. in disputes, accusations in court, cf. Kotthoff 1993, who therefore argues for a context-sensitive analysis of preference organisation (1993: 19).

include spoken language or its reproduction, i.e. the BNC (226), COCA (227), and an entry from the Urban Dictionary (228).

(226) 1 None: So funny!
2 Simmone: I remember. It was.
3 None: It was <-β> you doing the games were you?[119]
4 Simmone: Erm, ye – ye <pause> **ish**.

(BNC, KE0 797, Spoken conversation)

(227) When I ask her if she is still in touch with her erstwhile cohort, she is reticent for the first time in our interview. "Mmm" she muses, and then: "**Ish**. Less so. I feel like a lot of our thing is the past. …"

(COCA, 2014, Magazine: Newsweek Global)

(228) A: Did you like the sweater your Aunt Marcy knitted for you?
B: Eh..... **ish**.

(Urban Dictionary 2004, Sylvia J. Wei)

Example (226) is a prime example for illustrating preference organisation. The question by None represents the first pair part which makes conditionally relevant the production of a second pair part which is provided by Simmone. The fact that it is a dispreferred response is indicated by a number of delaying factors: The speaker begins her utterance with a filled pause (*erm*), two aborted attempts at an answer as well as a pause before finally uttering *ish*.

The second example (227) represents the written-out final version of an interview, which includes the interviewee's answer in direct speech. The second pair part to an undisclosed first pair exemplifies traits of a dispreferred response, such as a hesitation marker (*Mmm*), an account, and possibly a pause between the hesitation marker and the utterance of *Ish*. The interviewer also hints at a less-than-fluent dispreferred answer by stating that his interview partner has become reticent.

In the last example (228), we again see the dispreferred option marked by a hesitation marker and an implied pause. Comparing (228) with a preferred positive answer (e.g. *yes* or *I do*) it becomes obvious that in such a case delaying devices are not usually uttered because the message is not indicated as marked.

Why can these examples be seen as indicating preference organisation? The answer to this question may be combined with the fact that ”speakers are by default assumed to be relatively precise by the Maxim of Quality“ (Bochnak and Csipak 2014: 441) and hence, uttering *Ish* will necessarily not conform to Grice's maxim as it lowers the precision of the utterance (see above). A speaker which opts for the precise and hence preferred answer will likely produce an utterance

119 <-β> is the symbol used by the BNC to indicate unclear passages during overlap.

which lacks the use of devices of a dispreferred answer. On the other hand, a speaker might be reluctant to utter a less-than-precise answer and therefore indicate his or her marked response by using delaying devices. As such, hedges and discourse markers are good examples for indicating a dispreferred response.

Lastly, I want to discuss *Ish* in light of information structure and provide some food for thought for analysing the morpheme in this tradition. In the great majority of cases, *Ish* is placed at the right periphery of the sentence or clause, modifying an element in the sentence. In the pertinent literature, the terms *right dislocation* (RD) and *afterthought* (AT) have been discussed with respect to dislocated elements appearing at the right periphery (e.g. Lambrecht 2001, Dewald 2012, Kalbertodt, Primus and Schumacher 2015). The terms are not used interchangeably, instead they refer to distinct phenomena and are only similar with respect to their surface structure. For instance, while both are characterised by extra-clausal position, which is the decisive criterion for dislocations (cf. Lambrecht 2001: 1050), RDs are syntactically connected to the matrix clause, whereas ATs are characterised by syntactic disconnection (cf. Kalbertodt et al. 2015: 2, see also Dewald 2012: 117). Additional parentheticals such as *I mean* often co-occur with ATs, but not with RDs, the latter of which have to be adjacent to the matrix clause (cf. Dewald 2012: 95, 115). These syntactic differences are accompanied by prosodic characteristics: RDs are prosodically integrated, whereas ATs are characterised by prosodic segregation from the matrix clause (Kalbertodt et al. 2015: 2, Dewald 2012: 98). The most frequent factors indicating separation are a separate intonation phrase, accentuation (or stress) or a pause. However, Dewald notes that the existence of a pause prior to the afterthought is not obligatory (2012: 101). The two types of dislocation are also distinct with respect to their function. RDs typically signal an information-structural relationship of topic and focus (or theme and rheme, respectively), with the right-dislocated element corresponding to the topic (cf. Kalbertodt et al. 2015: 2, Dewald 2012: 89). Conversely, ATs provide additional corrective information that can be used to resolve an ambiguous reference in the matrix clause (cf. Dewald 2012: 87). As such, they function as a repair mechanism for an unclear reference, which may be preceded by parentheticals, separating the matrix clause from the afterthought and explicitly signalling the latter (cf. Lambrecht 2001: 1076). The characterstics of ATs mirror properties described for propositional *Ish*. Consider example (229) below.

(229) In my last year of uni, I gate crashed one of my sister's writing residentials and spent a week at a lovely house in Wales being tranquil and writing poetry. Well, **ish**. (GloWbE, GB B, limebirdwriters.co.uk)

In example (229), *Ish* is dislocated to the right periphery. It rather exhibits properties of ATs than RDs, however, in that it is not syntactically integrated into the matrix clause. *Ish* is preceded by a discourse marker (*well*) and is not directly adjacent to the matrix clause. Furthermore, it functions as a repair of the preceding proposition, indicating that the truth of the proposition that the speaker is being tranquil and is writing poetry is modified and downtoned, respectively. The prosodic characteristics of stress, separate intonation contour and a possibly concomitant pause are more difficult to assess because the example stems from a written medium, a blog. Kalbertodt et al. (2015: 4), however, discuss a correlation of RDs and commas and ATs and full stops, respectively. Since *Ish* also appears dislocated after commas, this relation cannot conclusively be evaluated here. A further, not insignificant factor is that both types of dislocations are coreferential with pronominal elements in the matrix clause (cf. Lambrecht 2001: 1050). This is clearly not the case for examples with *Ish*. Yet, possible indicators for analysing *Ish* in the tradition of ATs might be that only the extra-clausal position is defined as a decisive criterion, pronominal coindexation is listed as a possible criterion in Lambrecht (cf. 2001: 1050). Furthermore, Dewald (2012: 119f.) notes that the co-reference of a dislocated AT and a cataphoric pronominal is not mandatory.

The above discussion provides food for thought and some evidence for placing the phenomenon of propositional *Ish* in the tradition of research on dislocations, and more specifically of afterthoughts. Whether these reflections are borne out will be left to future research.

5.5 Summary

This section has introduced the free morpheme *Ish* that has developed out of the suffixal variant. Various authors have addressed individual aspects of the development or status quo of the morpheme, ranging from grammaticalisation to degrammaticalisation, morphosyntactic to semantic analyses. The question whether the development of *Ish* can be felicitously characterised as grammaticalisation or degrammaticalisation will be part of the topic of the next chapter, but the scope will be extended to answer the question of how the element itself can be characterised – a discourse marker (DM) or a hedge - and not just the question of how it has developed.

To delineate the properties of *Ish* I have made use of the BYU corpus GloWbE, which contains a large quantity of text based on several types of internet language (blogs and regular websites). The motivation arose from the fact that the corpus COCA, which contains data from newspapers, academic language, but also works of fiction and spoken language, did not sufficiently feature the use of the free morpheme we want to sketch and analyse here. Another point of motivation

for the GloWbE was that *Ish* is a phenomenon that is frequently employed in less formal registers and the corpus has proven that data from the Internet provide a fruitful basis for the application of *Ish* as a free morpheme. I have analysed the 1,193 tokens that could be shown to involve various stages of the morpheme -*ish*/*Ish* and have categorised them into three broad groups, each with several subgroups that aim to show the slow and stepwise development of an initially bound morpheme towards the free morpheme that is in the centre of the present chapter. Lastly, I have traced properties of *Ish* with respect to orthography and the five well-accepted levels of linguistic description. Orthographic means were shown to boil down mainly to the use of brackets and several types of punctuation which are used to visually set off *Ish* from the rest of the text. Since the corpus contains language used on the internet, statements about principal formal differences need to be taken cautiously. Furthermore, most of the orthographic means are not restricted to the free morpheme, but appear also in the other two groups, especially in the transitional group 2. The phonological and morphological properties were mainly discussed with respect to similar bound elements that have become free morphemes (e.g. *ism*), which are distinguished from *Ish* in that they are all nouns and can occur in the plural. The process that has developed them into free morphemes is disputed and the question of how they arise will become relevant again in the following chapter, which seeks to identify whether *Ish* has originated via grammaticalisation, degrammaticalisation or other processes such as lexicalisation. *Ish* has also been shown to have become an element distinct from the suffix in that it constitutes a prosodic word on its own. Morphosyntactic properties such as word class have been discussed and *Ish* has been identified as an adverb due to its ability to modify various elements that is also attributed to adverbs. This classification is in accordance with the OED and Oltra-Massuet's (2016) views about its positioning in the adverb class. It was further shown that there are also differences with respect to adverbs' usual behaviour of premodification. Due to the status of -*ish* as a suffix, the free morpheme also principally postmodifies its elements. This does not have to be viewed as a disqualifier, however, since postmodification is not exclusive to *Ish*, but can be shown to occur with other adverbs that function as hedges as well (see section 742 below). We will see in the following chapter that hedges are principally recruited from the adverb class. The diversity of position that characterises adverbs is somewhat present in *Ish*, but again, due to its origin as a suffix, it predominantly selects a clause-final position. The semantic characteristics have shown that part of the meaning present in the suffix has continued with the free morpheme and it naturally follows from the meaning that is associated with adjectives and numerals in the bound form. I have discussed *Ish* with respect to truth values, stating that *Ish* modifies the latter and constitutes a lower commitment to the truth. The point of commitment will play a role again in

the classification of *Ish* as a hedge. With numeral expressions *Ish* has shown to be able to approach the standard expressed by the numeral from above or below, contrary to Bochnak and Csipak's (2014) claims. As such, the notion of Lasersohn's (1999) Halo model is useful, which has also been applied to hedges such as *sorta* (cf. Anderson 2013a) and will be discussed in section (743) below. Lastly, a number of pragmatic properties has been identified, albeit they do not constitute a comprehensive set of characteristics and may be added to in the future. I discussed *Ish* with respect to a descriptive classification that is also relevant for hedging expressions (see Quirk et al. 1985), as an indicator of illocutionary force when it functions as a downtoner, preference organisation and information structure.

In the next section I will present two analyses of *Ish*, as a discourse marker (section 6.1), or as a hedge (section 6.2), which follows naturally from many of the observations above and the discussion of *Ish* in the literature. As we will see, discourse markers are not a well-defined set of expressions and there is controversy in the literature as to which elements to include and which properties characterise them. They are frequently discussed with respect to grammaticalisation, another question that is unsettled for *Ish* as of yet (see the contrary views of Duncan 2015 and Norde 2009, 2010). The following sections will clarify the matter with respect to *Ish* and will additionally identify it as compatible with hedging expressions.

6 Analyses of Ish

This chapter is concerned with the classification of *Ish* as either a) a discourse marker, or b) a hedging expression. The reason for these two possible avenues of investigation stem from the fact that *Ish* has been discussed with respect to adverbs and discourse markers (DMs) can be shown to be recruited from adverbs in many cases. Further, the path of development of grammaticalisation for *Ish* as sketched by Duncan (2015) also represents a link to discourse markers as they are frequently analysed as having arisen out of a process of grammaticalisation (see the work by Traugott, e.g. 1995). Her conception of grammaticalisation will form an antithesis to the traditional conception as advocated by Lehmann (2015[3][1982]) and others, in that it includes also pragmatic developments. As we have seen in section 5.2 above, also degrammaticalisation has been suggested as the proper process of development for *Ish* (cf. Norde 2009, 2010). As it is highly doubtful that both analyses apply to *Ish*, we will scrutinise the path of development suggested for discourse markers and *Ish* in section 6.1.4 and discuss the counter-development for *Ish* as advocated by Norde in section 6.1.5. We will see that many of the characteristics ascribed to discourse markers pose a problem for *Ish* and that Norde's analysis seems on the right track.

The second part of this chapter is concerned with an analysis of *Ish* as a hedging particle. As we have discussed in section 5.4 above, *Ish* shows some characteristics that are also identified for many hedging expressions. Although there exist many different conceptions of hedges, they are also attested to recruit items from the morphological category of adverbs. Further, in section 6.2.4 we will discuss five selected expressions that have been described as hedges and compare their properties with those of *Ish*. The literature on both, discourse markers and hedges is vast and often contradictory. Further, no clear-cut inventory of forms can be established and items described as either are often characterised based on their functions. As such, depending on the conception of discourse markers or hedges, individual items might be classified as one or the other, thereby complicating the picture. We will see in what follows that *Ish* can felicitously be described as a hedge and I will propose a classification that keeps hedges apart from discourse markers, but allows for transitional pathways.

6.1 Analysis of *Ish* as a Discourse marker

6.1.1 Introduction

The study of discourse markers has been notoriously difficult to define, both in terms of what the essence of discourse markers (DMs) is and, more importantly, which elements belong to them and which do not. Multiple definitions have been brought forth since they first came into the limelight and different authors place different items in their inventory of discourse markers. One factor in the diversity which inevitably comes to pass in the study of discourse markers is the interdisciplinarity of fields which have had an interest in them up until now.

In their introduction to *The Handbook of Discourse Analysis*, the editors Schiffrin, Tannen, and Hamilton cite academic disciplines ranging from 'core' disciplines, such as linguistics, philosophy, and anthropology, in which the analysis of discourse has first taken root, to further disciplines, such as cognitive and social psychology as well as artificial intelligence, which have applied the developed insights to their own domains (2001: 1). They remark that ”[g]iven this disciplinary diversity, it is no surprise that the term 'discourse' and 'discourse analysis' have different meanings to scholars in different fields“ (2001: 1). These different perspectives with which scholars approach those terms of course do not cease with them, but spill over to other notions (e.g. discourse markers) that experience a shared use in the aforementioned fields. However, disagreement and diversity is not only found inbetween different fields, but may also occur within the domain of linguistics. In sociolinguistics (e.g. Schiffrin 1987), the term 'discourse marker' has a definition that highlights the oral nature many markers are said to have, which is further reflected in the construed models used for analysis, the assignment of markers and criteria they are given. Whereas in studies that specialise on language change or historical English (e.g. Brinton 1996; Lutzky 2012), discourse markers are approached from a different angle, focussing for example on historical pragmatics.

The organisation of this section is as follows. Section 6.1.2 will introduce various definitions of and approaches to discourse markers, section 6.1.3 will give an overview over the characteristics and functions researchers have identified for discourse markers. Here I will also point to problems scholars encounter repeatedly in their treatment of markers and attempts at a solution to these problems. Sections 6.1.4 and 6.1.5 are concerned with the origin of discourse markers and *Ish*. In the last section 6.1.6 I will discuss the aforementioned characteristics and developmental paths and assess them with respect to their applicability to *Ish*. This first part of the chapter is concluded with a summary in 6.1.7 before moving on to the next classificatory contestant, i.e. hedging particles in section 6.2.

6.1.2 The study of discourse markers

In attempting to introduce and delimit the study of discourse markers, research is inevitably put into the position of choosing between a multitude of terms that most often describe a range of items employed in the service of exploring stretches of discourse or text. It becomes clear, however, that the differing terms used do not always refer to the same type of entities and various different viewpoints and research interests come to the forefront. Discourse markers (for some of the other terms used, see below) have been studied from the angle of Politeness Theory (Brown and Levinson 1987), Relevance Theory (e.g. Blakemore 1987, 2002), and diachronic linguistics (e.g. Brinton 1996), among others (for other theoretical frameworks, see the informative overview by Foolen 1996). In some of the articles dealing with discourse markers a definition of them is preposed: The one probably most well-known comes from Schiffrin, who gives an operational definition of discourse markers as ”*sequentially dependent* elements which bracket units of talk“ (1987: 31, emphasis in original), before she discusses why she chose the vague description ”units of talk“ as a reference unit and concludes: ”Sometimes those units are sentences, but sometimes they are propositions, speech acts, tone units“ (p. 35). Another definition can be found in Fraser (1988), who views them as a subtype of pragmatic markers signalling ”a comment specifying the type of sequential discourse relationship that holds between the current utterance […] and the prior discourse“ (1988: 21f.). In his 2015 article, Fraser gives a more elaborate definition: ”[A] DM [discourse marker, TH] is a lexical expression, drawn from one of three classes […], which typically occurs in S2 sentence-initial position in a S1-S2 combination, and which provides no *semantic content* value but rather *signals a semantic relationship* between the two sentences“ (p. 48, emphasis in original). Both, Schiffrin's and Fraser's approaches have in common that they stress the structural nature discourse markers can have in discourse. However, in their definition they place a different emphasis on the location markers can assume in structuring discourse. In other definitions, other aspects come to the forefront, e.g. discourse markers seen as fillers and turn-holders alike in the definition by Brown, who notes that they ”fill the silence and maintain the speaker's right to speak while he organizes what he wants to say“ (1977: 109), or Östman who focuses on the interpersonal aspects in communication when he calls them ”grammatical devices [which, TH] implicitly anchor the act of communication to the speaker's attitudes towards aspects of the on-going interaction“ (1982: 152)[120]. In many works, however, an explicit definition is replaced by

120 See Brinton (1996: 30f.) for more definitions.

defining the elements under discussion via a number of features or functions they may possess (e.g. Auer and Günthner 2005: 335f., Jucker and Taavitsainen 2013, ch.4).

In the past, discourse markers have become known by a multitude of terms, including the commonly used terms discourse particles (e.g. Aijmer 2002; Schourup 1982), pragmatic particles (e.g. Östman 1982), pragmatic markers (e.g. Brinton 1996), but also lesser used ones such as discourse operators (e.g. Redeker 1991), discourse connectives (e.g. Blakemore 1987), semantic conjuncts (Quirk et al. 1985), fillers (Brown and Yule 1983), and gambits (Keller 1979). Brinton (1996: 29) lists over 20 terms that have been named in connection with what I will call discourse markers here[121]. Her rationale for referring to them as 'pragmatic markers' is that also multi-word expressions are among them, ruling out the term 'particle' and the term 'pragmatic' captures the range of functions associated with them while also allowing for situating them on a level above the syntax (cf. Brinton 1996: 30). The terms most often used usually refer to that branch of linguistics that is commonly associated with the study of discourse markers (e.g. pragmatics, discourse analysis), while a number of the terms evoke associations with some of the functions discourse markers can assume (e.g. connective, conjunct, etc.). The matter is further complicated by the fact that sometimes a hierarchy is assumed between some of the terms. For instance, for Fraser (1990: 387; 1996: 169; 2009: 296) discourse markers are one subtype of pragmatic markers. Lutzky, however, states that using discourse marker in such a restricted way did not find broad approval and she employs the term ”as a general cover term“ (2006: 4). This is in line with Schourup, who views the term as being ”merely the most popular of a host of competing terms used with partially overlapping reference“ (1999: 228). The variety of terms can be treated as symptomatic for the fuzziness with which this linguistic subfield is characterised.

This terminological fuzziness is mirrored by the diverging inventories of markers in the various publications. They usually consist of a rather arbitrary list of words and phrases and in some cases differ to such an extent that they are almost mutually exclusive. A case in point are the inventories by Fraser (e.g. 1988, 1990, 1999, 2009), who is very specific about inclusions and exclusion of potential markers, Östman (1982), who provides a small list of markers as well as Schourup (1982, 1999), Schiffrin (1987), and Müller (2005). They are depicted in table 19 below. The shorthand *Y* stands for inclusion ('Yes'), *N* for exclusion ('No') of items. An individual item's unknown status is marked with *?*, i.e. those are not considered in that particular work.

121 Dér (2010: 5, footnote 2) counted 42 different English labels used for these devices.

Table 19. Inventories of discourse markers

Marker	Fraser	Östman	Schourup	Schiffrin	Müller
well	Y (N 1999, 2009)	Y	Y	Y	Y
you know	N	Y	Y	Y	Y
I mean	N	Y	Y	Y	?
sort of	?	?	Y	?	?
so	Y	?	?	Y	Y
because	N	?	?	Y	?
and	Y	?	?	Y	?
now	Y(N 1999:933)	?	?	Y	?
then	Y	?	?	Y	?
like	?	Y	Y	?	Y
oh	N	Y	Y	Y	?
uh	N (1988:26)	Y	Y	?	?

First of all, it has to be noted that with the exception of Müller (2005), the presented inventories are not exhaustive. Especially Fraser's (e.g. 2009: 300f.) inventories contain over 60 items that he includes in his list of discourse markers. He is also the only one of the works presented in table 19 who actually explicitly excludes items (marked with N(o)). For instance, Fraser (1999: 942, 2009: 294) rejects *well* as a discourse marker, while in his earlier publication in 1990, it is contained in his list (cf. p. 395), and in 1988, only certain functions of *well* are considered to be part of its discourse marker status (when *well* indicates a pause it is dismissed as being a discourse marker (p. 26), but included when it functions as an interjection (p. 24). Furthermore, he excludes what he calls pause markers such as *oh*, *ah*, *uh* (1988: 26; see also 1990: 383; 1999: 933; 2009: 299), which are explicitly included in Östman's (1982: 154) work, who views them as part of the core pragmatic particles as well as in Schourup's work (1982; 1999 (only *oh* in the latter)). Schiffrin (1987) includes *oh*, but not *uh*. With the exception of *well*, none of the listed markers are agreed upon in every of the above publications, and *sort of*, as well as the related phrase *kind of*, only experience treatment in Schourup's dissertation (1982: 109) and are dropped altogether in his 1999 publication. Schiffrin (1987) discusses most of the elements in the table above and Müller (2005: 26f.) restricts her inventory on practical and theoretical grounds to only four items. Especially when we compare Fraser's list with Östman's, the differences in the inventories become apparent: The items contained in each of the publications seem to be

mutually exclusive, with Östman including those that are excluded by Fraser and seemingly vice versa.

In most publications that deal with discourse markers (often known by some of the other terms mentioned above), reference as such is made usually to single-word items or those consisting of maximally two words[122]. Müller (2005: 21f.), however, briefly discusses the work by Keller (1979, 1981) and others who are concerned with what are termed *gambits*, i.e. conversational strategy signals that are similar in some of the functions ascribed to discourse markers, but not concerning the inventory of the elements under discussion. For instance, Keller (1979) analyses multi-word elements that frame discourse semantically, e.g. items marking digression (*This reminds me*..., *To get back to*...), the listing of elements of conversation organisation (*First*, *Next*, *And finally*), or markers of opinion (*I have reason to believe*, *To the best of my knowledge*, *Rumour has it*, …) and a number of other subitems (p. 223-225). While these formulaic multi-word expressions seem to be different from the markers above, the term *gambit* is mentioned along with other terms characterising discourse/pragmatic markers/particles, etc. in Brinton (1996) and discussed as one of the synonymous terms in Müller (2005), for instance. The former dismisses it altogether along with the term *fumble* for having a pejorative connotation (1996: 30), while the latter claims that ”[t]he closest to discourse markers we can find in the literature are linguistic elements which have been termed 'gambits' (2005: 21).

One of the reasons for discussing terms like 'gambit' in the same light as discourse markers might be that in many cases, markers are viewed as only performing structural duty in discourse (e.g. in forming coherence), but neglecting or disregarding an interpersonal function. This becomes evident in many of the definitions given, which focus on a structuring function and coherence relations in discourse (e.g. Fraser 1988: 21, 1990: 387; Redeker 1991: 1168; Schiffrin 1987: 31, among others, cf. also Brinton 1996: 30f.).

Finally, even though *discourse marker* is a convenient term, since it leaves several possibilities open for what exactly it *marks* in discourse, and thereby gives the researcher the freedom to assign it the function that is needed, be it textual, interpersonal, or both, in section 6.1.6 I will discuss the question of appropriateness of including *Ish* in the same 'class' of items or whether a different linguistic group is more suited to account for the morpheme.

122 In fact, Dér (2010) has identified Siepmann (2005) as the only contribution to discourse marker research, who explicitly focusses on multi-word markers. For these, Siepmann coined the term 'second-level DM' (cf. 2005: 52).

6.1.3 Characteristics of discourse markers

While the previous section illustrates that the study of discourse markers is highly diverse, the question arises if there is any common ground to be found. There is, and it has been collected by Brinton (1996: 33-35) in a list of several characteristics that fall into almost all levels of linguistic description. These levels have been recognised and explicitly added by Jucker and Ziv (1998: 3) afterwards, so that we find characteristics ordered according to phonology and lexical features, syntactic, semantic, and functional features, and lastly, sociolinguistic and stylistic features. I will number the features for easy reference and slightly change the order as compared to Jucker and Ziv (1998: 3) which points to their variable importance. Furthermore, the phonological characteristics and the lexical one, which are placed into one group in Jucker and Ziv (1998) will be teased apart and treated as separate groups here. I can think of no reason why the aspects of those two groups bear any more resemblance to each other than any of the other groups below. Table 20 (next page) shows the characteristics discussed in the following. The greyed-out sociolinguistic and stylistic characteristics will not receive extensive attention here.

Brinton's (1996) list is to be understood as a merely descriptive one. The posited characteristics have been identified in a number of studies and are replicated in her comprehensive but not exhaustive list. Nevertheless, some of the characteristics have assumed the status of criteriality in many of the subsequent works. For instance, the syntactic characteristics (optionality, occurrence outside of the syntactic structure) and the semantic one resonate with many linguists and are frequently deemed as defining characteristics (e.g. Östman 1982: 150; Hölker 1991: 78; Jucker 1993: 436, in drawing on Hölker's 1991 characterisation; Lenk 1998: 49; Mosegaard Hansen 1998: 236; Fraser 1999: 944; Schourup 1999: 232; Erman 2001: 1339; Lutzky 2006: 21; Jucker and Taavitsainen 2013: 56, and others make non-propositionality criterial for discourse marker status). Others, by contrast, are dismissed or not discussed at all, e.g. Jucker and Ziv (1998: 4) call into question the validity of multifunctionality as a criterion. They observe that ”[m]any studies actually set out to argue explicitly for the monofunctionality or polyfunctionality of specific markers, thus nullifying this as a valid criterion“ (1998: 4).

Table 20. Discourse marker characteristics

No.	Level of linguistic description	Characteristics
1.	Syntactic	Restriction to sentence-initial position
		Occurrence outside of the syntactic structure
		Optionality
2.	Semantic	Little or no propositional meaning
3.	Functional	Multifunctionality
4.	Phonological	Shortness and phonological reduction
		Separate tone group
5.	Lexical	Marginal forms
6.	Sociolinguistic and stylistic	Informality and features of oral discourse
		High frequency
		Stylistic stigmatisation
		Gender-specificity

Discussing the phonological properties, Müller claims that ”[t]he majority of researchers in this area do not dwell on phonological features for a definition of discourse markers“ (2005: 5). The reason why they came to be viewed as defining characteristics in the first place might be that many early studies discussed markers like *well* and other items prevalent in conversational data (cf. Schourup 1999: 234).

The group of features of the sociolinguistic and stylistic level have been greyed out to show that they bear not only no relevance to *Ish*, but that they have also met with resistance early on. For instance, in introducing gender-specificity, Brinton remarks that seeing discourse markers as ”more characteristic of women's speech than of men's speech because […] they express tentativeness or powerlessness“ (1996: 35, pointing to a study by Erman 1987) is quite controversial, and indeed, other studies have come to different conclusions (e.g. Holmes 1986). Making gender-specificity a characteristic of discourse markers does not seem to be expedient, however. While women might use markers differently than men (cf. Holmes 1986), it is quite another statement to propose a correlation between women's speech and powerlessness due to the supposed higher frequency of markers in women's speech. This characteristic is not usually taken up in any of the other works, which is unsurprising as the findings of different studies are inconclusive and cannot be generalised.

Furthermore, the claim that discourse markers are a feature of oral speech is connected with the focus on spoken studies to begin with (see above) and cannot be generalised either. While markers that rather appear in conversation are largely different from those that can mostly be

found in written data, making orality a characteristic presents only half of the picture. Due to the lack of an agreed upon inventory, virtually any item that serves the syntactic, pragmatic and functional characteristics, could be included as well and this is not what researchers would want. A fine distinction between (only) spoken or written markers might not be feasible, however. At best, this question may be settled in a tendential way: *notwithstanding* is a marker found primarily in written texts, while *okay* is more frequently used in conversation (cf. Brinton 1996: 33, see also Fraser 1990: 389, footnote 6). Rather than conceiving of the medium in which markers occur as binary, it might be more appropriate to establish a gradual relation, with predominantly conversational markers forming one end of the scale and markers primarily occurring in the written tradition constituting the other end. Support by quantitative results also poses a possibility to distinguish markers in the two modes of language.

The characteristic directly connected to the question of orality is the high frequency of markers in speech. Brinton (1996: 33) cites an example in Fraser (1990), in which a high number of markers embellish the question of a university student: *Well, anyway, I mean, what was the reason ... y'know, why did she do it, anyway?* (cf. Fraser 1990: 395). It can be assumed, however, that this predominance of markers is rather an exception than the norm and might be occurring in situations where the speaker is trying to put into words what s/he is still struggling in grasping cognitively. Since it is not convincingly settled what constitutes a high frequency for discourse markers in which unit of language (i.e. the unit for spoken material might be at the level of the utterance)[123], it is not deemed a suitable characteristic for discourse markers. Furthermore, positing high frequency as a characteristic is too broad a category without specifying it further. Articles also occur very frequently in both, spoken and written discourse, but are not discourse markers. Finally, the last characteristic mentioned by Brinton (1996), which will not be taken up further, directly follows from the previous two. Due to the high frequency and the oral nature of markers, they are stylistically stigmatised, especially when they do occur in written language. I do not know of any study which has tested the frequency of predominantly spoken or written discourse markers yet and which items they actually comprise. To say anything definite about these characteristics, it is necessary to conduct a large-scale study attempting to answer these questions rather than focussing on a limited sample of markers or just one medium which can impossibly be generalised.

While the fifth level of description for discourse markers has been ruled out as qualifying them adequately, I will discuss the remaining four in order to see whether they match the

123 What constitutes an utterance has not yet been settled satisfactorily, which also bears onto the question of position of discourse markers (cf. Fraser 1990: 389), but what about the written medium? This question is not discussed at all.

characteristics of *Ish* and can thus be said to define *Ish* as a discourse marker.

6.1.3.1 Syntactic characteristics

Restriction to sentence-initial position

The three characteristics on the syntactic level do not have equal importance. The first one – restriction to sentence-initial position – is problematic for two reasons. First, the unit of 'sentence' is disputed. Positing the sentence as the central unit for discourse markers neglects that they may occur in the spoken and written medium. While some researchers take the sentence as the relevant discourse unit for markers to occur in (e.g. Keller 1979: 222), often the utterance or turn are invoked when discussing positional matters (e.g. Levinson 1983: 87; Schiffrin 1987: 328; Fraser 1988: 24; 1990: 389, while noting the difficulty of defining the notion 'utterance'; Lenk 1997; Lutzky 2006: 10). Here, the imbalance between the different media shows a disposition towards spoken language. In a number of articles, both types of medium are given equal weight, e.g. Östman (1982: 167f.) and Zwicky (1985: 303).

Schiffrin (1987: 31) chooses the vague term 'units of talk' instead of sentences (or propositions, speech acts, or tone units) and motivates her choice by seeking to avoid the limitations of focusing on a precise, but too narrow unit, thereby neglecting other relevant positions which can be occupied by markers. Specifically, since markers are said to be independent of sentence structure, positing the 'sentence' as the unit of analysis seems inadequate (1987: 32; see also Lutzky 2006: 10).

The second reason follows from the way the characteristic is defined. Claiming that items functioning as discourse markers are *restricted* to sentence-initial location is too strong of a position and except for Keller (1979: 222) it is rarely seen as criterial (cf. Schourup 1999: 233). The illustrative example below stems from Fraser (1988: 24, emphasis in original; See also examples (7) and (8) in Schourup 1999: 233):

(230) a. I am for it. **However**, the Dean won't agree
b. I am for it. The Dean, **however**, won't agree
c. I am for it. The Dean won't agree, **however**

While *however* is not an agreed upon discourse marker (unlike *well*, for instance), the example shows that the positions occupied by it may change without rendering the sentence ungrammatical. Fraser provides two other examples (*in other words* and *anyway*) which are questionable in at least one of the positions that pose no issue for *however* (see 1988: 24). Finally, Schiffrin notes that some markers occur at positions that are not easily definable (1987: 32, see also Quirk et al. 1985: 492-496 for a discussion on what constitutes the medial position in

a sentence and the variants it allows).

Brinton (1996: 33) remarks that individual markers frequently occur medially or finally, a view that is shared by others, among them Östman (1982: 167f.), Schiffrin (1987: 32 for *y'know*, *I mean*, *oh*, and *like*), Foolen (1996: 3; he also remarks that in some languages, sentence-final placement is the norm, cf. p. 10), and Andersen (2001: 48).

I suggest, following Schourup (1999), to render this characteristic to a *tendency* to occur initially and thus, to view it as non-criterial for discourse marker status. Schourup remarks that this tendency has the communicative function to guide the addresse's contextual interpretation: ”[I]t will make communicative sense to restrict contexts early before interpretations can run astray“ (1999: 233).

Occurrence outside of the syntactic structure

Discourse markers are seen as being syntactically independent, i.e. to quote Fraser, they ”are lexical adjuncts to and are independent of an already well-formed sentence.“ (1988: 22). For Lutzky (2006: 11), it is one of the ”more reliable identifying feature[s]“ for two reasons. First, it is a characteristic that applies equally to spoken and written data (independent of which unit of discourse is chosen for the analysis), and second, non-discourse marker uses may be more readily distinguished from discourse markers (cf. Lutzky 2006: 11). Evidence for the discerning character of discourse markers comes from their apparent lack of a clear grammatical function[124], their inability to be cleft-highlighted and their immunity to modifications as compared to their respective non-discourse marker homonyms (cf. Lutzky 2006: 11, who refers to Kryk-Kastovsky (1995: 88) for an example of the latter). Moreover, discourse markers do not seem to affect the word order of the sentence they introduce. Fischer (2007) investigates a number of Old English examples (among them *soðlice* 'truly', *witodlice* 'indeed' and Brinton's (1996: chapter 7) example of *hwæt* (*þa*) 'lo (then), well (then)') and observes for Brinton's examples of *hwæt* (*þa*) that they ”obey main clause order – even in combination with *þa* (which otherwise as an adverb triggers VS/VX order […]“ (2007: 289). From the fact that they do not cause inversion it follows that these markers need to be treated as separate phrases/clauses occurring outside of the syntactic structure (cf. Fischer 2007: 289, see also Lenker's (2000) discussion of *soðlice* and *witodlice*).

124 Brinton (1996: 34) remarks, however, that some researchers also include items with clear grammatical functions, e.g. conjunctions; cf. Fraser (1988: 24) who includes coordinate and subordinate conjunctions in his inventory.

Optionality

Closely linked to the previous characteristic is the view that discourse markers have a facultative status in a sentence or an utterance. If they do not contribute to the grammaticality of a sentence as claimed in the characteristic above, it follows that their occurrence therein is optional. Müller emphasises that ”this optionality only concerns grammatical well-formedness of the relevant sentence“ (2005: 6) while having no pragmatic significance.

Optionality is a widely accepted characteristic of discourse markers and is seen as constitutive by many (cf. Fraser 1988: 22, 1996: 169, 2009: 301, where he sees the properties as ”non-definitional“, however; Brinton 1996: 34, Schourup 1999: 232; Auer and Günthner 2005: 335, for German discourse markers; Müller 2005: 6; Lutzky 2006: 21). According to Schourup (1999: 231), discourse markers may not only be syntactically optional, but also semantically. Omitting a marker does not lead to the disruption of the discourse relationship, however, the signalling process is no longer explicit. This argument is in line with Fraser's view that ”a discourse marker does not create meaning […], but only orients the hearer (1990: 390; see also Fraser 1999: 944, 2009: 302 and Schiffrin 1987: 9, 55). However, Schourup (1999: 231) states that the optionality of markers does not make them devoid of any applicational value in discourse. Two remarks are in order. First, Fraser (as well as Schiffrin) assume discourse markers as functioning primarily as cohesive devices which let the addressee know how to understand a segment related to a prior one. If we take into account an interpersonal function they often are shown to have, leaving a marker out might not only lead to the absence of interpretational clues, but also can have the effect of asserting the strength of an argument that the speaker might not want to commit to. Second, Redeker (2006) has conducted a priming experiment in which she digitally removed and added discourse markers to a series of televised talks. She found that at hypotactic transition points, the presence of coherence-oriented markers facilitated comprehension significantly (cf. 2006: 352). This result questions the validity of considering optionality as a decisive criterion for discourse markers.

A further argument against positing optionality as criterial for discourse markers might come from Fraser's observation that some items cannot be deleted out of syntactic reasons, for example, conjunctions like *since*, *while*, and *because* (1999: 944). However, Fraser does not expand on this latter argument and in those cases it is perhaps more appropriate to draw the line between optional discourse markers and obligatory conjunctions.

6.1.3.2 Semantic characteristic

Little or no propositional meaning

In the question of their semantics, many of the problems of grasping the essence of discourse markers are culminated. It explains the early difficulties that researchers had in pinning down what discourse markers are and, as we have seen, the debate continues on to this day. It became evident above that in the beginning of what was to become a growing interest in DMs, the labels they have been given reflect the issues researchers were (and still are) confronted with. These difficulties are present in several discussions on word class, distribution, and properties of these items, but always with respect to their semantics. The earliest labels bear witness to the fact that discourse markers were considered to be semantically empty. Among them were ”mystery particles“ (Longacre 1976, 1983), ”conversational 'detritus'“ (Schegloff 1982: 74), but also ”(planning) 'fillers'“ (Brown and Yule 1983: 15, 17).

As mentioned at the outset, non-propositionality of discourse markers is one of the characteristics most researchers find criterial. Not in every work is it made explicit that it is *propositional* meaning which discourse markers are said to be lacking. For instance, Schourup (1999: 242, see also Fraser 1988: 23) recognises the need for clarification concerning discourse marker meaning. He emphasises that claims of the lack of meaning in markers do not (usually) entail a complete absence of semantic meaning, but rather that they do not contribute anything to the truth conditions of the proposition in which they occur. Accounts can indeed be confusing. For example in discussing *well*, Schiffrin claims that ”it has no inherent semantic meaning“ (1987: 127) as opposed to markers such as *and*, *so*, or *because*. Positing vague or no meaning is also part of her conditions for allowing specific items to be used as discourse markers (1987: 328), but she does not seem to dismiss a core meaning in general (cf. pp. 317f.) (see Redeker 1991: 1164f. for a discussion on Schiffrin's assumptions to (core) meanings in discourse markers). Erman (2001: 1339) claims that markers have ”little or no meaning in themselves“ and require that ”conventionalized pragmatic meaning [be] mapped onto them“. A few lines later, we learn that ”they do not partake in the propositional content of the utterance in question“. The question of whether one single core meaning or multiple cores are more adequate to describe the nature of discourse markers has been tackled in a number of articles[125] and the assumption of a single core to which all uses consolidate is often taken to be advantageous over multiple cores and whenever multiple cores are assumed, they are sought to be unified subsequently (cf. Schourup 1999: 249f.).

125 See for example Jucker (1993: 437), who assumes that the different uses a marker can have all relate to one common core; see also Schourup (1999: 249-253) for a discussion on the merits and pitfalls of the approaches concerning core meaning(s).

In many accounts, however, a distinction between semantic meaning in general and reference to the lack of propositional meaning is made more explicit (e.g. in Redeker 1991: 1164f., Fraser 1996, 2009, Schourup 1999). Still, most scholars agree that discourse markers are separate from the propositional content of an utterance or sentence. Consider the following example (231):

(231) The police always argue that many things they do are a matter of operations and politicians should not be involved.. **Well**, I'm afraid I have a big argument with that. (GloWbE, GB G, John Prescott on independent.co.uk)

In example (231), the proposition is unaffected by the discourse marker *well*. Leaving it out does not change the fact that the speaker takes issue with the police's opinion. In this case, *well* can be classified as a face-threat mitigator which indicates problems on the interpersonal level and, thus, belongs to Jucker's group 2 (1993: 438)[126]. Also, the grammaticality of the sentence is not altered if *well* is omitted here and it is situated at the initial position of the sentence, which is common for this marker. The example further satisfies the criterion of coherence as, for example, put forward by Fraser (1999: 931, 938; 2009: 297f.), in that the discourse marker signals how the second segment in which the marker occurs is to be interpreted in relation to the prior segment. Example (231), thus, can be deemed a bona fide case of a discourse marker, illustrating on several levels the characteristics that are seen as pivotal by many.

In his 1988 article, Fraser does not explicitly state that he views discourse markers as being void of propositional meaning, but the following quote illustrates the direction into which subsequent articles were heading:

> Like other commentary markers, discourse markers are lexical adjuncts to and are independent of an already well-formed sentence. Hence, the absence of the discourse marker does not render a sentence ungrammatical and/or unintelligible. It does, however, remove a powerful clue about what commitment the speaker makes regarding the relationship between the current utterance and the prior discourse. This 'privilege of absence' also distinguishes discourse markers from other commentary pragmatic markers, which do indeed contribute to utterance meaning. (Fraser 1988: 22f.)[127]

Further, he divides sentence meaning into having the components 'content meaning' and 'pragmatic meaning', the latter of which encompasses the to-date three types of pragmatic markers[128].

126 Jucker recognises four uses of *well* such as 1) a marker of insufficiency, 2) a face-threat mitigator, 3) a frame marking device, and 4) a delay device (cf. 1993: 438).

127 Here, discourse markers are still seen as one type of commentary pragmatic markers (cf. 1988: 21), a view that is refuted in his 1996 article where they constitute an independent group (pp. 168f.).

128 Recall that in Fraser's framework *pragmatic marker* is considered to be the umbrella term for discourse markers and other markers that include a speaker comment on the utterance at hand, cf. 1988: 21, 1996: 168, see also Lutzky 2006: 4, footnote 3).

In later articles, he explicitly states pragmatic markers, and hence discourse markers, to not contribute to the propositional content of the utterance or sentence in which they occur (1996: 169, 1999: 936, 2009: 295, 299). Their function is located solely on the pragmatic side in that they ”signal the speaker's potential communicative intentions“ (1996: 168). In his 1996 article, he makes the first reference to the distinction of procedural versus conceptual meaning, which is prominent in Relevance Theory (cf. Blakemore 1987) and locates discourse markers on the procedural side (p. 170), an argument he continues to pursue in a later article as well (cf. 1999: 931, 950).

A lexical expression is conceptual (or representational) in virtue of denoting a concept (like *dog*, *red*) and is generally thought to be contributing to truth conditions of an utterance (cf. Wilson 2011: 6). The notion of procedural meaning, by contrast, entails imposing constraints on the interpretation process by limiting the contexts available to the hearer. In Wilson's words, the function of discourse connectives, as she calls them (e.g. *but, so*), ”is to guide the inferential comprehension process by imposing procedural constraints on the construction of intended contexts and cognitive effects“ (2011: 6). Procedural meaning is thus understood as making no difference to the truth conditions of utterances. This assumption of parallelism of early approaches, i.e. conceptual meaning coincides with truth-conditionality whereas procedural meaning is associated with non-truth-conditionality, is later refuted.

In later articles, Fraser (2006: 24, 2009: 307) questions whether the Relevance-theoretic distinction conceptual/procedural is appropriately conveyed as being mutually exclusive. He subscribes to the position that discourse markers can potentially have both types of meaning, however, not to the same degree: the phrase *as a result* is conceptually richer than *thus*, but both signal the procedural meaning that the discourse segment in which they occur follows from the previous segment (2009: 308). A discourse marker such as *as a result* combines both conceptual and procedural meaning in that causality is immanent in the former and segment 1 is the cause of segment 2 in the latter (cf. Fraser 2009: 308). Consider example (232) from Fraser (2009: 302, slightly adapted):

(232) Peter didn't brush his teeth. **As a result**, he got cavities.

The result state (cavities) is caused by the fact that Peter did not regularly see to his oral hygiene. The fact that segment 2 is the result of segment 1 is made explicit with the discourse marker which signals the causal link. Omitting it can result into the same inference, but it may also lead to misunderstandings.

(233) Peter didn't brush his teeth. He got cavities.

In (233), the reader might come to the same causal conclusion as in (232) above. However, the

reading that Peter tried to avoid brushing his teeth because he has got (painful) cavities may not entirely be excluded. Wilson (2011: 12, 2016: 13), as a proponent of Relevance Theory, rejects Fraser's dissent and emphasises that there is no textual evidence for his position in Blakemore (1987).

Andersen seems to endorse essentially the same view as Fraser in that he claims that some pragmatic markers may be conceptual (i.e. multi-word expressions like *I mean*, *you know*, *I think*, and *sort of*) (2001: 61). He claims that these markers are not readily categorisable along the propositional/non-propositional dichotomy and that they indeed have truth-conditional implications (p. 54). It has to be pointed out, however, that the conceptual state of markers might be only temporal in Andersen's conception. This has to do with the origin as conceptual lexical items of the markers in question and their subsequent development, which is ascribed to the process of grammaticalisation. Andersen illustrates his claim with *like*, which originated as a lexical-conceptual item (i.e. the preposition *like* with the meaning 'similar to') and is now in the process of undergoing grammaticalisation (2001: 53f.). As I stated above, it is common to perceive discourse markers as originating via grammaticalisation and in the case of *like*, Andersen states that the process has not yet reached completion, which leaves it in ”a current state of flux and [suggests, TH] a fuzzy borderline between marker and non-marker usage“ (p. 54). Synchronically, items as *like* can therefore not readily be placed along a dichotomy of propositional versus non-propositional meaning, but are instead conceived of as being located somewhere on a continuum between the two states which form its endpoints (cf. Andersen 2001: 54; see also Lutzky 2006: 13). For instance, in analysing *sort of*, Andersen generally notes two uses, one of which is conceived of as a pragmatic marker use (234a.), while the other is not (234b.).

(234) a. He **sort of** answered her question.
b. That is the **sort of** question he does not like to hear.

The function of *sort of* in (234a.) is to signal that the act of answering a question has not yet reached full completion yet, whether specific (and perhaps unpleasant) parts of the question were not answered or the question as a whole has been circumvented by not addressing its core in the answer.

What is certain, however, is that if *sort of* is omitted in (234a.), the interpretation is slightly changed. In that case, an answer has been submitted that counts as fulfilling some standard, while with *sort of* the standard is not reached. Thus, *sort of* does have an effect on propositional meaning. For Andersen *sort of* constitutes a hedge, which he sees as a subgroup of pragmatic markers.

6.1.3.3 Functional characteristic

Multifunctionality

Discourse markers are often claimed to have several functions (cf. Brinton 1996: 35; Erman 2001: 1338; Lutzky 2006: 15; see also the discussion in Fischer 2000: 18-23). The multitude of functions proposed for markers also has to do with the fact that they constitute a class which is not clear-cut and readily distinguishable from other classes. Thus functions frequently overlap between interjections, hesitation markers (both of which are not seen as belonging to the class of discourse markers by some, e.g. Fraser 1999: 942f.), discourse markers and modal particles, the latter of which are generally taken to be distinct from discourse markers and their subgroups. For instance, the function of structuring discourse in linking and segmenting utterances and in providing coherence is claimed to be fulfilled by modal particles as well and cannot therefore be seen as a differentiating criterion (Fischer 2000: 20). Similarly, the function of supporting cooperation and harmony between participants in a conversation matches that of Dutch modal particles (Vismans 1991, quoted from Fischer 2000: 21).

The plethora of functions can felicitously be grouped into two main functional classes, as Brinton (1996: 37f.) has convincingly shown. The textual group incorporates a wide notion of text in including spoken conversation as well and concerns those functions which are related to discourse structure. The interpersonal group, on the other hand, involves aspects of the relationship of speaker and hearer and of speaker attitude. The borderline of the individual groups is conceptualised differently by various researchers, with Dér (2010: 21) mentioning a tripartite classification into textual, interactional, and attitudinal functions, whereas Brinton (1996) and Müller (2005) amalgamate the last two into one group. Since the two broad classifications of textual and interpersonal functions are largely distinct, this raises the question whether elements exhibiting the latter function require to be subsumed under the notion of discourse markers at all or whether they constitute their own group of items. The set of functions belonging to the textual category involves three main subgroups, listed in table 21: a) the discourse structure, b) turn-taking and c) speech management systems. Functions belonging to the interpersonal group are listed under d) (cf. Brinton 1996: 37f., also Fischer 2000: 18-23). The functions listed here are just a few examples which are far from being exhaustive. For more details see Brinton (1996).

Table 21. Main functions of discourse markers and their subgroups

Functions	Subgroups	Examples of research
Textual	a) connection and segmentation of utterances, establishment of coherence of discourse units, processing instructions of utterances, denoting new or old information	Blakemore (1987), Schiffrin (1987), Fraser (1990, 1999)
	b) claiming, holding, yielding, relinquishing, or supporting a turn	Schegloff and Sacks (1973), Sacks, Schegloff and Jefferson (1974), Keller (1979), Östman (1982), Levinson (1983), Schiffrin (1987)
	c) repairing a turn, providing time for speech planning	Schegloff, Jefferson, and Sacks (1977), Östman (1982), Levinson (1983)
Interpersonal	d) expression of speaker attitude or tentativeness, effecting cooperation between discourse participants	Brown and Levinson (1978, 1987), Levinson (1983), Heritage (1984), Quirk et al. (1985), Schourup (1982), Schiffrin (1987)

Corresponding to the wide variety of forms and word classes from which these forms originate, the set of functions is equally broad. No individual form will possibly show all of the functions identified and might not even be represented in each subgroup. On the other hand, there does not seem to be one functional category that is exclusive to a particular marker.

As briefly mentioned in section 6.1.3 above, making this characteristic a definitional one has met with criticism by scholars. Jucker and Ziv (1998: 4) argue that the ”non-mutual exclusivity“ disqualifies the functional characteristic of being a criterial one. Fischer reaches essentially the same conclusion in saying that ”functional criteria [...] do not provide a reliable basis to distinguish the different subcategories of discourse particles“ (2000: 22). She further criticises that ”the functions proposed also do not seem to be specific to discourse markers“ (p. 22), but find utilisation amongst modal particles and even punctuation marks. Thus, multifunctionality has some descriptive value, but cannot be regarded as defining the class of discourse markers.

6.1.3.4 Phonological characteristics

Shortness and phonological reduction

Discourse markers are not often characterised in terms of phonological aspects. Schiffrin (1987) is one of the few authors who considers phonological traits in markers and she is cited in Brinton's (1996: 33) list of characteristics markers can assume. In fact, Schiffrin considers phonological reduction as one of the conditions markers need to fulfill in order to assume marker status (1987: 328). From her inventory of markers only *y'know* is visibly marked as

phonologically reduced, although some others have the potential as well (e.g. *because* as *cause/coz*), while still others in her list are short to begin with (monosyllabic *oh, or, but, so*) and do not show any signs of phonological reduction or appear to be unstressed[129]. She does not discuss the hedges *sort of* or *kind of*, which, when they are recognised as pragmatic markers, may also be phonologically reduced: *sorta*, *kinda*. Furthermore, in discussing *now* as a time adverbial and as a discourse marker, respectively, she claims that the former can be distinguished from the latter in that it receives tonic stress, while the latter remains unstressed (Schiffrin 1987: 231). The matter of the prosodic element of stress is not approached from a unified perspective, however, since she claims that markers may receive tonic stress (p. 328).

Östman (1982: 149), too, claims that what he calls pragmatic particles are typically short. It is left implicit that shortness implies *phonological* shortness. Shortness as a characteristic for discourse markers is not felicitous as textual devices in some discourse marker inventories are rather lengthy and consist of multi-word expressions (*Why don't you do the following*, *it bears emphasizing*, Keller (1979: 224); *On a different note*, Fraser (1999: 950); *it can be concluded that* (Fraser 1996: 188). Lutzky (2006: 8) questions including clausal expressions in the discourse marker category for two reasons. First, in most studies discourse markers are associated primarily with spoken discourse and informality and second, due to their supposed spoken nature, they fail to exhibit many of the traits listed in the characteristics in table 20 above (among them phonological, syntactic, and semantic characteristics, not to mention stylistic and sociolinguisitic features, which are excluded from the present discussion). She presents two possible solutions: 1) the said clausal expressions should be regarded as peripheral members of the discourse marker category, or 2) they should be assigned a separate group, which serves similar functions, but is different from the discourse marker class in vital respects (Lutzky 2006: 8). Lutzky leaves this question open, but quotes Lenk (1998: 50), who excludes clausal expressions which function as structuring elements in discourse (cf. Lutzky 2006: 8). Furthermore, the term 'short' is not well-defined. Being 'short' is not exclusive to phonological items, but can be a trait of morphology as well in that certain items count as morphologically simple (e.g. functional word classes, like conjunctions), are monomorphemic and non-inflectable.

Both accounts are concerned primarily with spoken speech: Schiffrin (1987) uses data from sociolinguistic interviews, while Östman (1982) is concerned with impromptu speech. Both do

129 Auer and Günthner (2005) show phonological reduction to occur in German discourse markers, most commonly evident in omitted pronouns or elided verb forms ((*ich*) *glaub*(*e*) '(I) believe', (*ich*) *weiß nicht* '(I) don't know'), which can also be dialectally motivated (*woisch* cliticised from *weißt du* 'you know'). Even though PRO-drop (i.e. pronoun dropping) is not a feature of standard German, it can frequently occur in dialects.

not seem to take markers into account which are centered on written language, first and foremost. Conjunctions (*and*, *but*, *so*) and temporal adverbs (*now*, *then*) may occur in both domains, but interjections (*oh*) are a predominantly spoken phenomenon. Items recognised as discourse markers by other researchers, however, show a written bias, e.g. *notwithstanding* (Fraser 1990: 388) or *contrariwise* (Fraser 1996: 187). This characteristic is thus chiefly dependent on the selected inventory of markers.

Separate tone unit

The second phonological characteristic mentioned in Brinton (1996) concerns prosodic aspects of discourse markers. They are believed to form a separate tone unit, apart from the main clausal unit (cf. Quirk et al. 1985: 1112 who give some typical examples under the notion of 'comment clause'; see also Fraser, who lists discourse markers as a subtype of commentary markers in 1988: 22). Together with the syntactic characteristic 'occurrence outside the syntactic structure', this phonological feature highlights the separability of discourse markers from the clausal unit in which they occur.

Schiffrin suggests discourse markers to assume a range of prosodic contours, receiving tonic stress and occurring preceding a pause (1987: 328), while Östman claims them to be ”prosodically subordinated to another word“ (1982: 149). We can, in fact, think of examples in which both, tonic stress and a pause between marker and discourse unit are present as well as examples of the opposite:

(235) a. Well**.** I don't see it that way.
b. Well I don't see it that way.

In (235a.), *well* is cut off intonationally from the host sentence, indicating the initiation and execution of disagreement with some statement. In (235b.) on the other hand, *well* is not uttered preceding a pause, but is incorporated in the intonation of the host sentence. The main function of disagreement might be preserved, but this latter example emphasises more prominently the additional interpretation of impatience on the part of the speaker.

Thus, different patterns of intonation can result in a range of interpretations, e.g. a rising intonation of the interjection *oh* can signal surprise at the receipt of new information (cf. Levinson 1983: 311; Heritage 1984: 299), while a falling intonation can lead to the interpretation of disappointment (see also Schiffrin 1987: chapter 4, for a variety of other uses). Keller suggests that discourse markers (which he terms *gambits*) ”may typically be marked by a drop in the intonational contour“ (1979: 231) and illustrates this assumption with the following sentence:

(236) In my opinion, he's a fool.

The transition of the discourse marker *in my opinion* and the unit to which it is attached is said to coincide with comma marking in written language (Keller 1979: 231). The assumption that punctuation can help distinguish marker use from non-discourse marker use is repeated in Lutzky (2006: 7), but with limitations. She notes that punctuation is not a reliable means as some markers occur without a comma separating them from the clausal unit and cites an example from Fraser (1996: 170, in Lutzky 2006: 7):

(237) Now where are we?

In (237), *now* is ambiguous between a time adverb and a discourse marker. Furthermore, she stresses that studies which are interested in historical discourse markers reach even more pronounced limitations concerning punctuation as it was not consistently used and does not prove reliable before standardisation (Lutzky 2006: 8; 2012: 13f.).

To sum up, just as the previous characteristic, the one presented here cannot be viewed as defining discourse markers as a class as there seems to be too much diversity concerning individual markers. It is further affected by a spoken language bias in that the characteristic originally was conceived of as applying primarily to spoken language and while later on a translation to written data was attempted with punctuation, it did not improve reliability. Regarding spoken language, the question of separability of discourse markers might be further advanced with technical means, i.e. an analysis in *PRAAT* (Boersma and Weenink 2019), a program for the analysis of speech in phonetics[130]. However, I know of no way of resolving the problem for written language data.

6.1.3.5 Lexical characteristic

Marginal forms

The last characteristic to be discussed serves rather a meta-characteristic role in that it is not applied to an individual item or set of items, but classifies the group of discourse markers as a whole, whether on those researchers have agreed upon or regarding those that count as potential discourse markers.

Discourse markers are seen as marginal forms, i.e. they originate from a variety of grammatical categories, which results in difficulties in placing the entirety of markers into one of the traditional word classes (cf. Brinton 1996: 34f.). As we have seen in the course of this discussion, markers are a very heterogeneous collection of forms, including interjections (*oh*, e.g. Schiffrin 1987, chapter 4), adverbs (*consequently*, e.g. Fraser 1999: 943), coordinate and

130 See http://www.fon.hum.uva.nl/praat/, current version 6.1.08, last accessed 02.01.2020).

subordinate conjunctions (*but*, e.g. Fraser 2009: 308-316; *so*, e.g. Fraser 1990: 388), prepositional phrases (*in other words*, e.g. Fraser 2009: 303), and verbs (*say*, e.g. Schourup 1999: 234), among others. Both monomorphemic and multimorphemic items are considered discourse markers, ranging from single lexical words to phrases and clauses. The picture is complicated by the fact that, concerning some of the markers, the source of origin is debated as well (for details on *well*, see Fraser 1988, 1990; Jucker 1993; Schiffrin 1987).

To conclude I would like to quote Lutzky (2006: 9), who remarks that

> discourse markers, on the one hand, [are] formally very diverse; on the other hand, they are functionally similar. While the notion of a 'class' of discourse markers has been questioned due to their formal diversity, attempts have been made to base group membership on their ”various degrees of functional similarities and partially overlapping distributions“. (Schiffrin 1987: 65, as quoted in Lutzky 2006: 9)

6.1.3.6 Summary of discourse marker characteristics

The characteristics identified for discourse markers and collected by Brinton (1996) were ordered according to several levels of linguistic description by Jucker and Ziv (1998), an order which was mostly retained in the present work. Adjustments were made where a unification of levels did not seem justified (phonological and lexical characteristics) and where the characteristics themselves together with their corresponding linguistic level(s) failed to offer adequate insights into the marker category as a whole and partially led to contradicting results (sociolinguistic and stylistic characteristics, which were excluded).

It is true that most of the presented characteristics fail to be definitional for discourse markers as a category. Considering the large span of identified markers, there are too many exceptions. Nevertheless, it is vital to collect characteristics corresponding to many of the markers which are recognised as such by most researchers (e.g. *well*). It can further help in distinguishing discourse markers from other, related categories which may show considerable overlap, but which are markedly different in other respects (e.g. modals). Finally, in cases where a recognised discourse marker such as *well* shows a diverging behaviour with one of the characteristics (e.g. separate tone unit), the specifics of the situation in which that behaviour occurs can be more readily identified by comparing the deviant behaviour on the basis of the involved characteristic.

The three syntactic characteristics – restriction to sentence-initial position, occurrence outside of the syntactic structure, and optionality – are not equally diagnostic for discourse markers. Positing the first one as a restriction has been shown to be too strong. It can be regarded as a tendency, but frequent occurrences in middle or final position are documented as well.

The second and third syntactic characteristics are closely intertwined. Discourse markers show syntactic independence in that the grammaticality of a sentence is usually not altered when a marker is omitted and word order stays intact. This characteristic has been regarded as one of the more defining ones by many, finding application in both spoken and written discourse. The omission of a marker which does not affect a sentence's grammaticality supports the conclusion that they are grammatically optional. Claims in which discourse markers cannot be deleted out of syntactic reasons (e.g. conjunctions) should be handled with care and the two categories – facultative discourse marker and mandatory conjunction – should not be mingled together. It is important to note that optionality might only properly be seen as a felicitous characteristic when applied to grammaticality. The ensuing semantic optionality might be grounds for discussion. For proponents of the view that discourse markers only signal the relationship of two discourse segments (i.e. procedural meaning), the interpretation of an implicit relationship resulting from removing the discourse marker as an obvious clue, does not seem to pose severe problems. It may lead to local and minor misunderstandings which can be resolved in the ongoing discourse. However, when we consider the interpersonal dimension of some discourse markers, semantic optionality can result in more severe difficulties in interpretation, specifically in assuming a (strong) commitment to an argument the speaker did not intend.

The above argument about formal versus semantic optionality spills over to the discussion of the semantic characteristic. While it is evident for most that discourse markers have a core meaning, the question of whether or not they contribute to propositional meaning is still subject of debate. The discussion boils down to the general assumption of non-propositionality of discourse markers. This assumption parallels with the distinction of conceptual versus procedural meaning prominent in Relevance Theory, in which discourse markers are commonly stated to contain the latter, i.e. a specification of how to interpret the relation a discourse marker imposes on the discourse segments it occurs with and hence the absence of truth-conditionality. It has later been shown that instead of a strict parallel nature, the occurrence of a cross-cut relationship of the two dimensions truth-conditionality/conceptual meaning and non-truth-conditionality/procedural meaning has been identified in a number of articles (e.g. Wilson 2011). Furthermore, both types of meaning are not seen as mutually exclusive, instead discourse markers can show conceptual *and* procedural meaning (cf. Fraser 2006, 2009). Instead of positing a binary distinction, Anderson (2001) subscribes to the view that DMs exist on a scale with propositionality and non-propositionality as its endpoints.

Concerning the one functional characteristic, Brinton has identified two main groups in which discourse markers can be placed. The textual function of many discourse markers includes

aspects of discourse structure and coherence, while the interpersonal function makes reference to speaker attitude and the relationship between speaker and addressee. Analyses of the functional spectra of discourse markers experience some difficulty when considered from a global perspective. Jucker and Ziv criticised approaches that sought to argue specifically for monofunctionality or polyfunctionality and dismiss the characteristic on the grounds of ”the obvious analytical vicious circularity it entails“ (1998: 4). While it might not be a criterial one, several studies have convincingly shown that the distinction between textual and interpersonal functions proved to be valuable for this characteristic.

Phonological characteristics have not found widespread recognition amongst researchers. The chief aspects to be discussed are the proposed shortness and phonological reduction of markers and whether they form a separate tone unit. Both characteristics were primarily discussed in relation to spoken discourse and subsequent attempts to integrate markers characteristic of written discourse have been more or less successful. Phonological reduction seems to only hold true for a small subset of discourse markers and is not applicable on a general basis. The matter of stress has not reached a satisfying conclusion yet: They are considered as unstressed (Brinton 1996: 33) or as receiving tonic stress (Schiffrin 1987: 328). Discourse markers are assumed to occur in a separate tone unit, which can be ”marked by a drop in the intonational contour“ (cf. Keller 1979: 231). An attempt to apply this characteristic to written discourse has been made with reference to punctuation, but this endeavor has been described as unreliable (cf. Lutzky 2006: 7). The phonological characteristics do not encompass definitional properties, on the one hand because of their bias to spoken data, which proved to be difficult to apply to the written domain. On the other hand, they seem to produce too many counterexamples and ambiguities in actual conversation.

The final discourse marker characteristic considered concerns their non-uniform nature in terms of word class. They are marginal forms, not originating from or applicable to one of the major word classes. This characteristic is meaningful primarily in relation to discourse markers as a group, while in regard to the origin of particular items a diachronic perspective needs to be adopted. The next section will illuminate potential sources and paths of development of discourse markers, the most common of which is grammaticalisation.

6.1.4 The origin of discourse markers: Grammaticalisation or pragmaticalisation?

The notion 'grammaticalisation' has been coined by Meillet (1912), who had a decidedly diachronic perspective on the matter (cf. Hopper 1991: 18). It may be approached from two

perspectives: a) it refers to the diachronic development of items undergoing grammaticalisation and b) it describes the synchronic stages, i.e. varying degrees of grammatical functionality within different items (cf. Diewald 2011a: 451). Synchronically, a speaker has the choice between a number of isofunctional strategies with variable degrees of grammaticality, the diachronic aspect of grammaticalisation focusses on the development of items from a lower to a higher degree of grammaticality (cf. Lehmann 1995: 1255). With a focus on morphology, Kuryłowicz gave the following well-known definition for grammaticalisation:

> Grammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status. (Kuryłowicz 1975[1965]:52)

The definition implies different stages of grammatical advancement, which has prompted Givón (1991: 305) to distinguish between an initial stage of grammaticalisation (lexical > grammatical, i.e. primary grammaticalisation) and a subsequent development (less grammatical > more grammatical, i.e. secondary grammaticalisation)[131]. The stages are not to be understood as clear-cut, but rather form part of a continuum, admitting of boundary cases and a layering of more or less grammaticalised forms. A case in point is the lexical verb *go*, which has a functional counterpart in the (*to be*) *going to* construction, where it is part of the function of imminent future, rather than a content word (for the successive stages of development of go_{lexical} to $go_{\text{functional}}$, see Hopper and Traugott 2003[1993]: 2f.). Widely recognised is the view that these changes are unidirectional, i.e. the counter-development from more grammatical functions to lexical meaning is rare to non-existent (see especially Haspelmath 1999, who is a strong advocate of the unidirectionality hypothesis, but does not rule out degrammaticalisation altogether, cf. p. 1046, where he calls it ”extremely restricted“).

The initially strong focus on morphology widened with work conducted in the 1970s (Givón 1971, 1979) and 80s (Heine and Reh 1984) to include syntactic phenomena. The idea of the connection between morphosyntactic development and grammaticalisation percolated to approaches which systematically formulated features and parameters for the process. Lehmann (2015^3[1982]) provided a renowned framework of parameters involved in grammaticalisation, one that is even claimed to be ”near-universally accepted“ (Detges and Waltereit 2016: 635). He formulated six parameters, three each on the paradigmatic and syntagmatic axis, and attributed their degree of autonomy to varying degrees of grammaticality. Lehmann assumes that a rising degree of grammaticality correlates with a loss in autonomy of a sign and vice versa, thus both aspects form a complementary opposition with respect to the same property (1995: 1253). The

131 The terms *primary* and *secondary grammaticalisation* with respect to Kuryłowicz's definition have been suggested by Traugott (2002: 26f.).

aspect of autonomy is subdivided into the three dimensions of *weight*, *cohesion* and *variability*, each of which applies to a parameter on the paradigmatic and syntagmatic axes, resulting in six parameters in total. Grammaticalisation in his sense is thus accompanied by an increase in cohesion and a loss in weight and variability, which equals the loss of autonomy with which a sign is used (2015[3][1982]: 130). Table 22 below visualises the parameters in relation to the three dimensions of autonomy and is adapted from Lehmann (2015[3] [1982]: 132, 174).

Table 22. Parameters and processes involved in grammaticalisation

Dimension of autonomy	**Parameter: *paradigmatic* axis**	**Process involved in grammaticalisation**	**Parameter: *syntagmatic* axis**	**Process involved in grammaticali-sation**
Weight	Integrity	Attrition	Structural scope	Condensation
Cohesion	Paradigmaticity	Paradigmatisation	Bondedness	Coalescence
Variability	Paradigmatic variability	Obligatorification	Syntagmatic variability	Fixation

The parameters on the two axes relate to what Lehmann calls ”the fundamental aspects of every linguistic operation“, namely the selection (i.e. paradigmatic aspect) and combination (i.e. syntagmatic aspect) of linguistic signs (2015[3][1982]: 131).

1) The *weight* of a sign corresponds to its semantic and phonological integrity on the paradigmatic axis, i.e. it is semantically contentful and phonologically salient when it is not grammaticalised. On the syntagmatic axis weight refers to the structural scope a sign exerts over other signs and constructions with which it combines. Diewald (2011b: 376) notes that Lehmann intended this parameter to describe structural features, but since the term scope is usually connected to semantic scope, it initially led to confusion, prompting a precisification of the term from merely being named 'scope' to 'structural scope'[132]. In grammaticalisation, both aspects of weight decrease, i.e. a sign loses its semantic autonomy and phonologically erodes and its structural scope is reduced. Eckardt calls the example of formerly independent words turning into affixes or clitics a ”prime case“ of scope reduction (2012: 2677).

2) *Cohesion* increases in grammaticalisation, both on the paradigmatic and syntagmatic axes. Paradigmaticity on the former axis refers to the extent a sign is part of a loosely defined (semantic) field. In grammaticalisation, this sign is integrated and becomes part of a set of

132 In fact, Diewald argues to assess both types of scope differently with respect to the development of modal particles, in which reduction in structural scope occurs, but semantic scope may increase at the same time (cf. 2011b: 376).

members in a category. Lehmann notes that paradigmatic integration ”leads to a levelling out of the differences with which the members were equipped originally“ (2015[3][1982]: 143), giving the example of prepositions, which assimilate to the members of the paradigm and whose different origins are gradually adjusted the more they grammaticalise (p. 144). On the syntagmatic axis, coalescence refers to the degree of fusion or bondedness a sign exhibits after it is grammaticalised. Common examples include bound morphemes like affixes, which do not (generally) exist without a host they attach to.

3) The dimension of *variability* determines the range of options a speaker has at his or her disposal when employing a sign in language. In grammaticalisation, the variability of these options decreases. On the paradigmatic axis a speaker may choose a sign from a paradigm best suited for his or her communicative intentions, e.g. a set of lexical alternatives, or leave the item out altogether. A grammaticalised sign on the other hand becomes obligatory in the respective context and may not be replaced by another sign. Finally, syntagmatic variability refers to the degree of positional fixation of a sign. A low degree of grammaticality refers to the relative freedom of placing a sign in a clause, whereas a high degree leads to a fixed position of the item. Detges and Waltereit (2016: 636) give an example that illustrates the two extremes of syntagmatic variability. On the one hand, the Latin full verb *habere* may be placed relatively freely in connection to its host complement, but in modern Romance languages it occupies a fixed slot next to the verbal stem, having become a monosyllabic bound morpheme (French *-ai*, Spanish *-é*, and Italian *-ò*, cf. Detges and Waltereit 2016: 636).

The six parameters have been recognised to play a significant role in grammaticalisation processes that have reached some level of advancement (cf. Hopper 1991: 21, Diewald 2011a: 457) or apply to languages with a sufficient amount of inflectional morphology (cf. Traugott 2010a: 271). However, Eckardt notes that not all of Lehmann's six parameters need to have reflexes in individual grammaticalised elements, but it suffices if they ”show sufficiently many“ of them (Eckardt 2012: 2677). Similarly, in Norde's (2009: 125) view, a given case of grammaticalisation does not necessarily have to show each primitive change associated with a parameter. For instance, phonological reduction as a primitive change associated with the parameter of integrity typically only occurs in later stages, i.e. in secondary grammaticalisation where a function word may develop further into an inflectional affix and thus becomes fused to its host in the process. When a lexical item first develops into a functional one, the phonological substance often remains intact. Likewise, Diewald claims that ”the complete set of all six grammaticalization parameters [is] typically found only in very old grammaticalization

processes“ (2011a: 457). The issue has been taken up already in the early 1990s by Hopper, who cites the stage of morphologisation as the one when grammaticisation (as he calls it) may be unequivocally recognised (1991: 21). However, at the time there had been no solid criteria to identify grammaticalisation processes at their incipient stages. Hopper addresses the issues that are associated with Lehmann's labels of paradigmatisation, which is not applicable to ”more labile sorts of phenomena“, or coalescence, which is not distinct to grammaticalisation (Hopper 1991: 21). He formulates an additional five principles that characterise grammaticalisation processes specifically in, but not exclusive to, their early stages.

His first principle, *layering*[133], emphasises the gradual nature of change in that it assumes that a new functional layer emerges which coexists with or may oust an older one (1991: 22). If both continue to coexist, it may lead to a specialisation of one form or construction. A prime example are the different nuances markers of future tense have acquired, with the periphrastic forms being the most recent layers (e.g. *be going to* or *be to* as opposed to the auxiliary *will*, cf. Hopper 1991: 23f.).

Another principle is *divergence*[134], which leads to a lexical form becoming grammaticalised in one context (such as *go* in *be going to*), but remaining autonomous in another context (the lexical verb *go*). It is closely associated to layering, but differs from it in that it applies to one and the same lexical item (cf. Hopper 1991: 24).

Specialisation is a principle that corresponds to Lehmann's obligatorification in that it eliminates a number of options a speaker can choose from. However, Hopper seems to conceive of specialisation more as a change involving the narrowing down of semantic choices, which tend to become more abstract and functional when becoming grammaticalised. He gives the well-known example of French negation, which included nouns denoting a minimum quantity (*pas* 'step', *point* 'dot, point', *mie* 'crumb' and so on, cf. Hopper 1991: 26). While they have been initially employed to reinforce negation (*ne pas* 'not a step', *ne mie* 'not a crumb'), the originally salient meanings of *pas* and *mie* have become non-emphatic and more general. Similar to the negation cycle for English negators, in French the original marker *ne* is becoming increasingly less common in spoken speech and *pas* becomes the sole carrier of negation (for details on the cycle of negation the reader is referred to Jespersen 1966[1917]).

The principle of *persistence* sheds light on the principle of divergence from a different angle. Specifically, it assumes that a grammaticalised element retains ”some traces of its original meanings […] and details of its lexical history may be reflected in constraints on its grammatical

133 Hopper credits Givón (1984: 32-35) with the coinage of the term.

134 Heine and Reh (1984: 57-59) refer to it as *split*.

distribution“ (Hopper 1991: 22). In an intermediate stage the principle leads to polysemy in a form, but in later stages, in particular in the stage of morphologisation, the connection to its earlier meaning and function may become opaque (cf. Hopper 1991: 28).

In his discussion of the final principle *de-categorialisation*, Hopper assumes a notion of categoriality which is not absolute, but instead is replaced by a more gradient view in which the traditional categories noun and verb (he does not discuss adjectives in any great detail) come to serve secondary roles as adverbials or prepositions as well as participial constructions (1991: 30). The case of the lexical noun *back* which grammaticalises into the adposition *back* may serve as an example illustrating this principle (cf. Hopper and Traugott 2003[1993]: 6, 51; cf. also Heine, Claudi and Hünnemeyer 1991: 31f.)[135]. Hopper's view entails that categories other than the two primary ones (i.e. noun and verb) result from grammaticalisation of nouns and verbs, with a few exceptions. It is here where he builds a bridge to discourse functions most apparently. He quotes Traugott (1982) who views the loss of discourse autonomy as the most central feature of grammaticalisation, i.e. when grammaticalised, forms develop textual functions out of previously propositional ones (cf. Hopper 1991: 31).

Traugott's contribution to grammaticalisation is extensive and includes a shift in perspective, i.e. away from a primarily morphosyntactic view towards a greater focus on semantic changes as well as incorporating pragmatic principles (e.g. invited inferences) and a focussed discussion of discourse markers (e.g. Traugott 1989, 1995, 2003, 2007, 2010a, 2010b, 2012, among others). In particular, she emphasises the relationship between syntax and (discourse) pragmatics and advocates the incorporation of cognition into grammar and grammaticalisation (cf. 1995: 5, 16; 2007: 151, also Traugott and Dasher 2002: 9). She maintains that a ”model of attrition, a 'sink' model where everything ultimately reduces to zero“ is untenable especially with regard to pragmatics, which strengthens particularly in the early phases of grammaticalisation (1995: 2).

Two types of inferences typically cited include metaphorical (e.g. spatio-temporal metaphors such as the development of the *going-to*-future, cf. Traugott and König 1991: 207) and metonymic processes (e.g. a socio-cultural contiguity identified with *boor* 'farmer' > 'crude person', cf. Traugott and König 1991: 210) (see also Hopper and Traugott 2003[1993]: 84-92 for a discussion and further examples of either process). They emphasise, however, that these processes are not entirely separable, but indeed show some overlap in their areas of application which may be shown by three tendencies formulated in Traugott (1989). While they are

135 Hopper and Traugott (2003[1993]: 51) also discuss reanalysis in this context. Specifically, the construction of head and dependent noun [[*back*] *of the barn*] changes into a complex preposition with a following head noun [*back of* [*the barn*]]. Similarly, Heine et al. discuss the development of the concrete object *back* (as a body part) into a ”source concept“ for denoting space or time (*three miles back*, *three years back*) (1991: 32).

operating in grammaticalisation, they are not limited to it, but rather are tendencies of semantic change more generally. As such they are not discrete, but may overlap. The meaning changes implied in these semantic-pragmatic tendencies are given below (cf. Traugott 1989: 34f., Traugott and Dasher 2002: 94f.):

(238) Tendency I: External > internal described situation
Tendency II: External/internal > textual/metatextual situation
Tendency III: Less subjective meanings > meanings based in the speaker's subjective belief state/ attitude towards a proposition

Tendency I involves many changes from concrete to abstract (e.g. the development of body part terms into adpositions, or physical to mental states, e.g. OE *felan* 'touch' > 'experience mentally') and is largely correlated with metaphoric processes (cf. Traugott and König 1991: 207f, Traugott and Dasher 2002: 95). The internally described situation includes evaluative, perceptual and cognitive situations not restricted to a speaker, but involving sentient beings more generally (cf. Traugott and König 1991: 208). According to Traugott (1989: 34), tendency I also subsumes metonymic processes such as the change in meaning of the noun *boor* ('farmer, peasant' > 'crude person'), given an extended notion of metonymy that includes cognitive and covert contexts in addition to the more traditional conception of metonymy (cf. Traugott and König 1991: 211). As metonymic changes more strongly correlate with tendency III, I will defer a discussion of *boor* momentarily.

Examples of tendency II include OE *æfter* or *while* which developed into temporal connectives, indicating textual (i.e. cohesive) relations (cf. Traugott and König 1991: 208, Traugott and Dasher 2002: 95). Textual situation refers thus to a ”situation of text-construction“ (Traugott 1989: 35), i.e. a domain associated with the use of cohesive devices, and metatextual is a term used to convey ”meanings that reflect on language“ (Traugott and Dasher 2002: 95)[136].

According to Traugott and Dasher, tendency III counts as a ”dominant tendency“ (2002: 96). Traugott's notion of subjectification is derived from the assumptions of this tendency and I will turn to that shortly. Examples of tendency III constitute the development of ”speaker-oriented“ (Jackendoff 1972: 76) modal adverbs such as *possibly*, *probably* or *apparently*, which develop from manner adverbs to sentence adverbs with a subjective epistemic meaning (cf. Traugott 1989: 46f.).

As stated above, also metonymic changes are largely correlated with tendency III. A case in point is the shift in meaning of the noun *boor* ('farmer, peasant' > 'crude person') in the 16th century (cf. OED entry *boor*). This shift involves speaker assumptions and judgements about the

136 For a justification of the term 'metatextual' instead of 'metalinguistic' used in Traugott's (1989) paper, see Traugott and Dasher (2002: 95, footnote 23).

behaviour of farmers that came to be associated with *boor*. The cognate in German underwent a similar change in meaning from *Bauer* 'farmer' to *Bauer* 'crude, uncouth person' implying a lack of refinement that came to be associated with the noun. Consider examples (239) and (240):

(239) Ein **Bauer** im Mittelalter, hart arbeitend am Pflug, kam auf 4.000 Kalorien
*A **farmer** in the Middle Ages who worked hard on the plough reached 4,000 calories*
(Die Zeit, Nr. 47, 17.11.2017)

(240) A: Wenigstens hat er [=Pyotr Tchaikovsky, TH] überlebt, war danach nicht mehr derselbe.
B: Was weißt du davon – du **Bauer**?

A: At least he [=Pyotr Tchaikovsky] survived, he was not the same after that.
*B: What do you know of it – you **boor**$_{pej}$*
(DWDS corpus: *Lichter der Vorstadt* 2006, Aki Kaurismäki)

(239) situates *Bauer* 'farmer' in an agricultural context in the Middle Ages, relating his work to the amount of released energy and clearly refers to the neutral occupational meaning. (240) on the other hand is an exchange in which speaker B criticises speaker A for his or her remark that Pyotr Tchaikovsky at least survived after having flung himself into a river. Here the noun *Bauer* 'boor' is used as an expletive with a decidedly pejorative connotation. Speaker A, the recipient of the expletive, is ascribed a behaviour associated with boors, which is insinuated to be uneducated and ignorant. Traugott and Dasher note that subjectification is metonymically associated with a speaker's attitude, for instance towards other speakers (as in the case of the pejoration of *boor*), and towards the truth of a proposition (as with epistemic modal adverbs like *probably*) (2002: 97). Furthermore, they also identify a shift towards greater subjective meanings in the development of discourse markers, which involve a speaker's attitude towards the ”argumentative rhetorical stance being taken“ (for instance with *in fact*, which marks this attitude) (2002: 97).

Subjectification is the diachronic equivalent to the synchronic state of subjectivity. The phenomenon subjectivity was introduced in work by Bréal (1964[1900]: ch. 25) and later elaborated on by Benveniste (1971[1958]: 225), and Lyons (1982). It involves a speaker's ”expression of himself and his own attitudes and beliefs“ (Lyons 1982: 102) and as such it is epitomised as an increase in 'expressiveness' (Traugott and Dasher 2002: 94). The notion 'expressive' is taken to be roughly synonymous with 'attitudinal' or 'affective' and relevant to both, semantic and pragmatic meaning (cf. Traugott and Dasher 2002: 94). Traugott maintains a distinction between semantics and pragmatics (cf. 2010b: 30, also 2010b: 35, footnote 8), but in her discussion of (inter)subjectification it does not become entirely clear where exactly the boundary lies. As the term implies, discourse markers are often taken to be operators in the wider

discourse which do not affect truth conditions, thus making it plausible to situate them more strongly in a discourse-pragmatic context. Traugott (1982) shows that changes that lead to greater subjectification move away from propositional meanings and become pragmatic in the course of time. However, Traugott and König (1991) and Traugott (2010b) give many examples of conversational implicatures which become conventionalised and in doing so, they come to code semantic meanings. Furthermore, in her 2010b paper, she hypothesises that subjectification as well as intersubjectification (to be elaborated on below) ”involve the reanalysis of pragmatic meanings as coded semantic meanings“ (p. 29). I reserve the term 'meaning' predominantly for *semantic* meaning, contrary to what Traugott and König (1991) have done, following Sweetser (1988). They discuss the change of the main verb *go* into a future-marking auxiliary and state that ”grammatical meaning is added; therefore 'bleaching' is an inappropriate concept“ (p. 190). However, to use the term 'meaning' inflationarily may easily lead to a blurring of the concept of (semantic) meaning. Lehmann (2015[3]: 136; 174, table 4.3) explicitly discussed bleaching in a semantic context. Thus I prefer the terms grammatical *function* or pragmatic *function* instead of speaking about meaning in these contexts.

Traugott proposed that subjectivity plays a role in early grammaticalisation, stating that changes in meaning generally develop from propositional to expressive, often via an intermediate stage which primarily shows textual (i.e. cohesive) meanings (Traugott 1982: 257). This development implies that it is a unidirectional change and once a meaning has become mainly expressive, it does not revert back to denoting propositional meanings. Subjectification is the process by which these more expressive and subjective functions evolve and it is defined as follows:

> [S]ubjectification is the mechanism whereby meanings come over time to encode or externalise the [speaker's/writer's] perspectives and attitudes as constrained by the communicative world of the speech event, rather than by the so-called 'real-world' characteristics of the event or situation referred to. (Traugott 2003: 126)

As discussed above, subjectification is taken to play a major role in semantic change in general, however, it has come to be associated strongly with grammaticalisation as well. This is illustrated with the development of DMs from adverbs. A number of DMs, such as *indeed*, *in fact*, *besides* or *after all*, can be shown to have undergone similar developments, which Traugott encapsulates in the cline given in (241) below (1995: 1).

(241) Clause-internal Adverbial > Sentence Adverbial > Discourse Particle[137]

Other adverbials may develop further to denote intersubjective meanings. While subjectified meanings encode a speaker's beliefs and attitudes (e.g. toward a proposition), intersubjectified

137 Traugott subsumes the term 'Discourse Marker' under the umbrella term 'Discourse Particle' (1995: 1).

uses ”encode meanings centred on the addressee“ and as such also convey a relationship to the addresse's face (Traugott 2010b: 30, 35). It is assumed that intersubjective functions derive from subjective ones unidirectionally and thus Traugott assumes a further cline from 'not/less subjective' via 'subjective' to 'intersubjective' (2010b: 35)[138]. To that effect, Traugott discusses the stance adverb *surely* in her (2012) case study. Its historical development shows that it started out as an adverb of certainty in Middle English, as evident in (242):

(242) The bisshop.. wente oute ageynst the enemyes **surely**, and the peple folowed hym.
The bishop.. went out against the enemies ***with certainty/ confidence****, and the people followed him*.
(1483, Caxton tr. J. De Voragine Golden Legende f. cclv/2)

Later, its epistemicity weakened and it increasingly was used for ”intersubjective agreement-seeking“ (Traugott 2012: 17), which is illustrated with the following example taken from Traugott (p. 17, emphasis in original):

(243) The more weke that man is, the more is the strenght of God in his saueguard declared... **Surely** Megge a fainter hearte than thy fraile father hath, canst you not haue.
(*?*1537 More, Correspondence [HC cepriv1])

Example (243) from a letter of Thomas More shows *surely* in an ”epistemic linking use“, which addresses his daughter Margaret ('Megge') and seeks her agreement and uptake (Traugott 2012: 17). This function of agreement-seeking, or more generally, the ”managing [of] interpersonal expectations“ (Traugott 2012: 18) started to become associated with *surely* more frequently, which she takes to be a development towards intersubjectivity. Consider (244) below, which shows the intended uptake and implicit request for a response (Traugott 2012: 21, emphasis in original):

(244) ”But you won't take advantage of me, **surely**, Sir Arthur?“ said Mr. Case, forgetting his own principles.
”I shall not take advantage of you, as you would have taken of this honest man...“
(1796-1801 Edgeworth, *The Parent's Assistant*)

The example illustrates two things. Firstly, the use of *surely* seeks a response from his interlocutor, and secondly, the request is granted by the addressee, i.e. it is an instance of uptake and the response-eliciting strategy has been successful. Here, *surely* is placed at a right-peripheral position which correlates with intersubjectivity (cf. Traugott 2012: 22). While *surely* in example (244) appears in a discourse context where uptake is likely (i.e. the question of Mr. Case is a first pair-part in an adjacency pair which makes a second pair-part (an answer in this

138 This tendency does not seem to be categorical however. Brinton (2007: 68) argues that the development of the parenthetical *I mean* does not indubitably show a precedence of subjective meanings.

case) conditionally relevant, see Schegloff 1968, Schegloff and Sacks 1973), Traugott's conception of uptake also allows for an imagined addressee (e.g. a reader of a text), where there is no actual response (2012: 21). Still, in written contexts without actual addressees it is at least dubitable if uptake can always be clearly conceptualised. Furthermore, Traugott (2003: 130) gives the adverbial *actually* as an example for the development from subjectification to intersubjectification:

(245) *Actually*: (I) Adverb of manner > (II) sentential adversative adverb > (III) additive DM > (IV) hedge

The last two stages show subjectified (III) and intersubjectified (IV) uses of the adverbial. As such, hedges are seen as a subgroup of discourse markers that primarily serve the function of marking politeness (a conceptualisation of hedges that is incomplete as will be shown in section 6.2.2). Since intersubjectivity is construed as ”paying attention to [the addressee's] 'face' or 'image needs' associated with social stance and identity“ (Traugott 2003: 128), it correlates with this function of hedges.

Apparently, there is a robust (but not categorical) tendency for subjectified elements (such as DMs) to be placed at the left periphery of a clause or sentence and intersubjectified elements (such as hedges in Traugott's terminology) to be positioned at the right periphery (cf. Traugott 2012: 22)[139]. Since Traugott assumes scope expansion to be criterial to grammaticalisation (see e.g. Tabor and Traugott 1998, Traugott 1995: 14, Traugott 2003, Traugott 2007: 151, citing Himmelmann 2004, Traugott 2010a: 274-276, see also Brinton 1996: 274), this finding poses no difficulty to her treatment of discourse markers as grammaticalised entities. She criticises Lehmann's conception of grammaticalisation as too restrictive, stating that (structural scope) reduction, condensation and fixation take place only in advanced stages of grammaticalisation, such as with the development of case and tense markers, but it does not hold true for the development of connectives and discourse markers (Traugott 2010b: 41, see also Brinton and Traugott 2005: 138). The notion of discourse markers being grammaticalised entities has been taken up and discussed in a number of works and it is to that connection that we will now turn.

A growing body of research analysing the diachronic rise and development of discourse markers seems to subscribe to the view that their origin is located in the process of grammaticalisation (e.g. Traugott 1995, 2007, 2010a; Brinton 1996; Anderson 2001; Traugott and Dasher 2002; Wischer and Diewald 2002; Auer and Günthner 2005 for German; Brinton and Traugott 2005; Diewald 2011a; Diewald 2011b, the contributions in Degand and Simon-Vandenbergen, eds.

139 She also raises the problem of how exactly 'periphery' or 'initial' and 'final' are defined (cf. Traugott 2012: 22) and indeed there seems to be no ultimate agreement especially with regard to discussions of discourse as we have already seen above.

(2011), among others) and those who present diachronic case studies of individual markers hardly avoid the subject (e.g. Traugott 1995 on *indeed*, *in fact*, and *besides*; Barth-Weingarten and Couper-Kuhlen 2002 on sentence-final *though*; Simon-Vandenbergen and Willems 2011 on cognate expressions in English and French (*actually* vs *actuellement* and *in fact* vs *en/de/au fait*); Evers-Vermeul et al. 2011 on Dutch (*want* and *omdat*) and French (*car* and *parce que*) expressions). The common denominator of views in favour of claiming that discourse markers arise out of a process of grammaticalisation is a broader conception of grammar which allows for discourse-pragmatic expressions. In fact, the main dividing lines in the debate concern the grammatical status of DMs and the underlying perspective on grammar. If a more encompassing view on grammar is assumed, DMs are part of grammar and thus undergo changes characteristic of grammaticalisation. If, however, the narrow perspective of grammar as involving primarily morphosyntactic phenomena is upheld, then grammaticalisation is rejected as are discourse markers as grammatical elements. In the latter case, a different process for the rise of DMs is proposed, which is most commonly pragmaticalisation (Erman and Kotsinas 1993, who pioneered the pragmaticalisation view, Aijmer 1997). Heine (2013) and Degand and Evers-Crucially, also Norde (2009: 21-23) ascribes the development of discourse markers to pragmaticalisation and notes that they do not only differ from other cases of grammaticalisation with respect to scope, but also in several other respects (see her example (21) on p.22). Degand and Evers-Vermeul (2015) have summarised the main points of argument and they identify three to five different positions on the matter. The positions and notable proponents are summarised in table 23 given on the following page (cf. Degand and Evers-Vermeul 2015: 62-73, based on Ocampo 2006: 316f.; cf. Heine 2013: 1219f.).

In what follows, I will discuss in more detail positions 1) it is grammaticalisation and 3) it is pragmaticalisation. Position 2) will briefly be discussed on the basis of Wischer's (2000) and Barth-Weingarten and Couper-Kuhlen's (2002) papers, but can be subsumed under the view of grammaticalisation (i.e. position 1) and position 4) is a marginal one at best as Degand and Evers-Vermeul (2015: 71) remark. Position 5) will be largely omitted because the positions brought forth for it do not pertain to the development of *Ish* (the interested reader is referred to Degand and Evers-Vermeul (2015) and the respective approaches themselves.

Table 23. Five main positions underlying the rise of DMs and their (main) proponents

Positions	(Main) proponents
1) Grammaticalisation, and the process of pragmaticalisation is superfluous (cf. Heine's third position)	Traugott (1995); Brinton (1996); Traugott and Dasher (2002); Brinton and Traugott (2005:136-140); Diewald (2011a, 2011b); Degand and Simon-Vandenbergen (eds.) (2011); Degand and Evers-Vermeul (2015)
2) Special subtype of grammaticalisation, which is pragmaticalisation (cf. Heine's second position)	Wischer (2000); Barth-Weingarten and Couper-Kuhlen (2002); Giacalone Ramat and Mauri (2010); Prévost (2011)
3) Pragmaticalisation, a concept distinct of grammaticalisation (cf. Heine's first position)	Erman and Kotsinas (1993); Aijmer (1997); Günthner and Mutz (2004); Frank-Job (2006)
4) Grammaticalisation and pragmaticalisation are involved	Onodera (2000)
5) Neither grammaticalisation nor pragmaticalisation, but a different process altogether	Ocampo (2006); Waltereit (2006); Heine (2013); Detges and Waltereit (2016)

Adherents to the first position argue for an inclusion of DMs under the notion of grammaticalisation implying a concomitant expansion of its scope. Traugott (1995: 5) for instance, assumes a non-traditional view of grammar which subsumes pragmatics. In her extended perspective on grammar, discourse markers are attributed the status of grammatical categories in the same way that core grammatical items are. The reasoning behind this approach is to compare the development of discourse markers to that of core grammatical items (such as auxiliaries and case markers) in the sense that both ”initially derive from referential expressions“ (Traugott 2012: 18f.). Citing Aijmer (1997), who distinguishes the development of parentheticals (*I think*, etc.) from that of grammatical material (tense, aspect, mood), Traugott gives reasons for rejecting a separate notion of pragmaticalisation, maintaining that tense, aspect, and mood have pragmatic functions in many languages (Traugott 1995: 5). Furthermore, Aijmer's main reason for postulating pragmaticalisation as the catalyst for the rise of DMs is the criterion of non-truth-conditionality, which also does not apply to a number of clearly grammatical categories such as tense, aspect or the active-passive distinction (cf. Brinton and Traugott 2005: 139, Diewald 2011a). Traugott states:

> If one were to exclude 'pragmatic markers' because of their procedural, deictic function from grammaticalization, logically one would have to exclude all modals, tense, aspect, demonstrative and other typical grammatical markers, because they also have such functions. (Traugott 2010a: 276)

On the other hand, researchers working on DMs have identified a number of similarities between their development and the process of grammaticalisation, e.g. Brinton and Traugott (2005: 137

and the references cited therein, cf. footnote 26). For instance, Brinton (2010: 62) identifies Hopper's (1991) principles of layering, divergence, persistence and de-categorialisation in the development of parenthetical *I mean*. Further, changes such as the shift from referential (propositional) to non-referential (pragmatic or procedural) meanings and subjectification primarily discussed in Traugott (1995, 2003) are involved. Finally, also Lehmann's parameters in the form of desemanticisation, coalescence and phonological attrition play a role in its development (see Brinton 2010: 62f.). The two exceptions frequently cited in the discussion of DMs are the reduction of structural scope (condensation) and loss of syntactic variability (fixation), which do not apply to typical DMs (cf. Traugott 1995: 3, Brinton and Traugott 2005: 138). Hence, in light of the many similarities DMs share with changes typically attributed to grammaticalisation, Traugott maintains that postulating a different process ”would […] obscure its similarities with the more canonical clines“ (1995: 15).

Diewald (2011a, 2011b) strongly advocates for a view in favour of grammaticalisation and claims that ”the diachronic development of discourse markers in all relevant structural and semantic aspects is a paradigm example of grammaticalization“ (2011b: 375). Grammaticality is conceptualised as a gradual phenomenon as are the three definitional criteria of grammar, obligatoriness, paradigmaticity and relational meaning (p. 367, 375). However, the main focus of her 2011b paper lies on (German) modal particles (MPs), which, while similar in some respects, require a different treatment from DMs (cf. also Traugott 2007: 144, Heine 2013: 1209, footnote 8; Detges and Waltereit 2016: 639). Detges and Waltereit note that accounts that make recourse to the fact that both types of markers are functionally situated in the realm of pragmatics abstract away from their differences, while on the other hand ”it presupposes that the grammatical processes which bring about both types of elements are sufficiently similar to group them together“ (2016: 639). For these reasons, they also reject the term pragmaticalisation.

Diewald's reason for dismissing pragmaticalisation is that in her view it implies a movement to a ”deviant target domain“ pragmatics, but apart from that the diachronic processes that bring about modal and discourse particles ”are virtually indistinguishable from acknowledged cases of grammaticalization“ (2011a: 457). She criticises this distinction ”between 'true' grammatical function and 'merely' pragmatic function“ attributed to proponents of pragmaticalisation (2011a: 455). As becomes clear from her remarks, she also opts for a wider application of the notion of grammar and considers discourse markers as genuinely grammatical items. Positing a separate process to account for them thus becomes unnecessary and is also deemed undesirable as it implies a hierarchy in linguistic levels of description to which pragmatics takes a back seat.

A number of authors incline towards grammaticalisation as an explanatory process for the

evolution of DMs, but are reluctant to subsume it under grammaticalisation proper (see position 2). They maintain that grammaticalisation proper leads to the development of morphosyntactic items which are characterised by reductive processes. The common denominator of these approaches is the assumption of subprocesses which are very similar to grammaticalisation in some respects, but still feature a number of differences (such as an increase in scope rather than a decrease) that need to be accounted for. Wischer (2000) and Giacalone Ramat and Mauri (2010) propose two processes of grammaticalisation, one of which leads to grammatical items ('Grammaticalisation I' in Wischer (2000: 357), and standard grammaticalisation in Giacalone Ramat and Mauri (2010), see Heine 2013: 1220) and the other of which exemplifies the development of pragmatic markers of various kinds (i.e. 'grammaticalisation II' in Wischer and non-standard grammaticalisation in Giacalone Ramat and Mauri, respectively). In particular, in Wischer's account of the development of the marker of evidentiality *methinks* she proposes to differentiate grammaticalisation situated at the propositional level (e.g. *be going to*) from grammaticalisation on the textual or interpersonal level, which leads to the development of discourse markers and markers of epistemic modality (e.g. *methinks*) (cf. 2000: 365). Although she does not explicitly advocate for a wider notion of grammaticalisation, her assumption of two grammaticalisation processes with different resultant grammatical items strongly suggests that view. In her discussion she raises the question if and to what extent lexicalisation is at work as well and claims that both processes, grammaticalisation and lexicalisation, are not contradictory, but in fact share many commonalities (cf. 2000: 355, see also Brinton and Traugott 2005: 68f.). Those are for instance, loss of compositionality and demotivation (i.e. the form is analysed holistically rather than analytically in that the meaning of the whole cannot be deduced from the meanings of the parts), both are reductive processes, they involve fusion (i.e. the reanalysis of syntactic phrases as single words, also called univerbation), among others (cf. Wischer 2000: 364, Lehmann 1995: 1263, Brinton and Traugott 2005: 68f.)[140]. In other words, both processes entail the loss of semantic and structural compositionality. Lehmann (1995: 1263f.) notes that both grammaticalisation and lexicalisation are simultaneously at work in many cases in their early stages (such as the univerbation of prepositional constructions to morphologically complex prepositions in the case of *zu Gunsten* > *zugunsten*). In these cases, new lexicon entries are created as well as elements with a higher degree of grammaticality. What differentiates them, however, is the target domain (the lexical end versus the grammatical end of the continuum), semantic differences (i.e. lexicalisation results in referential meanings, whereas meaning

140 Note, however, that this concept of the lexicon conforms to a holistic approach which views lexical items as unanalysable atoms in the sense of Fodor (1975, 1998). On the other hand, componential (and later also decompositional) approaches analyse individual lexical items as involving components of meaning.

becomes more abstract and bleached in grammaticalisation, and a procedural (or 'operational' in Wischer's terms) meaning is foregrounded), as well as decategorialisation (lexicalised elements are part of the major open-class categories, whereas grammaticalised elements become part of closed secondary word classes in which they operate as function words) (cf. Wischer 2000: 364f., Brinton and Traugott 2005: 68). The frequent remark that lexical items are listed in dictionaries is not a distinguishing factor as function words (and morphologically bound elements such as affixes) are listed in most cases too. To sum up, Wischer identifies both processes in the development of *methinks*, more specifically a kind of 'syntactic lexicalisation' (cf. Bauer 1983), i.e. ”the symbolification of a former free collocation, the syntactic pattern of which has become unproductive“ as well as subtype II of grammaticalisation as ”[t]he new sign […] immediately takes over a grammatical function on the discourse level“ (2000: 364). She thus concurs with Lehmann's (1995) perspective that lexicalisation and grammaticalisation operate together at the onset of the change, but then postulates a diverging route in the form of a non-traditional grammaticalisation path which allows for discourse-pragmatic elements.

Barth-Weingarten and Couper-Kuhlen's (2002) discussion of the concessive conjunct *though*, which recently also has shown signs of developing into a discourse marker, will also briefly be presented as a kind of bridging context between the two extreme positions of 1) and 3). The concessive pattern is frequently used to acknowledge a previous claim while at the same time making a counter-claim. However, applying final *though* renders the acknowledgement of the claim inexplicit and due to also prosodically and lexico-syntactically downplaying it, the acknowledgement receives little weight in comparison to the counter-claim (cf. Barth-Weingarten and Couper-Kuhlen 2002: 349). Recently, final *though* also has developed textual uses and functions as a marker of topic contrast, which is paraphrased as ”let us now move on to *this* topic, while acknowledging what has been said on *that* topic“ (Barth-Weingarten and Couper-Kuhlen 2002: 353, emphasis in original). The authors discuss whether this development is in line with the findings of grammaticalisation research and observe semantic bleaching of concessive *though* with concomitant pragmatic strengthening (p. 353). The development to a marker of topic contrast also implies a shift to a textual 'cohesive' meaning (p. 354, Traugott's (1989) tendency II). Furthermore, on the syntactic level they note an increase in its scope in that it connects larger discourse units (2002: 354). On the lexical level they make reference to Hopper's principles of layering and persistence (p. 354), phenomena which are frequently consulted when discussing discourse markers in the context of grammaticalisation. However, in discussing which process might ultimately be referred to in categorising *though*, they note difficulties with the approach of grammaticalisation (i.e. *though* does not conform to many of

Lehmann's parameters, cf. p. 356f.) and pragmaticalisation (i.e. *though* develops from a grammatical marker into a text-structuring device, not from a lexical item, cf. p. 357). They state that a relaxation of Lehmann's parameters, while desirable in principle, might lead to a dilution of the concept of grammaticalisation. Their solution comes in the form of proposing grammaticalisation as an instance of prototypicality, which includes the development of DMs. As such discourse markers are ”related to more prototypical cases of grammaticalization in terms of family resemblance“ (Barth-Weingarten and Couper-Kuhlen 2002: 357). They object to a categorical, binary conception of treating particular cases as either belonging to grammaticalisation (as we have seen with core grammatical items) or not. Instead they propose to focus on similarities with canonical grammaticalised elements, following Traugott (1995). The advantage of the prototypicality approach is the possibility to include borderline cases, the risk is to stretch the notion of grammaticalisation, a claim that has also been advanced in Norde and Beijering (2014).

The term 'pragmaticalisation' has been coined by Erman and Kotsinas (1993: 80) and is employed by those who reject the path of grammaticalisation for the development of DMs. Norde (2009: 21) even equates pragmaticalisation with the evolution of discourse markers. Grammaticalisation is reserved for those processes which lead to the creation of morphosyntactic grammatical markers. Proponents of the third position, however, assume a pragmaticalisation path for the development of discourse markers and other discourse-pragmatic phenomena, which exceed the scope of the sentence. The two processes are not conceptualised as entirely distinct, in fact, they show a number of similarities such as the bleaching of (concrete) meaning and in some cases coalescence (cf. Erman and Kotsinas 1993: 81). Furthermore, an already grammaticalised element may further pragmaticalise and vice versa. Operating on the conversational level, discourse markers aid the hearer/addressee in more effectively interpreting the sense conveyed by the speaker and they 'orient' the hearer (cf. Fraser 1990). In other words, they convey procedural meaning in the sense of Blakemore (1987) and do not contribute to the proposition of the sentence. Erman and Kotsinas focus on a discourse marker's textual (i.e. cohesive) function and identify pragmaticalisation in those cases where an element develops a discourse-coordinating function (1993: 84).

Aijmer on the other hand focusses more strongly on the interpersonal function of discourse markers and relates their development to pragmaticalisation when ”they involve the speaker's attitude to the hearer“ (Aijmer 1997: 2). Typically pragmatic meanings such as requests for confirmation and emphasis are taken to be characteristics of later stages of change (cf. Aijmer 2007: 36). Following Erman and Kotsinas (1993), Aijmer also assumes that an already

grammaticalised element may further undergo the process of pragmaticalisation such as with Swedish *alltså* ('so, thus', a cognate to German *also*), which in a first stage developed from a manner adverb to a conjunct adverb and subsequently pragmaticalised into a discourse marker (cf. Aijmer 2007: 36). Non-truth-conditionality is Aijmer's principal criterion to distinguish between grammatical(ised) and pragmatic(alised) elements, claiming that ”elements which cannot be analyzed in terms of truth are pragmatic or pragmaticalized“ (1997: 2). It is this claim which has attracted widespread criticism (see e.g. Brinton and Traugott 2005: 139, Diewald 2011a: 455, Mroczynski 2012: 111). As stated above, this criterion is not distinct enough as also traditionally grammatical categories such as the voice distinction between active and passive do not show it (cf. Diewald 2011a: 455). Furthermore, it does also not demarcate pragmaticalisation clearly from another type of language change, i.e. lexicalisation. Mroczynski (2012: 111) gives evidence for this claim in the form of lexical expressions which comprise an evaluative meaning. Thus, to follow his example, whether *beer* is referred to as *Gesöff* ('swill') or *Getränk* ('beverage') does not alter the status of the truth of the proposition, i.e. the evaluative component in these terms cannot be assigned truth conditions (Mroczynski 2012: 111). Mroczynski argues that if pragmaticalisation comprises all phenomena that elude a truth-functional judgement it would lead to an overgeneralisation (cf. p. 111). In his critical examination of Aijmer's work on pragmaticalisation he notes the absence of clear and distinct criteria. Since his own work characterises the German particles *wobei*, *weil* and *ja* as the result of pragmaticalisation, one of his aims is to define such criteria. Pragmaticalisation in his sense is not an approach to language change, but instead relates to the domain an expression enters when pragmaticalised (cf. 2012: 112, 2013: 137). This conception of pragmaticalisation is very similar to Diewald's (2011a) notion of target domain, albeit it does not conveive of pragmatics as 'deviant' from the 'typical target domain' of grammar (a viewpoint that I share). Mroczynski identifies the four parameters in (246), which are located on all levels of lingustic description (cf. 2012: 115ff., 2013: 139):

(246) a) Pragmatics: Konfiguration ('configuration')
b) Semantics: Bedeutungsgehalt ('semantic content')
c) Morphosyntax: Fügungsenge ('bondedness')
d) Phonetics: Prosodie ('prosody')

His parameter of configuration entails the process of discoursivisation and comprises three subparameters, i.e. 1) an expression's sentence-internal propositional reference is replaced by a (meta-)communicative function, 2) the degree of an element's discoursive range (i.e. its scope, which expands with greater pragmaticalisation), and 3) the quantity of communicative functions an element can assume increases in pragmaticalised elements (cf. 2013: 139f.). Configuration is

the only obligatory one in Mroczynski's model, which entails that without discoursivisation there is no pragmaticalisation (cf. 2012: 116). His second parameter, semantic content, relates to changes in meaning which result in polysemy. He concedes that it does not constitute a unique parameter, but instead it is one which plays a role in virtually all phenomena of language change (cf. p. 116). Bondedness is based on Lehmann's eponymous parameter, which, however, constitutes a reverse process, i.e. a discourse marker which is not highly syntactically integrated will show a greater degree of pragmaticalisation (cf. p. 117). It thus entails a development towards less coalescence and greater optionality of the respective element. Finally, Mroczynski's last parameter refers to a marker's increased tendency to become intonationally independent, i.e. it forms its own intonational phrase (cf. p. 117). In his 2013 article he exemplifies the pragmaticalisation path briefly with the response particle *ja* ('yes')[141] which, after passing through a bridging phase in which it is used ambiguously, develops into a discourse marker (cf. p. 141-146). As a pragmaticalised discourse marker, it shows strong tendencies of discoursivisation in that it does not operate on the propositional level, but primarily on the discourse level as a discourse-coordinating element, its scope thus increases and it assumes several discourse functions such as signalling the hearer that the speaker takes the turn and to amplify a counter-position (cf. p. 145f.). Hence, the obligatory parameter 'configuration' indicates pragmaticalisation and thus paves the way for the remaining parameters. Concerning the semantic parameter he illustrates that the affirmative meaning of the response particle is backgrounded in favour of a discourse-coordinating function (p. 146). Furthermore, *ja* as a discourse marker is optional, showing its decreased integration into the morphosyntactic structure (cf. p. 146). Mroczynski does not mention the phonetic level explicitly, but his example shows a short pause after *ja*, indicating that it commands its own intonational unit: *ja*$_{DM}$ *(-) warum nich*? ('Well (-) why not?') (cf. 2013: 145, example 4).

In transferring his parameters to widely acknowledged discourse markers like *well*, we see the tendencies at work. Schiffrin's (1987) discussion of several discourse markers reveals discoursivisation in the use of *well* as it coordinates discourse units and ensures coherence (p. 103). As such it is not dependent on the propositional content and does not contribute to it. It may fulfill several functions such as indicating insufficient answers (cf. Schiffrin 1987: 102 in referring to Robin Lakoff 1973), signalling delay (cf. Esfandiari Baiat et al. 2013: 284), or mitigating face threats (cf. Jucker 1993: 444f.), among others. Thus as a discourse marker it acquires additional functions and the meanings of its homonyms (i.e. *well* as a manner adverb or

141 He refers to some linguists' position in which the response particle is often already taken to be a discourse marker due to its interactive function for communication, cf. Mroczynski (2013: 141, footnote 75).

a degree particle, cf. Jucker 1993: 436) are backgrounded. The last two parameters are also especially salient in the following example (taken and abridged from Schiffrin 1987: 112, the names of the participants have been rendered to A and B respectively)[142]:

(247) A: What made you decide t'come out here? Do y'remember?
B: What made us decide t'come out here. **Well** uh we were looking in different neighborhoods and then uh this was a Jewish community and we decided t'come out here

Speaker A asks for B's reasons to move into his present community. B repeats the question and prefaces his response with the discourse marker *well*. It is immediately followed by a hesitation particle ('uh'), all of which signal a slightly delayed response. B then continues to elaborate the first reason[143]. In this case, *well* is not syntactically integrated into the sequence, but optional. Furthermore, the articulation of the hesitation particle indicates that *well* occurs in its own intonational phrase.

A final account that favours pragmaticalisation will briefly be presented here, as it approaches the process to the resultant target domain in yet another way. Günthner and Mutz (2004) conduct a German-Italian study in which they discuss a) the variation of the German conjunction *obwohl* ('although'), and b) the rise of Italian pragmatic markers out of 'modification' suffixes and relate these developments to the question of analysing them in terms of grammaticalisation or pragmaticalisation. For example, German *obwohl* as a regular conjunction appears initially in subordinate clauses which feature verb-end order (example from Günthner and Mutz 2004: 78, emphasis in original):

(248) Sie geht spazieren, obwohl es heftig **regnet**.
*she goes for a walk although it heavily **rains***

In more recent uses, the conjunction is placed in the pre-front-field ('Vor-Vorfeld', i.e. one of the positions of the German topological field syntax model, cf. Auer 1996) and shows main clause syntax with verb-second order (cf. Günthner and Mutz 2004: 79) as in the excerpt in (249):

142 I am aware that not all examples show the last two parameters in such clarity. In fact, many of the examples on *well* either mark syntactic or prosodic non-integration with typically written conventions such as the use of commas, or have not indicated it at all, which makes possible pauses or other hesitation phenomena elusive. Examples which make use of accepted transcription conventions for spoken language would illuminate the matter.

143 Schiffrin notes that this speaker in fact elaborates on three more reasons and herself provides two of them (1987: 112), but for the sake of brevity I shortened the extract to the first one.

(249) 0483 RA: dann darf ich aber nix mehr essen heute
0484 (0.29)
0485 CA: warum
0486 (0.54)
0487 RA obwohl ich **hab** ja noch nich viel gegessen
(DGD, FOLK_E_00331_SE_01_T02, 2016)

0483 RA: *but then I must not eat anything else today*
0484 (0.29)
0485 CA: *why*
0486 (0.54)
0487 RA: *although I **have** not yet eaten that much*

Example (249) illustrates the transcribed version of a short exchange during baking cupcakes. Immediately prior to the above exchange, speaker RA expresses her wish to try one, but then should refrain from eating anything for the rest of the day (the recipe includes buttercream which naturally is very rich). Prompted by CA's question (cf. line 0485), RA reconsiders and muses that she has not taken in that many calories yet and lists all the things she has consumed up to this point (which is not shown in the excerpt). The crucial line is 0487, which contains *obwohl* ('although') as a discourse marker and the finite verb *hab* ('have') in second position, with the non-finite verb *gegessen* ('eaten') placed in final position. Again, this shows main clause syntax and the discourse marker is placed in the pre-front position, i.e. the periphery of the clause. The change from subjunctor to discourse marker is not an isolated phenomenon, but instead occurs with a number of other elements as well. Frequent examples include *wobei* ('whereby') and *weil* ('because'). Günthner and Mutz show that the synchronic variation in cases such as *obwohl* ('although') correlates with many changes typically ascribed to grammaticalisation, such as loss of syntactic freedom or persistence (2004: 84f.). Additionally, it shows a number of changes that are only subsumed under it if a broader notion of grammaticalisation is assumed, e.g. increase in scope and subjectification (p. 84).

They discuss whether these changes should be classified as a grammaticalisation process separate to the traditional one, and which takes into account discourse-pragmatic phenomena (cf. Wischer 2000), or whether the notion grammaticalisation itself should be extended to include both kinds of phenomena, i.e. core grammatical and discourse-pragmatic phenomena, respectively (cf. 2004: 99). However, they suggest to bear in mind the 'endpoint' of a change (a notion very similar to 'target domain' in Diewald's (2011a) sense) and consider individual processes such as morphologisation (where the target domain of the grammaticalised element is the morphological level) or syntacticisation (e.g. concerning function words such as conjunctions) (cf. 2004: 99). In this line of thinking, pragmaticalisation describes the process

which generates elements functioning on the pragmatic level. Günthner and Mutz argue that morphologisation and syntacticisation play a role in typical grammaticalisation processes, but pragmaticalisation should rather be regarded as a subtype of linguistic change more generally (2004: 99). Together with Mroczynski's parameters above, this approach to pragmaticalisation is a first step in making the notion pragmaticalisation more viable and sound. Having verifiable parameters as well as the notion of a target domain to which the elements migrate may weaken some of the criticism that has been brought to the fore with respect to pragmaticalisation.

Having concluded the differing viewpoints of whether the evolution of discourse markers is best described in a grammaticalisation or pragmaticalisation framework and whether the two are to be seen as independent from each other or constitute subtypes (in the case of pragmaticalisation), let us now briefly turn to approaches which take neither of the above-mentioned processes to be sufficient for explaining and categorising elements at the discourse-pragmatic plane, but opt for designing their own models (perspective 5). Proponents of this position usually begin their proposal with a discussion and subsequent explanation of their rejection of either of the two main processes grammaticalisation and pragmaticalisation (cf. Heine 2013: 1220, Detges and Waltereit 2016: 637-639). The reasons why the aforementioned approaches are unsuited for a discussion of the development of *Ish* is that a) they assume a spontaneous and abrupt operation instead of a slow and gradual one (Heine 2013), and b) the developed approach lacks discrete principles which differentiates it sufficiently from pragmaticalisation (Ocampo 2006). Finally, Detges and Waltereit's (2016) approach of 'routinisation' is not a process of language change per se, but rather ”an aspect inherent to language use that affects all modules of grammar“ (2016: 654).

In the next section, I will focus attention on a process of change called 'degrammaticalisation', which will be outlined in more detail as it has been claimed to be responsible for the development of the free morpheme *Ish* (cf. Norde 2009).

6.1.5 Degrammaticalisation

The question of the existence of degrammaticalisation is intrinsically linked to the notion of the unidirectionality hypothesis in grammaticalisation. If one assumes with Haspelmath (1999) that grammaticalisation is irreversible, then the counter-directional change will hardly be conceivable. Haspelmath's rejection of degrammaticalisation as a serious phenomenon is very strong. Indeed in 1989 he claimed ”[d]egrammaticalization does not exist“ (p. 302). This categorical attitude has become weakened to a claim of statistical insignificance a decade later,

where he states that ”degrammaticalization is extremely restricted“ and grammaticalisation phenomena amount to about ”99% of all shifts along the lexical/functional continuum“ (cf. Haspelmath 1999: 1046). A number of authors follow this line of reasoning:

> Although both degrammaticalization and regrammaticalization have been observed to occur, they are statistically insignificant (Heine et al. 1991: 4f.)
>
> [O]ne may assume that at least 90 per cent of all instances of grammatical change are due to grammaticalization, hence are unidirectional (Heine 2003a: 174)
>
> [Cases of degrammaticalization] are not 'myriad' (Janda 2001: 299), but closer to a proportion of 1:99 with historical cases of grammaticalization. (Lehmann 2004: 181)

Others criticise the studied alleged counterexamples themselves, e.g. Lehmann who claims that ”no cogent examples of degrammaticalization have been found“ (2015[3]: 21). In fact, of the 84 studies of proposed counterexamples cited in Janda (2001: 291f.), about forty authentic works on degrammaticalisation remain when ”spurious cases“ and phenomena discussed in more than one study have been taken into account (cf. Viti 2015: 385). Janda does not attempt to count grammaticalisation studies in the same way, but merely states that they are ”almost (but not quite) too numerous to list“ before citing a number of works himself (2001: 298). A valid point he makes concerns the terminology of unidirectionality with respect to grammaticalisation. In particular, if grammaticalisation is said to be inherently unidirectional, i.e. it involves a change from lexical to grammatical items without exception, positing unidirectionality as an axiom that holds for grammaticalisation essentially constitutes a tautology (cf. Janda 2001: 294). He thus proposes to replace the term with the notion of *irreversibility*, in line with Moreno Cabrera (1998: 224).

One of the major criticisms directed towards degrammaticalisation implies that the process has to be the 'mirror image reversal' of grammaticalisation, which becomes evident in Haspelmath's argumentation of a hypothetical development of *with* (developing into the meaning 'tool' with concomitant phonological strengthening to [hwi:θə] in his thought experiment) which follows the entire cline of grammaticalisation backwards (1999: 1059f.). Consider also his illustrative quote from 2004 in which he terms the reversal process as *anti*grammaticalisation:

> By [antigrammaticalisation] I mean a change that leads from the endpoint to the starting point of a potential grammaticalization and also shows the same intermediate stages. For instance, a change from a case suffix to a free postposition with the intermediate stage of a postpositional clitic would be an antigrammaticalization (Haspelmath 2004: 27f.)

However, in many accounts of degrammaticalisation, this claim is explicitly rejected:

> Such proposed counter-examples cannot be recognized as true reversals of unidirectional processes in the sense of return to the original state (Giacalone

> Ramat 1998: 118)
>
> [T]his point-for-point reversal is logically impossible (Viti 2015: 384)
>
> [D]egrammaticalization is not the mirror image of grammaticalization in the sense that it cannot be the complete reverse of a grammaticalization cline. This would be logically impossible, since grammaticalization frequently involves semantic and phonological reduction, and while the grammaticalization into a reduced form may be predictable from the original full form, a full form is evidently not predictable from a reduced form (Norde 2001: 236)

In fact, Norde (2010: 128f.) agrees with Haspelmath in saying that there are no attested examples of the kind he proposed in 2004 above, but at the same time states that this is not the point of degrammaticalisation. Due to phonological and/or semantic reduction, it is hardly conceivable that an element moves along the entire cline from an affix to a lexical content word. Such a change would prove especially unlikely in a highly inflected language. However, Norde insists that proponents of degrammaticalisation have never claimed such a development to exist (cf. 2010: 129). It rather constitutes a change whereby an element undergoes a *single* shift in the opposite direction (cf. 2010: 126), a change which is attested a number of times. For instance, Viti (2015: 385-388) lists a variety of such shifts which she deems authentic cases of degrammaticalisation. These include changes from inflectional morphemes to a clitic (e.g. the *s*-genitive in Germanic, cf. for example Norde 1997), from clitics to independent lexeme (e.g. decliticisation of subject pronouns in ME, cf. Kroch et al. 1982), or a change from an inflectional morpheme to an independent lexeme (cf. for example the development of the Irish first person plural inflectional ending *-muid* into the pronoun *we*, cf. Giacalone Ramat 1998), among others. In the latter group Viti also lists derivational affixes which may develop into independent lexemes, citing studies discussing the development of *ism(s)* (< *social-ism*, etc.) , *ade(s)* (< *orange-ade*, etc.) or *teen(s)* (< *fif-teen*, etc.) (2015: 386). These cases, however, are not instances of degrammaticalisation, but rather of lexicalisation since they involve a change towards major word classes (cf. Norde 2010: 127), in these cases nouns that may be and often are formed in the plural. In addition, what the process involved in the creation of these forms distinguishes from degrammaticalisation is its manner of change. According to Norde (2002: 48, 2009: 11) changes like the shift from affixes to nouns occur instantaneously, i.e. they involve straight ”jumps“ on the cline of grammaticality from their position on the righthand side to the leftmost end (thus, from a grammatical status to a lexical status without intermediate steps)[144].

In order to discuss degrammaticalisation properly, it requires an unambiguous definition, which demarcates it from other processes. Applying degrammaticalisation ”over-enthusiastically“

144 Other conceptions of the process of lexicalisation exist, for example Wischer (2000: 358) considers it to be a gradual process, following Bauer (1983).

(Norde 2010: 131) to a variety of different phenomena, on the one hand, and introducing a number of similar terms, on the other hand, is what has complicated the discussion and has supplied opponents of degrammaticalisation with ample opportunity to criticise it (e.g. Lehmann 2004: 180f.). Norde has thus proposed to restrict the definition of degrammaticalisation and I will follow her in defining it as

> a composite change whereby a gram in a specific context gains in autonomy or substance on more than one linguistic level (semantics, morphology, syntax, or phonology). (Norde 2010: 126)[145]

Norde further ties her definition to three properties she identified for degrammaticalisation. One has been mentioned already, namely that it does not imply a complete reversal of a grammaticalisation cline. Single shifts that may occur will be introduced in the discussion below. Another property has implicitly been noted in the discussion of so-called 'upgradings' from derivational morpheme to noun[146]. Norde claims that ”degrammaticalization does not affect the identity of the construction in which the change occurs“ (2002: 60f.), making it thus comparable to grammaticalisation for which the same prerequisite has been noted (cf. Haspelmath 1999: 1064, footnote 1). Haspelmath does not consider expressions like *ifs and buts* or *ups and downs* as counterexamples to grammaticalisation because they have been ”taken out of their construction and employed metalinguistically“ (1999: 1064, footnote 1). Instead, he takes these forms to be instances of word-formation, more specifically of conversion, an assessment which Norde follows (cf. 2009: 113). Thus, in processes of 'upgrading' (i.e. lexicalisation) the identity of an element and its place within a construction are not preserved, apparently due to their abrupt nature, i.e. the property does not hold in this case. Conversely, in grammaticalisation and degrammaticalisation, two gradual processes which proceed slowly and stepwise, the reverse is assumed (cf. Norde 2002: 60f.).

The third property of degrammaticalisation to be discussed is that it ”must result in a novel gram“ (Norde 2010: 127). In this respect she discusses two different accounts of the development of the verb *dare*, which according to Beths (1999) has developed from a main verb in OE to a modal verb and reverted back to a main verb in PDE. However, Traugott (2001) has shown that main and modal verb uses of *dare* have co-existed with changes in their respective frequencies. Thus this does not qualify as a case of degrammaticalisation because both types of

145 The term *gram* is coined by Pagliuca and represents a clipped form of 'grammatical morpheme', including function words and affixes. It is first employed in Bybee (1986: 17), cf. Bybee, Perkins and Pagliuca (1994: 2).

146 For Norde (2009b: 9), upgradings involve lexicalisation to major word classes as mentioned above. Newmeyer (1998: 263ff.) locates upgradings in degrammaticalisation due to their move towards the lexical end, a reverse change towards the grammatical end of the continuum is frequently termed 'downgrading'. The applicability of these notions is thus tied to how the processes are defined which involve them. The problem of vagueness of these terms is also briefly discussed in Heine (2003a: 171f.).

verb have been present in the language and there is no evidence that a *new* main verb arose out of a modal one. In Norde's own words,

> In degrammaticalization, 'less' grammaticalized functions must be shown to derive from 'more' grammaticalized functions. If they continue, or develop out of, a less grammatical function that had always been around, however marginalized, the change will not qualify as a case of degrammaticalization. (Norde 2010: 128)

In order to classify degrammaticalisation, Norde follows well-known morphosyntactic approaches to grammaticalisation (Kuryłowicz 1975[1965] and Lehmann 1995[1982]) and adapts and applies their reasoning to her classification of degrammaticalisation. Additionally, she employs a framework developed by Andersen (e.g. 2006, 2008) that has received less attention by comparison to identify different types of degrammaticalisation. Her approach is well-motivated and results from the need to define degrammaticalisation unambiguously in order to be useful and expressive. She notes that the term degrammaticalisation has previously been used to characterise vastly different phenomena, thus suffering from a loss in explanatory power (2009: 134)[147]. We will see below that her approach leaning on established existing frameworks will lend the phenomenon of degrammaticalisation more significant weight than previous approaches, which did not restrict it in the same way,. Norde explicitly defends the terminology, rejecting such terms as regrammaticalisation (cf. Greenberg 1991: 301) or anti-grammaticalisation (cf. Haspelmath 2004: 27f.) because the former rather involves a substitution of grammatical functions (a 'lateral' shift in Norde's terms) while the latter involves a narrower definition than the one proposed by her (cf. Norde 2009: 134).

Let us now have a look at how Norde's incorporation of the above proposed frameworks works in more detail. Like Kuryłowicz for grammaticalisation (1975[1965]: 52), she assumes degrammaticalisation to be composed of a primary and a secondary change. In primary degrammaticalisation a function word becomes a full lexical element and secondary degrammaticalisation describes a change which involves a bound morpheme becoming less grammatical (cf. 2010: 135f.). Secondary degrammaticalisation may come in two subtypes, depending on whether a decrease in bondedness is the only change that may affect an item or if further changes affecting an element's semantic or functional nature occur as well (cf. 2010: 136). As mentioned above, her conceptualisation of degrammaticalisation involves the assumption of single shifts an element undergoes rather than entire clines. Therefore,

147 We have seen the same difficulty in approaching discourse markers in a meaningful way. Do they refer to coherence relations only or should we also incorporate elements that primarily express speaker attitudes? With the introduction of hedges as a possible subphenomenon of discourse markers, we will encounter an additional problem related to the definition of hedges: Do they mark politeness or vagueness or both? We will come back to the different conceptions of hedges in 6.2.2 below.

degrammaticalisation is distinct from grammaticalisation in that it does not involve a chain development of secondary degrammaticalisation that is followed by primary de-grammaticalisation (cf. Norde 2010: 136). The reason for this assumption is quite naturally that a semantically and phonologically reduced element is highly unlikely to develop into a full lexical item with concrete content meaning and increased phonological substance.

Norde continues in building her framework by applying this distinction to Lehmann's parameters, which she conceptualises in functioning in the opposite direction. Thus, where an item becomes increasingly obligatory in syntactic constructions if its development involves an increase in grammaticality, the reverse is assumed for degrammaticalisation. Another crucial assumption constitutes the relation of the parameters to primary and secondary (de-) grammaticalisation. Norde assumes that some parameters have different effects depending on whether they occur in primary or secondary (de-)grammaticalisation or they may only be relevant to either one or the other (cf. 2009: 125f.)[148]. For instance in grammaticalisation, the primitive change of paradigmatisation involves a shift from open to closed category in primary grammaticalisation, whereas in secondary grammaticalisation it involves the integration of an element into an existing (inflectional) paradigm. Similarly, in degrammaticalisation, Norde assumes the reverse primitive change to occur ('deparadigmaticisation' in her terminology) in that an element may develop from a closed-class element into an open-class one in primary degrammaticalisation and involves a discharge from an inflectional paradigm in the secondary change (cf. 2009: 131).

A parameter that only plays a role in secondary grammaticalisation is bondedness. Only there an element becomes a bound morpheme, whereas in primary grammaticalisation, it remains free (cf. Norde 2009: 126). Likewise in degrammaticalisation, a decrease in bondedness may be observed on the secondary level, but does not apply in primary degrammaticalisation. Norde notes that this parameter has different effects depending on the elements that are affected by it: an inflectional affix may simply show a reduction of bondedness without further accompanying changes (corresponding to her subtype of 'deinflectionalisation'), whereas a derivational element becomes a free morpheme and shows additional (functional-semantic) changes (corresponding to her subtype of 'debonding', see below) (cf. 2009: 131).

The parameter of integrity also shows different effects concerning its primitive changes. In primary grammaticalisation the affected element undergoes a change from lexical to grammatical content (e.g. the *going-to* construction) and in secondary grammaticalisation an element may

148 For a detailed overview with illustrative examples, see table 3.2 in Norde (2009: 127f.) for grammaticalisation and Norde (2009: chapters 4-6) for degrammaticalisation.

become increasingly abstract (e.g. Old Norse (ON) =*sk* (reflexive enclitic) which develops into an inflectional passive in Norwegian (*-s(t)*) (cf. Norde 2009: 127). Phonological attrition may also occur on both levels, but does not necessarily have to accompany a change. In many cases reduction is only attested in more advanced grammaticalisation.

Likewise in degrammaticalisation this parameter also shows different effects, depending on where its primitive changes occur. In primary degrammaticalisation a grammatical item turns into a lexical one, thus gaining lexical content in the process. A grammatical element in secondary degrammaticalisation may gain additional grammatical functions, rather than semantic substance (cf. Norde 2009: 131). This will prove crucial in identifying what happened to the free morpheme *Ish*, and we will see that the notion of 'semantic enrichment' is problematic in the way it is defined there. In sum, in reversing the parameters coined by Lehmann, we obtain the following equivalents for degrammaticalisation along with the associated primitive changes (cf. Norde 2009: 130ff.), depicted in table 24.

Table 24. Parameters in degrammaticalisation

Parameter	**Associated primitive change(s)**[149]	**Level of degrammaticalisation**
Integrity	a. Resemanticisation b. Phonological strengthening c. Recategorialisation[150]	a. Both, but different effects b. Both, but not always present c. Only primary
Paradigmaticity	Deparadigmaticisation	Both, but different effects
Paradigmatic variability	Deobligatorification	Both, but different effects
Structural scope	Scope expansion	Both, most clearly in de-bonding (second subtype of secondary degrammaticalisation)
Bondedness	Severance	Only secondary
Syntagmatic variability	Flexibilisation	Both

In order to strengthen her claim and to define clear subtypes of degrammaticalisation, Norde applies as a second taxonomic tool the framework proposed by Andersen (e.g. 2006, 2008). She

149 The terms have been coined by Norde (2009).

150 Norde includes Hopper's (1991) principle of decategorialisation ”because it is so well established“ (2009: 124, footnote 18). She admits that Hopper's original conception of this principle established only nouns and verbs as primary categories (see Hopper 1991: 30), whereas adjectives and adpositions (among others) are counted as secondary (cf. 2009: 72). The terms major/open class and minor/closed class seem to be used largely interchangeably (cf. p. 73). The only difference seems to be that decategorialisation is considered a primitive change of the parameter of integrity and involves a loss in morphosyntactic features that are attributed to major-class members, whereas paradigmaticisation is a primitive change of the parameter of paradigmaticity which involves changes from major to minor word class (in primary grammaticalisation) and integration into an inflectional paradigm (in secondary grammaticalisation) (cf. Norde 2009: 124f.).

does not go into much detail in explaining his model, but instead she distills her three subtypes of degrammaticalisation out of three of Andersen's four levels. The motivation for Andersen's model stems from the observation that many grammaticalisation studies do not explicitly keep different levels of observation distinct (cf. 2006: 231). Instead grammaticalisation is usually considered ”a complex of interrelated changes“, but he emphasises the need to identify individual changes which may also occur apart from grammaticalisation chains. Andersen's models his four levels of observation on Heine's (2003b: 578f.) discussion of changes in grammaticalisation, but which are taken to be interrelated by the latter instead of considering the possibility of them occurring distinct from each other as Andersen does. Andersen's four 'levels of observation' are correlated with Heine's interrelated mechanisms in grammaticalisation and given in table 25 below (cf. Andersen 2006: 232f.).

Table 25. Juxtaposition of Heine's interrelated changes in grammaticalisation and Andersen's four 'levels of observation

Heine (2003b: 578f.)	**Description**	**Andersen's four levels (2006: 232f.)**	**Description**
Desemanticisation	Semantic reduction, loss of meaning	Changes in content	a. Grammation b. Regrammation c. Degrammation
Extension	Context generalisation, use in new contexts	Changes in content syntax	a. Upgrading b. Downgrading
Decategorialisation	Loss of morphosyntactic properties, loss of independent word status	Changes in morphosyntax	a. Bond weakening (emancipation) b. Bond strengthening (integration)
Erosion	Loss in phonetic substance	Changes in expression	a. Reduction b. Elaboration

In the following I will now briefly explain Andersen's levels and relate them to Norde's discussion of degrammaticalisation and the three types she distilled from Andersen's model[151].

The term 'content' in Andersen's model is understood in a rather broad sense, including grammatical content. Thus, the corresponding changes that occur on this level include grammation, i.e. a change whereby an expression is reanalysed and gains grammatical content from previously zero or other content (comparable to Kuryłowicz's primary grammaticalisation)

151 The introduction of Andersen's model primarily serves to give a brief overview over his four levels of observation. The point of departure is which types of degrammaticalisation changes Norde derives from his levels. For a more detailed discussion of his model and corresponding examples, the reader is kindly referred to Andersen's (2006) paper in which he elaborates the changes in the Russian tense-aspect system in more detail.

(cf. 2006: 232f.). Secondly, changes in content may also involve regrammation, by which different grammatical content develops, a ”change within and among grammatical paradigms“ (2006: 233) and it is thus comparable to Kuryłowicz's secondary grammaticalisation. Lastly, grammatical content may also be lost, a change described as degrammation (cf. 2006: 233). On the level of content syntax we find such changes involving scope: An enlargement of scope in upgrading and a reduction of scope in downgrading. The level of morphosyntax includes changes involving the strength of bondedness, in particular a bond weakening in the development from affixes to clitics or from clitics to words. Conversely, the change of bond strengthening involves a set of individual opposite developments (e.g. from clitic to affix) (cf. p. 233). The final level concerns changes in expression and these do not only contain phonetic changes in Andersen's model but are understood more broadly in that he also includes, for example, other types of reduction such as reductions in morphological agreement (cf. 2006: 253).

To combine his model with Norde's conception of degrammaticalisation, we will concentrate on Andersen's first three levels of content, content syntax and morphosyntax. Norde claims that it is these levels which play a significant role in degrammaticalisation and her three subtypes are derived from them in the process. The content level assumed for degrammaticalisation only contains changes from grammatical to lexical content, but contrary to Andersen, Norde does not include zero morphs in her more narrow conception of this change (cf. Norde 2010: 138, footnote 23).

The last subtype of degrammaticalisation as described by Norde (2009, 2010) will become relevant for the discussion of the development of *Ish* and therefore I will devote more attention to this latter type[152]. This subtype applies to the secondary level of degrammaticalisation and is termed *debonding*, a notion taken from chemistry[153]. Debonding is a change located at the morphosyntactic level and, as the term implies, it involves a bond weakening, or 'emancipation' in Andersen's terms (cf. 2006: 233). However, contrary to deinflectionalisation above, Norde emphasises that bound morphemes may become free morphemes in debonding, whereas in the former they remain bound (2009: 186). Furthermore, the outcome of debonding may differ depending on whether inflectional affixes and clitics are affected or whether derivational affixes undergo a weakening in bondedness. Thus, for inflectional affixes or clitics debonding may only imply a change in morphosyntax without accompanying changes in function; i.e. they become separated from their host but continue on their previous function as with Norwegian infinitival *å*

152 For a different view concerning degrammaticalisation and the change from bound to free morpheme, see Askedal (2008: 71).

153 For a motivation of Norde's terminology, see Norde (2010: 138, footnote 23).

'to', which undergoes scope expansion, severance and flexibilisation, but not resemanticisation (cf. Norde 2009: 198). Contrariwise, debonding of derivational morphemes goes hand in hand with resemanticisation, i.e. changes in meaning. The primary difference of inflectional changes in deinflectionalisation and debonding seems to be that these morphemes detach in the latter type of change, but not in the former. Concerning the aspect of resemanticisation, deinflectionalisation includes it in the form of a *different* (grammatical) function, whereas in debonding, inflectional morphemes are said to often involve *no* change in function, i.e. they are characteristed by a continuation of their previous grammatical functions. In this respect, applying the term 'resemanticisation' for all types of degrammaticalisation changes might be slightly confusing, but this way it is more consistent.

To illustrate this in more detail, let us have a look at our object under investigation, the development of the bound derivational morpheme *-ish* 'approximating X' into the independent morpheme *Ish* 'sort of, more or less'. Norde (2009: 223) follows Kuzmack (2007) in characterising the different subtypes of suffixal *-ish*, i.e. she recognises three types: 1) ethnic, 2) comparative non-ethnic, and 3) qualifier *-ish* when it attaches to adjectives (and numerals). She states that the last two types are similar in meaning in that both involve a comparison, but while the comparative type 2 emphasises the similarity to something, the qualifier type 3 emphasises the lack of equivalence (cf. Norde 2009: 223). We have shown in section 4.9 that the semantics of these two types can be approached in a more fine-grained manner as the second, denominal type does not simply denote only similarity but is twofold: One subtype denotes the equivalence to properties of the base, the other indicates resemblance.

I agree with Norde in challenging Kuzmack's analysis of comparative *-ish* having developed into a clitic because as she stresses, also other derivational affixes may become attached to phrases (cf. 2009: 224). She notes that type 3, the qualifier *-ish* (approximative *-ish* in my terminology) is the one which has turned into an independent morpheme, which is also what I have stated in section 5.4.5 above. Norde applies her revised version of Lehmann's parameters to this type of degrammaticalisation (i.e. the second subtype of secondary degrammaticalisation, debonding) and comes to the following conclusion (2009: 224), summarised in table 26 (next page).

Table 26. Parameter analysis of Ish (adapted from Norde 2009)

Parameter	Primitive change(s)	Applicability to *Ish*
Integrity	a. Resemanticisation b. Phonological strengthening c. Recategorialisation	a . **Yes**: Independent *Ish* is no longer merely a modifying morpheme and must be paraphrased by a sentence. b . **Yes**: Approximative *Ish* is always stressed when it occurs independently c . **No**: As an adverb *Ish* does not join a major (inflected) word class (but see its more recent developments into a noun)
Paradigmaticity	Deparadigmaticisation	**Not relevant** for derivational affixes
Paradigmatic variability	Deobligatorification	**Not relevant** because derivational affixes are generally not obligatory in English
Structural scope	Scope expansion	**Yes**: *Ish* can take scope over predicates (and propositions)
Bondedness	Severance	**Yes**: *Ish* has become a free morpheme
Syntagmatic variability	Flexibilisation	**Yes**: *Ish* can occur in various slots (but most often occurs clause- or sentence-finally)

In fleshing out the first primitive change of the parameter of integrity, Norde claims that, on the one hand *Ish* ”only continues its own semantics“ (2009: 225), but at the same time it ”is accompanied by an increase in semantic substance“ and it ”underwent a further shift in meaning“ in that it not only modifies elided elements as in (250), but it also appears in constructions where it has to be paraphrased with *kind of* or *sort of*, as in (251) below (the examples are cited in Norde 2010: 144).

(250) Is everyone excited$_i$? I am- t$_i$ **ish**.

(251) Hobbies: painting, photography, documentary film, skating(**ish**)

In (250) *Ish* modifies the predicate of the interrogative clause, but is placed at the end of the affirmative declarative clause (due to its origin as a suffix, this is not remarkable), where it follows the copular verb. The non-finite lexical verb *excited* is not repeated again, but is elided. It is not an uncommon strategy in English to elide the lexical verb used elsewhere in constructions like this in order to avoid redundancy. In fact, this is a property shared by auxiliaries, which ordinarily cannot be used without a lexical main verb, but in 'code' they may occur on their own:

(252) He will not *go* home tomorrow, but I **will**.

(253) She never *sings*, but he **does**.

In (252) the future auxiliary *will* appears together with the main verb *go* in the negative statement of the main clause, but the lexical verb is not repeated again in the subordinate clause. Instead, *will* acts as a placeholder for the entire verb phrase. This is an example of ellipsis of a predication where the auxiliary consequently becomes obligatory in the coordinated clause. Conversely, in (253), the periphrastic third person singular present tense form of *do* is used in the subordinate clause instead of the lexical verb, which already occurs in the main clause. This is an example of 'code', the substitute use the auxiliary *do* assumes in cases like (253) and placing the auxiliary in that position is also obligatory in the grammatical structure in this context[154]. It is of course possible to reiterate the main verb, but that would probably be deemed odd due to its redundancy:

(254) ?She never **sings**, but he **sings**.

Thus, the copular verb in (250) also occurs on its own and serves as a placeholder for the entire verb phrase in the affirmative declarative clause, but *Ish* nevertheless modifies the predicate as a whole.

In the above example (251) on the other hand, *Ish* does not modify an elided entity, but instead modifies the status of a particular activity (*skating*) with respect to the state leisure activities usually receive concerning invested time, devotion, or persistence. Kuzmack paraphrases this example accordingly as ”skating is kind of a hobby of mine, but not serious“ (Kuzmack 2007, in Norde 2010: 144). Thus, the standard that a hobby usually entails concerning invested time or enthusiasm is not quite reached with the pastime of skating in the example above, as evidenced by the addition of *Ish*.

It seems then that we have to slightly revise the point of resemanticisation for *Ish*. While it still denotes that a standard is approximated (as with approximative suffix -*ish* in the case of adjectives), it has become generalised to more contexts, modifying predicates and propositions. It thus continues the meaning it has when modifying adjectives or adverbs, but it has turned into a hedging particle which denotes vagueness as to a particular assertion. We can thus not simply say that it must be paraphrased by a sentence, but need to be more specific about what *Ish* does. A speaker uttering *Ish* after a proposition does not fully commit him- or herself to the truth of the propositional content of the utterance, but slightly modifies it by hedging. Thus, *Ish* works at the interface of semantics and pragmatics in that a proposition is not taken to be wholly true, but the standard it conveys is only approached and in doing so, the assertion becomes more vague. In these cases, *Ish* may be employed to loosen this standard and to allow some leeway in the

154 'Code' is part of the so-called NICE properties of the periphrastic use of *do*, an acronym for negation, inversion/interrogative, code and emphasis, cf. Huddleston (1976: 333).

strength a proposition holds. The term of resemanticisation is thus not entirely adequate to capture the function *Ish* acquires in the way it is presently defined. *Ish* still is a modifying morpheme but it carries out the modification in a specific way that pertains to truth conditions of propositions. It thus modifies by approximation. The pragmatic element has been overlooked as well in that *Ish* serves functions typically attributed to hedges, i.e. it introduces vagueness to the proposition at hand and lowers the standards of precision in these cases (we will go into more detail into the functions of hedges in section 6.2.4 below). If this primitive change of the parameter of integrity is reconsidered, it may still hold true.

The next primitive change, phonological strengthening, might be more uncontroversial: As a free morpheme, *Ish* generally is stressed, as also mentioned in section 5.4.2 above. Further, recategorialisation implies primary degrammaticalisation and thus does not apply to *Ish* here. *Ish* is taken to be an adverb (cf. Oltra-Massuet 2016 and OEDweb, see sections 5.2 and 5.4.4 above) and while adverbs are often considered an open class, the question of whether they are a major word category like nouns or verbs is controversial. This sets it apart from other free morphemes that have developed from suffixes like *ism(s)* or *ologies* because they have changed into nouns. Norde therefore consequently assumes lexicalisation to be the mechanism of change in these cases (cf. 2010: 145). Above it was said that lexicalisation is considered to be an abrupt change (cf. Norde 2002: 48). Applied to *isms*, a former derivational suffix has 'jumped' to the other end of the grammaticality scale by becoming a lexical word and it consequently assumed functions attributed to nouns (e.g. it can occur in the plural). There have been no intermediate steps in the development, but a sudden change in category membership. Furthermore, Norde notes that lexicalised suffixes become ”hypernyms of all the derived words with that suffix“, i.e. *isms* refer to all ideologies that end in -*ism*, not to a particular one (2010: 145). This does not hold true for *Ish*, however, as it cannot be interpreted as the hypernym of all suffixes ending in -*ish* (not even the subset of approximative -*ish*). However, the more recent development in which *Ish* can be used as a noun and as such can be the host of the suffix -*y* (see example (137)) above might pose a challenge to its categorisation with respect to recategorialisation. I will discuss this issue further in section 6.1.6.2 below.

The following two parameters with their associate primitive changes deparadigmaticisation and deobligatorification are not relevant to the development of *Ish*. The former does not pertain to the development of the free morpheme because as a former derivative, it has never been part of an inflectional paradigm. In the case of the latter, Norde claims that derivational affixes are part of a category that does not obligatorily have to be expressed in a given sentence (cf. 2010: 145).

The parameter of structural scope, while controversial in its own respect (cf. the discussion in

Norde 2009: 126ff.), clearly shows an expansion in scope for *Ish* (cf. also sections 5.3.3 and 5.4.5). We have seen that *-ish* has changed from modifying an adjacent host to modifying predicates and entire propositions as a free morpheme, often with elements inbetween the modified unit and *Ish* such as discourse markers and punctuation. Likewise, the parameter of bondedness applies to *Ish* as it has developed from a suffix (naturally a bound morpheme) to an independent morpheme morphosyntactically due to a construction-internal reanalysis (cf. Norde 2010: 144).

The final parameter of syntagmatic variability with its associating primitive change of flexibilisation is not as unequivocal as it is stated in Norde. She defines flexibilisation as an increase in syntactic freedom and applies it to *Ish* in claiming that it ”can occur in various slots“ (2010: 145). In her book, she juxtaposes two examples which clarify what she means by 'various slots': *easyish day* shows the suffixal use with direct attachment to the host, whereas as a free morpheme, *Ish* occurs after a phrasal expression and is itself set off orthographically: *easy day (ish)* (2009: 225). The notion 'various slots' is slightly misleading, however, as the example compares the bound morpheme with the free morpheme. What we have discussed in section 5.4.4 above, however, is that *Ish* most frequently occurs at a clause- or sentence-final position. Only marginally does it occur in medial position and it is never placed at the front of a clause or sentence. This is of course due to its evolutionary heritage as a suffix. Suffixes in English are bound to their host and functioning as a head they are placed at the rightmost end in a derivation (cf. the Right-hand Head Rule, Williams 1981). The suffixal heritage thus has implications for the occurrence of the free morpheme in syntactic slots. I disagree with Norde in the way the primitive change has been defined for *Ish*, but think it requires only a minor modification. Specifically, while *Ish* does not have to be adjacent to the element it modifies, it is placed at the rightmost periphery of the clause or sentence in the majority of the cases.

To sum up, Norde's conception of degrammaticalisation is more clearly defined and restricted than other approaches to the field. Hence, it is a valuable addition in that it shows that, if properly defined, changes in the opposite direction on the cline of grammaticality are indeed conceivable. As such it is not claimed that the cline has to be approached in a step-by-step manner all the way to its lexical end, but instead comprises single isolated changes on the cline in a general direction away from the grammatical end. This implies that the resultant elements may still be found more inclined towards the grammatical end of the scale (as with the change from inflectional suffix to clitic for the Swedish *s*-genitive, cf. Norde 2010: 140ff.). Norde furthermore shows that parameters defined for grammaticalisation may also serve a valuable role in the opposite type of change and as such, the defined parameters anchor the individual changes

and thus become the pivotal element in describing them be it in the direction towards more or less grammaticality. Additionally, in defining subtypes of degrammaticalisation, Norde is able to distinguish individual changes from each other, thus making her approach a good starting point for a classification of degrammaticalisation. As for *Ish*, the type of debonding seems appropriate if it is adequately defined. Debonding does not merely imply a severance of parts of a previously conjoined element, but may be described on several levels, including primitive changes that affect semantics or phonology.

In conclusion, degrammaticalisation is a type of language change that should not simply be brushed off by making reference to its statistical inconspicuousness, but if defined properly it can serve a valuable role in describing changes pertaining to their level of grammaticality. I certainly do not wish to deny that grammaticalisation is by far the more pervasive change, but any type of change is rarely without its exceptions and these, how few they indeed might be, should not simply be ignored. Concerning its applicability to *Ish*, the degrammaticalisation parameters need adjustment in a few cases, specifically concerning semantics and syntactic position of *Ish*, but I believe we gain valuable insights by applying these parameters to the change from bound to free morpheme.

6.1.6 Discussion: Is *Ish* a discourse marker?

The present section will review the questions raised in the outset of this chapter, namely whether a) *Ish* can be considered a discourse marker given the characteristics presented in section 6.1.3, and b) has *Ish* arisen via the process of grammaticalisation, degrammaticalisation, or pragmaticalisation? The second question is intrinsically linked to the first because it has been frequently claimed that discourse markers arise via grammaticalisation. Thus, if *Ish* can be characterised as such, it is likely that it also shows a similar development to many of the discourse markers discussed above. Of course, given their heterogeneous nature it would be incorrect to claim that this path of development applies to every discourse marker. However, in section 5.2 I reviewed two opposing views of how *Ish* developed into a free morpheme, one of them claiming grammaticalisation as the responsible process, others discussing degrammaticalisation instead. It has been shown that, while degrammaticalisation is not exactly the reverse process to grammaticalisation, their developmental paths and the composite changes they entail are sufficiently distinct. Therefore, the development of *Ish* can only be attributed to one or the other. Alternatively, I discussed the process of pragmaticalisation, which is conceived of as either comprising a special subtype of grammaticalisation or as a distinct process. It has

been stated that this divergence of categorising pragmaticalisation is due to the underlying perspective on grammar. The wider, functional perspective on grammar encompasses discourse-pragmatic phenomena, leading to the view of subsuming the development of discourse markers under the process of grammaticalisation. The narrow view excludes these phenomena and hence, discourse markers are seen as not arising from grammaticalisation, but from pragmaticalisation instead, which is then considered a distinct process. Let us first have a look at the pertinent characteristics of discourse markers before the question of their development will be discussed.

6.1.6.1 Characteristics

The criteria introduced above are some of the most discussed characteristics in discourse marker research, yet not all are considered to be of equal importance. For instance, the sociolinguistic and stylistic characteristics have been heavily criticised and have led to conflicting or partial results. The characteristic of informality, for example, which has been interlinked with their high preponderance in oral discourse neglects their occurrence in written texts entirely. While the set of discourse markers prevalent in oral discourse may be differently distributed as those in written discourse, some items characterised as such can in fact occur in both, e.g. the connective *but*. Since my analysis of *Ish* draws on results obtained from GloWbE, this characteristic is of limited use. The language used in the web pages and blogs that form the basis for the corpus may be conceptually close to oral language, yet it occurs in a written medium. Similarly, the characteristic of gender specificity has resulted in opposing findings, which also heavily depend on the data source used. Since metadata such as authorship are difficult to determine for the texts in GloWbE, I will not be able to contribute to that discussion. In the following I will maintain the order of properties established above in discussing discourse marker characteristics with respect to their applicability to *Ish*. Hence, I will begin by reviewing the syntactic criteria, starting with position.

Restriction to sentence-initial position

In section 6.1.3.1 above I have pointed to the difficulty of defining the appropriate unit discourse markers operate on. The unit of 'sentence' often collides with the reality of spoken data for which it is argued that a grammar separate or supplementary to a traditionally written grammar is necessary (cf. Fiehler 2015: 1). Fiehler argues that the traditional descriptive categories such as 'sentence' are inappropriate for spoken language phenomena (cf. 2015: 10) and in order to adequately account for the specific properties of spoken language, a categorial system independent from that of traditionally written categories is required (p. 11). However, Schiffrin's

suggestion of 'units of talk' (1987: 31) faces the same difficulties, only vice versa. The fact that many discourse markers operate in spoken *and* written language simultaneously raises the question of how to define a unit that is applicable to both. Perhaps Fiehler's notion of 'functional unit' (2015a: 6), which he describes as applying to spoken language, can be extended to written language as well as it is sufficiently broad. He notes that also the unit of 'word' is present in both types of grammar, but I am aware of the difficulties of trying to use a term described for a particular domain and extend it onto other domains as well. For present purposes, however, nothing special hinges on the term and, as Fiehler notes, descriptive categories are functionally adapted to their respective object of description (cf. 2015: 10). The matter is complicated further with the data used for the current investigation of *Ish*, which are based on blogs and other web pages, making them a part of 'internet language'. In order to characterise *Ish* with respect to the property of position, I will briefly digress to point out the difficulties which the description of internet language faces.

Crystal (2011: 21) notes that the electronic medium which he calls internet language[155] shares a number of properties with each, writing and speech, but on the whole it is different from both. For instance, many of the general websites, including some blogs, are accompanied by a forum in which users may comment on the topic at hand. The language of those forums shares with written language that it relies on the written medium (instantiated by the letters on a keyboard), which can, however, be altered by inserting emoticons or making use of exaggerated spelling and punctuation in order to express hesitation, emphasis and attitude. This includes a repertoire of repeated letters and punctuation marks, spacing, the use of capitals, and other features (cf. Crystal 2004: 34f.). Furthermore, it is different from writing in that it is only semi-permanent because a user's contribution can be deleted or the whole site, to which the forum is attached, vanishes. Crystal notes that ”[a]lthough Netspeak tries to be like speech, […] it remains some distance from it“ (2004: 41). Thus, even though we find certain features of spoken language, such as short or looser sentence constructions, other typical features are lacking, e.g. reaction signals (e.g. *uh-huh*). Furthermore, there is no temporal overlap as with face-to-face interactions and it does not have the possibility to display multimodal aspects, such as gestures or facial expressions. A general problem, which also pertains to metadata employed in corpora is the anonymity of messages in forums. Users regularly create their own user names, which do not necessarily correspond to their identities outside of the web. As a result, the metadata of corpora relying on such data are sparse and unverifiable. In sum, Internet language (or Netspeak) can be

155 In his 2004 book *Language and the internet*, Crystal referred to this type of language as 'netspeak'. Both can be considered as interchangeable, however.

conceived of as being ”writing which has been pulled some way in the direction of speech“ (Crystal 2011: 21), rather than the other way round. However, instead of describing it as falling somewhere within the continuum of which writing and speech form endpoints, Crystal argues for viewing it as a new type of medium, which only shares a number of properties of each (cf. 2011: 32ff.).

To come back to *Ish*, it has also been attested in various types of medium, including spoken and traditionally written, but also in Internet language as in the present investigation. Therefore, the previous terms of 'unit of talk' or 'unit of sentence' are both inadequate in that they do not capture the variability of contexts in which discourse markers, hedges and other such phenomena occur. To remedy the situation, I suggest the term 'functional unit' as mentioned above. The functional unit is not fixed in that it always refers to a sentence or a turn, etc. Instead it can be described plainly as the unit in which a certain element (e.g. a discourse marker, hedge, etc.) functions. In some cases, this may well be a sentence (as in written language, for instance), in others it might be variable and refer to a stretch of discourse, a conversational turn, or a proposition. This view of a variable reference unit is accompanied by the requirement that the functional unit needs to be explicitly defined in each instance. However, its flexibility also has the advantage that it can be readily applied to any type of unit, making 'functional unit' (or 'reference unit' as a suggestion for an alternative term) effectively a type of umbrella term. To give an example, in propositional uses of *Ish*, the functional unit in which *Ish* operates is the prior proposition. For a cohesive discourse marker, the functional unit corresponds to a stretch of discourse, however, that is defined in practice. As such, the term 'functional unit' transcends various phenomena that have been shown to be difficult to describe positionally.

As I have stated above, I share Schourup's (1999) view to consider initial positioning of discourse markers as merely a tendency. As such, it is non-criterial for the characterisation of discourse markers. Concerning *Ish*, this has two implications. First, if we adhere to the strict interpretation of a restriction to *initial* position, it cannot be applied to *Ish* at all. With one exception in the corpus, *Ish* is placed postposed to the functional unit it modifies. Second, if we consider it merely a tendency, it loses some of its explanatory force, which renders it into a non-criterial characteristic. In sum, I do not view this property as central and therefore, it does not decide over *Ish*'s status as a discourse marker or not.

Occurrence outside of the syntactic structure

The criterium of syntactic independence is considered a more reliable characteristic than the previous one because it is equally applicable to the spoken and written medium and it serves as a

distinguishing force of non-discourse marker uses and discourse markers (cf. Lutzky 2006: 11). The former cannot be omitted without rendering a sentence ungrammatical (255a.), while the latter can (255b.) and (255c.):

(255) a. **You know** that I like this book.
b. **You know**, I really like this book.
c. I really like this book, **you know**.

Whether the discourse marker *you know* is placed in initial or final position in (255b.) and (255c.), respectively, leaving it out does not change the grammaticality of the sentence. It also does not change the word order, which has been cited as another characteristic in support of this criterion (cf. Fischer 2007). In Fraser's (1988) view discourse markers are adjuncts whose omittance does not lead to an ill-formed sentence. What about *Ish*, however? Can we just omit it and still consider the sentence grammatical?

(256) I like this book. **Ish**.

In fact, if we only consider this criterion to apply to syntactic well-formedness, we may omit *Ish*. The resulting sentence still functions on a grammatical level. However, this view completely neglects the semantic side of the matter. If I remove *Ish* from (256), consequently the illocutionary force is stronger than if *Ish* remains. It is not the case that I absolutely like this particular book, but there are some aspects about its story, characters, etc. that I do not fully enjoy. Hence, the modification *Ish* provides is vital on a semantic level even if syntactically the grammaticality is not affected. *Ish* is also different from the discourse marker use of *you know* in that it is not merely an interpretational cue that would be missing, but it interacts with the proposition which it modifies. Thus, the present definition of this criterion is problematic with respect to *Ish*. It is not applicable to the free morpheme without modification of its basic premises, making it unsuitable to define *Ish* in terms of a discourse marker status.

Optionality

The final syntactic criterion, optionality, is closely connected to the former in that a discourse marker's peripheral nature translates to a non-obligatory status in a sentence or utterance. If a discourse marker does not contribute to the grammaticality of a sentence, its presence is facultative. Views also diverge with respect to this criterion, with Müller (2005: 6) emphasising that it is only *grammatical* well-formedness that is unaffected, but not necessarily pragmatic well-formedness. Schourup (1999: 231) subscribes to a more radical view in that he sees discourse markers as syntactically *and* semantically optional. This view traces back to the assumption that discourse markers merely orient the hearer (Fraser 1990: 390) and serve as

signalling devices which render aid to interpretational processes. In section 6.1.3.1 above, I mentioned an experiment conducted by Redeker (2006) in which she showed that the removal of discourse markers can lead to a significant delay in comprehension. That is, with Müller (2005), Redeker (2006), and Dér (2010), we can say that optionality is by no means a suitable criterion if its pragmatic effect is taken into account as well, only if syntactic optionality is considered in isolation. While I agree with this view, it does not say anything about *semantic* effects of optionality and for an evaluation of this criterion with respect to *Ish*, I refer to my remarks for the second syntactic criterion above. That is, the absence of *Ish* in a functional unit may not be detrimental to the latter's grammatical well-formedness, however, semantically it is not the case that *Ish* is optional. In order to fully grasp the extent of optionality in the discussion of discourse markers, the views concerning their semantic contribution are essential, which is to what we will turn next.

Little or no propositional meaning

In section 6.1.3.2 I have tried to disentagle the various conceptions of 'meaning' applied to discourse markers. It seems clear that the view of a total lack of meaning is that of a minority. Instead, what is at issue is rather the question of the propositionality of discourse markers, first whether it is present at all and second, the related question of whether it coincides with conceptual or procedural meaning or both. The criterion of non-propositionality of discourse markers is considered criterial by most researchers.

The view that discourse markers do not contribute to propositional meaning is widespread. Proponents who consider markers to have primarily the textual function of establishing coherence analyse them as making explicit an underlying link between subsequent discourse segments for which the marker functions as a signal. Removing this explicit signal has no bearing on the underlying implicit relationship of the segments, hence it is considered optional. In subscribing to this view it is only consistent to also not ascribe the markers a status of propositionally affecting the segments. Consequently, syntactic optionality is tantamount to non-propositionality in these accounts. In other words, removing the marker does not affect the grammaticality of the (prior) sentence and it also does not make it semantically illicit.

In early Relevance-theoretic accounts, non-truth-conditionality of markers coincided with their procedural meaning (cf. Blakemore 1987). That is, the constraints imposed on the interpretation process by the markers do not affect the truth conditions of the proposition, since the marker only serves as a guide for the inferential comprehension process, effectively limiting available contexts of the hearer (cf. Wilson 2011: 6). The relation of procedural and conceptual meaning to

truth-conditionality was thus conceived of as follows:

(257) a. Procedural meaning > non-truth-conditionality
b. Conceptual meaning > truth-conditionality

However, as I said above, later accounts, among them Wilson's (2011), provide evidence against the clear-cut distinction of this relation. For instance, the truth-conditionally relevant items such as the third-person singular pronoun *she* and the deictic adverb *now* do not encode full-fledged concepts as their reference is not stable. This revision of the relationship of the two types of meaning to truth-conditionality prompted Fraser (2006, 2009) to consider the conceptual-procedural distinction as non-mutually exclusive. Effectively, different types of discourse markers can assume a status more inclining to the conceptual or the procedural end of the continuum. Gisle Andersen (2001) illustrates this with multi-word expressions such as *you know* or *sort of*, which he conceives of as leaning closer to the conceptual end. In his conception, markers cannot readily be positioned in a binary categorisation because that neglects the diachronic dimension of a marker's development. Thus, whether a marker is conceived of as (more) conceptual or (more) procedural is merely a synchronic consideration of its current state, which can change as the marker develops.

Taking *Ish* into account, it is undeniable that *Ish* contributes to propositional meaning.

(258) A little while later and everything was done (**ish**) (GloWbE, GB G, datalas.com)

Example (258) shows that if *Ish* is removed, the prior sentence remains grammatically well-formed, yet the proposition is modified. The proposition denotes a resultative state, which is modified by *Ish* to convey that this state has not yet been reached completely. That is, *Ish* does not render the truth conditions true or false per se, but it introduces a third value, which is not captured by the conventionally binary conception of truth conditions. Likewise, the conceptual-procedural distinction is not fully accommodated in that *Ish* does not denote a full-fledged concept, but it also is not entirely procedural. Comparing it to the expression *sort of*, which is similar in some respects to *Ish*, it is further away from the conceptual end than *sort of*. However, it does not simply limit interpretational contexts for the hearer, but introduces a modification in the form of attenuation.

In sum, the criterium of meaning is critical with respect to *Ish*. Given the perspective most accounts on discourse markers share, it is not applicable to *Ish*, hence *Ish* cannot be considered a discourse marker under this conception. The revision of the criterium into considering the conceptual-procedural distinction does not direct us to a different outcome for *Ish*.

Multifunctionality

The criterion of multifunctionality has been met with criticism. In section 6.1.3 I quoted Jucker and Ziv (1998: 4) who have remarked that the characteristic of multifunctionality suffers from circularity as some scholars intend to prove multifunctionality of individual markers from the outset. A further point of criticism involves the fact that the functions defined for some discourse markers are not exclusive to them but frequently overlap with other elements such as modal particles (cf. Fischer 2000: 22). However, there are clear differences between modal particles and discourse markers even though some of the functions may be overlapping. For instance, (German) modal particles are syntactically dependent, accompanied by prosodic dependence (cf. Heine 2013: 1209, footnote 8). Hence, grouping these items together based on their functional similarities will have the effect of abstracting away from their differences.

Despite these difficulties it is instructive to identify which functions discourse markers can assume and, consequently, to capture them categorially. This is exactly what Brinton (1996) and others have attempted to do in formulating two basic groups of functions for discourse markers, i.e. a textual and an interpersonal group, both of which are located on a global pragmatic level. The first group primarily concerns the establishment of coherence between discourse segments and some authors seem to define discourse markers only in reference to this group (e.g. Detges and Waltereit 2016). The prominence of the textual group in much of the linguistic literature begs the question whether textual coherence is the main dividing line between discourse marker and non-discourse marker status. It also helps to explain why some scholars include conjunctions in their inventory of discourse markers while at the same time rejecting markers which function primarily on the interpersonal plane. On the whole, scholars who consider discourse markers as also having interpersonal functions, such as the expression of speaker attitudes and tentativeness, tend to have a different inventory of markers than those who only consider textual functions. The latter interpersonal function of tentativeness is primarily found in the domain of hedging expressions which are considered a subgroup of discourse markers by some[156]. Besides the global pragmatic level, discourse markers may assume functions on a more local level, i.e. on the morphophonemic, syntactic or semantic level (cf. Brinton 1996: 35). It is, however, difficult to find approaches which explicitly try to show that as most concentrate on the pragmatic side of the matter. To bring *Ish* into the discussion, it can be shown that it functions on a semantic level by modifying propositions and introducing vagueness. The truth value of the proposition is affected in example (259):

156 Brinton (1996: 32) considers hedges like *sort of*/ *kind of* to comprise one group of what she calls pragmatic markers and lists the function of tentativeness explicitly for hedges (1996: 37).

(259) Every time I fell asleep ”**ish**“ one of my four would be with us. The 3 oldest had 3 wake ups each. (GloWbE, CA B: happylittlefeet.ca)

The truth value of the proposition *I fell asleep* is challenged with *Ish* here which denotes that the act of falling asleep has not been reached entirely. Instead the parent sleeps ”with one eye open“ without the possibility to even enter the phase of deep sleep due to their very young children who wake up multiple times a night, causing the parents to remain half-way between sleep and a waking state. Therefore, the proposition is not entirely true, not entirely false, but requires a third value, which accounts for this imprecision. As such, *Ish* can lower the precision with which a proposition is used and it is here that *Ish* functions at the borderline between semantics and pragmatics[157]. Further, it can lower the strength of the illocutionary force by indicating a weaker commitment to the truth of a proposition[158]. Consider example (260) below.

(260) Gary Neman [sic] as commissioner Gordon is fantastic as always. I even like Bane.. **ish**, but could have been a much more interesting story,... (GloWbE, GB G, totalfilm.com)

In (260), the writer does not fully commit to the proposition that he likes Bane, a fictional character and the antagonist in the film. Instead, s/he tones the proposition down by adding *Ish*, which assumes the function of tentativeness.

In sum, *Ish* can be shown to have multiple functions, primarily on the semantic and pragmatic levels. It is only attested with an interpersonal function on the pragmatic plane (i.e. tentativeness, associated with hedges), but it does not contribute to coherence the way many of the discourse markers do. If discourse markers are primarily defined over their ability to create coherence in discourse segments, this is a further strong indicator that *Ish* is not a discourse marker in this sense.

Shortness and phonological reduction

The two criteria are often presented together, but in fact, shortness may also be approached from a morphological angle. As I mentioned in section 6.1.3.4 above, the criterium of shortness lacks a concise definition and although it is implicitly discussed as phonetic shortness in the works that consider phonological characteristics at all, it is not clear what exactly it refers to. It is often discussed with respect to the length of lexical items, ranging from monomorphemic elements to phrases (cf. Lutzky 2006: 8). As such, the characteristic has also a clear morphological bearing, which at the same time is an aspect that is completely neglected in the list of criteria for

157 The function of imprecision has been discussed as pragmatic by Lasersohn (1999) and Burnett (2017).

158 This conception of illocutionary force does not make reference to a speaker's communicative intention, but identifies it with the conventional effects which take the hearer into account as well (cf. Thaler 2012: 911 in reference to Sbisà 2001).

discourse markers. This is undoubtedly due to the heterogeneous set of items discussed as discourse markers. The reason why shortness is connected to phonology is that it has been described primarily with respect to spoken data. However, other scholars have included in their inventories markers which are clearly not short and which could be taken to function primarily in written language (cf. Fraser 1996, 1999, Keller 1979). This difference in the type of medium a marker occurs in has not been discussed to a large extent, however.

The second criterium of phonological reduction is no less problematic. In Schiffrin's (1987) discussion of eleven markers, only three have the potential to be reduced phonologically (*you know* → *y'know; because* → *cause*, *coz; I mean* → *mean*). Is it thus considered a sufficient criterium, but not a necessary one? Many of the already short lexical expressions defined as discourse markers (among them *so*, *but*, *oh*) do not have the potential to be reduced. Others, which are not discussed as discourse markers, but rather as hedging expressions, show this potential as well (e.g. *sort of* → *sorta*). Concerning the stress contour, Schiffrin's characterisation is inconsistent in that she claims it to be a distinguishing feature of non-discourse marker uses and discourse markers such as *now*, the former of which receives tonic stress (1987: 231). Yet in her characterisation of discourse markers, she mentions tonic stress as one of the conditions for use as a marker (1987: 328).

Applying these characteristics to *Ish*, it is clearly short by being a monomorphemic element, it can thus not be further phonologically reduced, and it is frequently accented. As I have shown in section 5.4.2 above, in most disyllabic Germanic words, tonic stress is placed on the first syllable, thus *GREENish*, but as a monomorphemic element *ISH* receives tonic stress. The status of *Ish* is therefore ambivalent with respect to both of these criteria. While it fulfills the first criterium, it is not applicable to the second. I mentioned above, however, that phonological aspects are not often seen as definitional to discourse markers (cf. Müller 2005: 5). Before reaching a conclusion on this matter, the final phonological criterium needs to be evaluated first.

Separate tone unit

The prosodic criterium of a discourse marker's occurrence in a separate tone unit is again chiefly a matter of spoken language data. Forming a separate tone unit, the discourse marker in question is detached from the main clausal (or functional) unit, often indicated by a pause. In some instances, however, discourse markers do not occur in ”independent intonation phrases, but [are] prosodically dependent elements“, which is mainly the case for unaccented turn beginnings as well as for unaccented tags (Couper-Kuhlen and Barth-Weingarten 2011: 16). An example to illustrate this is given in (261) below (from Couper-Kuhlen and Barth-Weingarten 2011: 16).

(261) so=that'll work=huh

The example shows that the discourse marker *so* as well as the tag *huh* are unaccented as well as immediately connected to the intonation phrase on which they depend. This immediate connection is also called 'latching' and is formally notated by the equal sign (Selting et al. 2009: 355)[159]. Thus, discourse markers may occur clearly detached as indicated by pauses, but they may also be immediately connected to their host unit. Furthermore, differences in intonation may lead to a range of interpretations. It does not seem to be a fixed characteristic for each discourse marker in every context.

How can we translate a possible occurrence of a marker in a separate tone unit to written discourse? Punctuation has been suggested as facilitating such an interpretation, but it has also been cautioned that punctuation has its limits and is not always reliable (cf. Lutzky 2006: 7). Studies on dislocations have found a correlation with the type of dislocation and the use of punctuation marks. That is, right dislocations, which are characterised as syntactically connected to a clause, correlate with commas, while afterthoughts, which typically are disconnected from their matrix clause, correlate with full stops (cf. Kalbertodt et al. 2015: 2). However, the findings concerning prosody suggest that there is only an indirect link between punctuation and prosody (cf. Kalbertodt et al. 2015). Specifically, it is not the case that intonation directly drives the use of punctuation, but rather predominantly the syntactic structure (cf. Kalbertodt 2015: 11).

The case is even more complicated to evaluate with respect to the current data set for *Ish* because the results derive from a corpus that contains Internet language, specifically general web pages and blogs. As Crystal (2004, 2011) has pointed out, Internet language can be characterised as leaning closer towards conceptually written language, but it forms a medium of its own, rather than simply being characterisable as an aggregate of both (cf. Crystal 2011: 21). Concerning punctuation, the results for *Ish* are quite heterogeneous, making use of full stops, round brackets and a series of dots, among others, including a combination of them. However, all of them seem to indicate that speakers set off *Ish* from the unit it modifies, indicating that they are aware of the special character *Ish* has acquired. The examples (262) and (263) provide some evidence in support of this claim:

(262) I designed this many months ago, back when the sun was still shining... **ish**. (GB B, 2012, kingdomofstyle.typepad.co.uk)

(263) […] it gives each of our characters an ending that I think is fitting. (**Ish**.) (SG G, 2011, dramabeans.com)

159 The transcription system cGAT is the current one in use, but its use of latching remains unchanged. For further information see http://agd.ids-mannheim.de/gat.shtml (last accessed 04.10.2019).

In a few cases, however, *Ish* is placed right after the unit it modifies, without additional marking by punctuation. It has to be noted that these cases form a minority as most of the examples make use of at least one of the typographic options mentioned above.

(264) (dont know who but someone phoned his wife to say we were having an affair – we denied and said we just friends and were believed **ish**) (GB G, thecouple connection.net)

The entire example is marked as an explanatory insert, but *Ish* is not markedly set off from the rest of the unit it modifies ((*we*) *were believed*). The claim of a separate (tone) unit can still be maintained for most of the examples of *Ish* if we consider punctuation as indicative of making a pause and the evidence that some of the spoken language examples provide (recall example (194) above). The characterisation of a separate *tone* unit, however, is inadequate as it neglects the written medium (and other types of medium) completely. As a consequence of this strong spoken language bias it is questionable whether it can be considered a defining criterium for discourse markers as a whole.

Marginal forms

The only lexical characteristic discussed in Brinton concerned the fact that discourse markers are difficult to be placed within one of the traditional word classes, given that they originate from multiple sources and are generally formally very diverse. This characteristic pertains not only to the synchronic inventory of possible markers, but also their status as a group as well as their source forms. Some of the markers have a number of homonyms (e.g. *well*) and it has not been ascertained beyond doubt which of these was the source for the current use as a discourse marker (although it has been suggested that the adverb *well* has a historical connection to the marker, cf. Schiffrin 1987: 333).

The traditional word classes offer only the category of adverbs as a potential class, but even though adverbs have often been treated as a catch-all category for items with unclear status, they cannot accommodate all of the elements described as discourse markers in the literature. As a result, it has been suggested to abandon a formal classification and instead concentrate on their functional similarities to define group membership (e.g. Schiffrin 1987: 65, Lutzky 2006: 9). However, even that endeavour is not entirely straightforward as the remarks in the section of multifunctionality have shown. *Ish* has been classified as an adverb by the OED, but its developmental path as originating from a suffix is rather untypical for adverbs (as well as for any lexical word category for that matter). It further does not function to create textual coherence, but has semantic and pragmatic characteristics that place it best in the set of interpersonal functions.

To sum up, the characteristic of marginal forms cannot be considered a criterion for discourse marker status as it functions primarily as a metacharacteristic. It does not evaluate individual markers, but makes an assertion of the fuzzy group of discourse markers as a whole. As such, it is unsuitable as a defining characteristic of individual markers.

6.1.6.2 Origin: Grammaticalisation, degrammaticalisation, or something else?

This section will discuss and evaluate the various processes that have been employed to shed light on the origins of discourse markers. Additionally, it builds a bridge to the arguments made in the literature concerning the origin of the free morpheme *Ish* (section 5.2 above), which has been described with respect to two processes that are aimed at opposite directions: grammaticalisation and degrammaticalisation. If *Ish* indeed belongs to the group of discourse markers, it should be possible to trace its development along the lines of their origin, which is most often explained by grammaticalisation (or pragmaticalisation). In the course of this section it will become evident, however, that *Ish* cannot be convincingly described as having evolved via grammaticalisation and that a number of other processes better account for its development. As we will see, it is very difficult to pin down its development with respect to one distinct process due to the various conceptions that exist in the literature. That is, depending on one's views of the criterial components of a particular process, *Ish* may be described along those lines or not.

As has been shown in detail in section 6.1.4, accounts of the evolution of discourse markers differ with respect to the underlying conception of grammar. Two major approaches have influenced the discussion of these changes (cf. Traugott 2010a). If grammaticalisation is conceived of in the traditional way along the lines of Lehmann (1995, 2015[3][1982]), it is accompanied by structural changes which lead to more dependency and scope reduction. This view characterises grammaticalisation as a change in form and the underlying conception of grammar incorporates phonology, morphology and syntax, but neglects semantics and does not discuss pragmatics at all (cf. Traugott 2010a: 272). Consequently, under this view discourse markers do not evolve via grammaticalisation because they involve expansion on several levels (e.g. syntactic, semantic-pragmatic, see Himmelmann 2004: 32f.) and the fact that they are syntactically independent and optional contradicts the requirement of increased bondedness in the traditional view.

Traugott (e.g. 2010a) is one of the pioneers of viewing grammaticalisation as expansion and she addresses the question of semantic and pragmatic change in defining the process. In this view, grammaticalisation is a change in function and it is licit with respect to discourse markers. The underlying conception of grammar is broader than the traditional view in accompanying

especially pragmatic phenomena. This view is congruent with regarding discourse markers as developing subjective meanings and the reasoning behind extending the notion of grammaticalisation lies in the fact that some discourse-related phenomena pertaining to information structure (topic, focus) are considered part of the grammar, while other, core grammatical elements do not affect truth conditions (e.g. mood, aspect) (cf. Brinton and Traugott 2005: 139).

The two views are essentially incompatible and mutually exclusive and have led to the development of a further approach, pragmaticalisation, which seeks to explain the emergence of discourse markers, but does not want to subsume it under grammaticalisation proper. Proponents of this type of change (e.g. Aijmer 1997) argue that due to their discourse-pragmatic characteristics, discourse markers are not part of the grammar and thus, they cannot be considered to have grammaticalised. In order to keep the notion of grammar from becoming diluted, the term pragmaticalisation seeks to capture this change. Critics of this approach have pointed out that such a view presupposes a 'deviant' view of the target domain of pragmatics (e.g. Diewald 2011a), hence dismissing pragmaticalisation. Further points of criticism involve the fact that pragmaticalisation is not adequately defined, although there have been attempts to delineate it more precisely (see Mroczynski 2012).

The above discussion culminates into two preliminary points of consideration for the development of *Ish*. If the development of *Ish* into a discourse marker is considered appropriate, it can be described either via the extended view on grammaticalisation or by pragmaticalisation if the broad view on grammar is rejected[160]. That is, even if *Ish* cannot be felicitously described as a discourse marker (which is what I will argue), the parameters of the traditional view by Lehmann (1995) do not apply to *Ish*. Either some parameter does not apply at all to the change from a suffix to a free form (e.g. the parameter of syntagmatic variability: As a suffix, *-ish* occupies the obligatory position following a base), or *Ish* does not conform to the parameter's requirements (e.g. integrity: Neither the phonological nor the semantic substance is reduced). Taking into account Hopper's (1991) principles, a similar picture emerges. Only the principle of layering can be felicitously applied to the free form *Ish*, since it coexists with its source, the suffix *-ish*. His other principles face the same problems as Lehmann's parameters, however, in that a) they are not applicable at all because they presuppose a change from a lexical to a grammatical form (e.g. divergence, persistence, de-categorialisation), or b) in the way they are

160 Alternatively, in a prototype approach of grammaticalisation, pragmaticalisation can also be viewed as a special subtype of the former, i.e. the emergence of discourse markers is part of a secondary, non-prototypical type of grammaticalisation. As such, they form a borderline case of grammaticalisation, which are grammatical, but do not belong to core grammar (e.g. Barth-Weingarten and Couper-Kuhlen 2002).

construed they do not hold true for *Ish* (specialisation). Ergo, *Ish* is not compatible with the narrow conception in the traditional view of grammaticalisation.

What about the extended view on grammaticalisation? In reviewing the various articles of proponents of this view it becomes apparent that the common denominator seems to be the fact that for discourse markers the scope expands rather than reduces. It is not the case that all of Lehmann's parameters are discussed in each case and some hold the view that not all of his parameters even have to apply in a given case (cf. Diewald 2011b: 375). The development of *Ish* shows that scope expansion has taken place, semantically and structurally: The suffixed form maximally applies to multi-word units such as phrases, whereas the free form is able to modify entire propositions and an entire sentential unit. Have a look at example (265):

(265) I started making a few Young American friends. **Ish**. (GloWbE, HK G, sites.cdnis.edu.hk)

Ish modifies the proposition that 'I started making a few young American friends' and attaches to the CP, forming a full sentence. In his analysis of *Ish*, Duncan argues that the development from the suffix modifying an adjective to the free form modifying a CP is evidence for the change being an instance of rapid grammaticalisation (cf. 2015: 12). In analysing it this way, he subscribes to the extended view of grammaticalisation which considers scope expansion as one of the occurring changes.

As I have previously mentioned, Traugott focusses also on semantic and pragmatic changes taking place in grammaticalisation. As such, she considers meanings to develop unidirectionally: From an initial propositional or ideational stage they can acquire textual, cohesive meanings and even expressive meanings in later stages (cf. 1989: 31). Later, she reformulated the stages, but the general developments and the consequences for the affected elements largely remain the same, as (266) below shows (from Traugott 2010b: 34).

(266) non-/less subjective - subjective - intersubjective
ideational - interpersonal

That is, the development of many discourse markers is consistent with a change from propositional meanings to subjective (or interpersonal) meanings in that they ”are recruited by the speaker to encode and regulate attitudes and beliefs“ (Traugott 2010b: 35). Applying this reasoning to *Ish* is faced with two problems. First, the source element, suffixal *-ish*, cannot be described as propositional and second, the definition for subjectivity may not be entirely appropriate to classify *Ish*. On the one hand, if taken the original development described in Traugott (1989), *Ish* cannot be shown to have developed textual, cohesive meanings. On the other, the revised formulation of the semantic-pragmatic development shows some similarities

with *Ish*. To illustrate take a look at the following schema (from Traugott and Dasher 2002: 281, slightly adapted):

(267) **Pragmatic-semantic tendencies:**

a. non-subjective	> subjective	> intersubjective
b. content	> content/procedural	> procedural
c. scope: within proposition	> scope: over proposition	> scope: over discourse
d. truth-conditional	>	non-truth-conditional

According to Traugott and Dasher, subjectivity is consistent with a development into discourse markers, intersubjectivity with hedges (cf. 2002: 187, see also Traugott 2010b: 37 concerning the development of *sort of*). Concerning the cline in (267a.), *Ish* can be described as having developed subjectified meanings if this view also entails a weakened commitment towards the expressed proposition. In 6.1.6.1 above, I have said that the conceptual-procedural distinction should be conceived of as a continuum, with *sort of* inclining further towards the conceptual end than *Ish*. Nevertheless, I have also argued that *Ish* does not simply show procedural meanings, hence it falls in the scope of what is described as content/procedural in schema (267b.). Further, *Ish* has been shown to scope over propositions (267c.). Finally, it affects truth conditions, and does so in introducing a third value, effectively breaking up the binary conception. In (267d.) it could thus be felicitously placed in the middle of the two endpoints of truth-conditionality. In sum, all of these requirements of subjectivity are fulfilled for *Ish*. However, as I will argue in 6.2 below, its semantic contribution and similarity to items described as such is consistent with that of hedges, which are considered as potentially evolving out of discourse markers in Traugott (e.g. 2010b: 37, see also Traugott and Dasher 2002: 187). However, none of the descriptors in schema (267) above apply to *Ish* if it is indeed considered a hedge (i.e. intersubjectivity, procedural meaning, scope over discourse, non-truth-conditionality). On the basis of these reflections, do we have to abandon the thought of considering *Ish* a hedge? We can shed some further light on this by directing our attention to the expression *sort of*, which has also been described as a hedge and which is similar in some respects to *Ish* (cf. Biber et al. 1999: 557)[161]. Traugott identifies intersubjectified meanings in hedged uses of *sort of* (cf. 2010b: 37) and Traugott and Dasher argue that some elements can be shown to have subjective and intersubjective uses at the same time, for example the element *so* (cf. 2002: 155). Intersubjectified meanings seem to center around the pragmatic notion of 'face', originating in work on politeness (cf. Brown and Levinson 1987, see section 6.2.2 below). However, 'face' is only one aspect in which hedges can function, the other central aspect of introducing vagueness

161 However, there are also subtle differences concerning distribution and interpretation. For further information see Bochnak and Csipak (2014: 444-446).

seems to be neglected in work on (inter)subjectivity. Furthermore, if *sort of* is described as a hedge, it should be possible to align it with the properties described for intersubjectivity in schema (267) above. I have claimed that *sort of* inclines towards conceptuality on the conceptual-procedural continuum. This is not to say that it is a conceptual element or is necessarily very close to that end, but that this pertains to a comparison with *Ish*. Like *Ish*, *sort of* can take scope over propositions (see also Gries and David 2007: 5, and the remarks in Bochnak and Csipak 2014: 444) as in (268):

(268) A moment later we face a growling cave lion. Well **sort of**, we can't actually touch it... (NOW, GB, independent.co.uk, 15-05-01)

(269) Maureen Maher: Emotional blackmail.
L.J. Adams: Yeah. **Kind of**, **sort of**. He knew what to say and what to do. (COCA, Spoken: CBS 48 Hours, 2017)

In (268) *sort of* is shown to scope over a proposition in postposition. Like many examples with *Ish*, *sort of* occurs after an inserted discourse marker (*well*) and the imprecision *sort of* imposes is immediately resolved in the following sentence 'we can't actually touch it', with the pronoun *it* anaphorically referring back to its antecedent 'a growling cave lion'. While (268) is one of the few examples in which *sort of* is postposed to the proposition it modifies, most uses of *sort of* are preposed. Nevertheless, a semantic-pragmatic model should account for these propositional uses. In (269) *sort of* is shown to function as a type of affirmative 'answer' to a first-pair part of a turn, similar to some of the uses of *Ish* in which it functions as the sole answer to a question. On a more general note, the cases of propositional scope of *sort of* do not seem to be very common, it occurs much more frequently as the modifier of the predicate (see (270) below).

(270) You know, I **sort of** didn't sign up for this. (COCA, Spoken: NPR: How I Built This, 2017)

I am not aware of any discoursal uses of *sort of* that would justify the scope over entire discourse units, especially since the propositional uses of *sort of* are so rare and the development sketched in schema (267) seem to imply a direction from propositions towards discourse units. Finally, with truth conditionality the same remarks hold as for *Ish* in that *sort of* modifies truth conditions (see (268)).

In sum, if *sort of* can be used as a hedge it should be possible to show that the properties in the last column of schema (267) hold, which does not seem to be the case. Apart from the problems concerning (inter)subjectivity, if we consider *Ish* as a hedge or a discourse marker, this leaves us with the problem of subscribing to a broad conception of grammar that includes all kinds of pragmatic phenomena. While I do not object to the point that some pragmatic elements can be

part of the grammar (e.g. topic and focus) and other, core grammatical elements also have pragmatic functions (e.g. tense, aspect or mood), I do not wish to disrupt the principal distinction of (core) grammar and pragmatics. While they should be properly accounted for, cases like these do not challenge the strong tendencies of some elements belonging to the (core) grammar and others which function primarily on the discourse-pragmatic plane. The fact that tense can also have pragmatic functions, but does not have to show these in every case, calls us to view pragmatic functions as secondary. The distinction perhaps does not have to be viewed as strictly modular, but can allow some overlap between the two areas. Pragmatics certainly should not be conceived of as a 'deviant' target domain (cf. Diewald 2011a), but there can be no doubt that some elements develop to assume grammatical functions, others rather take on pragmatic functions. To describe both these developments as arising via the same type of process would mean to abstract away from their differences and target domain. This leaves us with the question if we should rather describe the development of discourse markers (and *Ish*) as involving pragmaticalisation.

The point of pragmaticalisation is not, as some have claimed, to provide a new label to basically the same kinds of developments which are claimed to arise with the extended view on grammaticalisation, simply to avoid the dilution of the concept of grammar by integrating discourse-pragmatic phenomena. It has been argued in a number of articles that pragmaticalisation can be shown to have similar developments as grammaticalisation (in the extended sense). Indeed, it is difficult to draw a line in some of the accounts that favour pragmaticalisation. That is, taking up the case of discourse markers again, they can be shown to involve syntactic isolation and optionality, but also pragmatic strengthening, subjectification and intersubjectification as well as scope extension, among a number of others (cf. Frank-Job 2006, Claridge and Arnovick 2010, discussed in Degand and Evers-Vermeul 2015: 68f.). These accounts focus on the processes involved in the development. Others, however, view pragmaticalisation in terms of its functional outcome (e.g. Wiese 2011: 1019). Wiese conceptualises the differences between grammaticalisation and pragmaticalisation as follows:

> While both are processes of language change where a content word becomes a function word, the domain of this function is not the same in both cases. In grammaticalisation proper, the outcome is an element whose function targets the grammatical system [accompanied by tighter structures and less freedom, T.H.]. […] However, when the outcome of the process is a word whose function does not contribute to grammatical structure as such, but rather to extragrammatical domains such as information structure or discourse organisation, then there is no necessary connection to such tighter structures. (Wiese 2011: 1018)

That is, the processes share certain developments, but lead into a different target domain.

Essentially the same view is held by Mroczynski (2013: 138). The target domain these processes lead to is how they should be distinguished.

Nevertheless, this type of change too faces problems when trying to apply it to *Ish*. Two aspects are worth mentioning. The first concerns exactly that target domain in that it presupposes that the element undergoing pragmaticalisation becomes part of the pragmatic domain. *Ish*, however, does not soley operate on the pragmatic level as I have shown in the discussion on multifunctionality above (see section 6.1.6.1), but in modifying a proposition by introducing vagueness and approximation to a concept it functions on the semantic level as well[162]. The second point concerns both, grammaticalisation and pragmaticalisation, as can be deduced by Wiese's quote above. The direction of change in both cases presupposes the source element to be a content word. This is not true for *-ish*, which originates as a grammatical formative and develops into a free morpheme of the word class of adverbs.

This finding may point us to consider other types of change, the first of which has also been discussed for *Ish* (cf. Norde 2009, 2010): Degrammaticalisation and lexicalisation. In section 6.1.5 I have already discussed the possible applicability of *Ish* in degrammaticalisation and nothing speaks against doing so when minor revisions are accepted. It is noteworthy, however, that discourse markers have not been described as having originated via degrammaticalisation, which points to two possible implications. First, this can be seen as potential evidence that *Ish* is indeed not a discourse marker when its inclusion in the set of degrammaticalised elements is agreed upon. Second, it may be used as further evidence that degrammaticalisation constitutes a minor change as compared to grammaticalisation, as indicated by the remarks of Haspelmath (1999: 1046), Heine et al. (1991: 4f.), and Heine (2003a: 174) cited in section 6.1.5 above. Nevertheless, its status as a minor type of change does not refute the first point just made.

Norde identified *Ish* as a case of debonding and as a derivational element this means that additional semantic or functional changes can take place (as opposed to inflections). She retained the principal distinction made in Kuryłowicz (1975[1965]) for grammaticalisation and rephrased it into primary and secondary degrammaticalisation, locating *Ish* in the latter. As a bound morpheme, she assumes that *Ish* does not develop into a full lexical element, but is severed from its host and shows further accompanying changes in semantics.

We have seen in section 6.1.5 above that three of her primitive changes are uncontroversial in their application to *Ish*: Phonological strengthening mainly in the form of stress occurs with the independent morpheme, its scope expands to entire propositions and it is severed from its host,

162 The exact borderline of semantics and pragmatics is hard to establish and some consider imprecision to be a matter of pragmatics (cf. Lasersohn 1999).

being able to appear as a free morpheme. The other three primitive changes, which pertain to the parameters of integrity and syntagmatic variability, are in need of some revision. Her conceptualisation of resemanticisation with respect to *Ish* remains rather vague and includes the remarks that *Ish* is not merely a modifying morpheme, but has to be paraphrased by a sentence. I have claimed that *Ish* still modifies a propositional unit (or else, a predicate), retaining the semantic property of denoting approximation it had as a suffix modifying adjectives and numerals. The fact that it affects the truth conditions of a proposition serve as evidence for its semantic development. Further, its semantic effect in conveying imprecision and the pragmatic function of toning down speaker commitment has not been discussed in Norde.

Concerning the parameter of syntagmatic variability, she has stated *Ish* to be able to occupy ”various slots“ (2010: 145), hence indicating the primitive change flexibilisation. We have seen, however, that due to *Ish* originating as a suffix, it occupies a sentence- or clause-final position in most instances, with a limited number of medial occurrences and no evidence for initial positioning. The point that may speak most clearly in favour of flexibilisation having taken place is the fact that *Ish* does not have to be placed immediately adjacent to the clause or sentence it modifies as shown in the following example (271).

(271) Yeah, I guess I have been pretty busy recently. Not. Well. **Ish**. (GloWbE, GB B, hawth.me)

In (271), *Ish* follows the negator *not* and the discourse marker *well*, each individually separated by punctuation. It does not modify these elements, however, but refers to the proposition 'I have been pretty busy recently'. Given Norde's examples, it seems that she had this in mind when defining flexibility with respect to *Ish*. However, the base for comparison was suffixed *-ish* which necessarily is bound to a specific slot. While I do not dispute that the parameter is relevant for *Ish*, I suggested to reformulate it to make it clear that within certain limits, *Ish* is more flexible in taking a position. That is, it is not obligatory for *Ish* to occur immediately adjacent to the unit modified, but it allows a number of syntactically optional elements like discourse markers inbetween.

Lastly, the primitive change of recategorialisation (parameter: integrity) is a more intricate matter given recent developments of *Ish*. Norde argues that *Ish* is not affirmative for the primitive change of recategorialisation because it ”does not join a major (inflected) word class“ (2010: 145). She also takes *Ish* to have developed into an adverb, paraphrasable by 'kind of', and mentions ”primarily nouns or verbs“ as major word classes (2010: 145). The supplement in brackets that specifies major word classes as inflected is significant. That is to say, what counts as a major word class is not uniformly defined and agreed upon, but as Brinton and Traugott

(2005: 13) remark, the dividing line drawn in generative accounts between major and minor word classes coincides with their elements belonging to the lexical or functional spectrum. That is, in these conceptions major universal word classes include the lexical categories noun, verb, adjective and adposition, which may be specified by functional categories (2005: 13). In functional approaches, however, the relationship between word classes and whether they are fundamental to linguistic structure is conceived of as a continuum (cf. Brinton and Traugott 2005: 14). Evidence for this reasoning are verbs such as *do* or *go*, which may appear as full lexical verbs, but also as part of functional categories in the form of auxiliaries (*do* in *do*-support, *go* in the *going-to* construction). In grammars, the terms major and minor are usually avoided[163], instead they classify words into open and closed classes, depending on whether many new words can enter into the classes or not. For instance, in Biber et al. (1999: 56), adverbs are considered part of the open lexical word classes as they allow new members in fairly easily. In others, the group of adverbs is further subdivided into a closed class of monomorphemic function words and an open class of derived adverbs in *-ly* (cf. Leech 2006: 8). Brinton and Traugott (2005: 15) follow this line of reasoning and suggest a continuum between open and closed classes where membership is conceived of as prototypical.

Given the various conceptions, it is thus crucial to define major word classes as inflected as Norde (2010) did because while English has a relatively poor inflectional system, it is clear that nouns and verbs are still inflected and as an adverb, *Ish* does not join the major inflected word classes. This is principally what has set *Ish* apart from similar conversions of the direction suffix > free morpheme (e.g. *-ism* > *Ism*), which have become nouns and are inflected for number (*Ism-s*). Norde classifies them as instances of lexicalisation because they have abruptly shifted from a more grammatical end to the lexical end of the continuum (cf. 2010: 127), whereas degrammaticalisation changes, like grammaticalisation, proceed step-wise and more slowly.

What about recent developments of *Ish* in which it is used as a noun, cf. example (138)? How are we to classify such developments? On the one hand, we can dismiss them as idiomatic nonce words or occasionalisms, which have been used for a particular occasion, but which will not become established and part of the norm. However, at the time of coining we cannot know whether a word remains a nonce word or will develop further. Evidence against viewing this development as anything but a singular occurrence is the fact that there are no genuine examples of *Ish* plurals (yet). For articulatory reasons, standard plural *-s* would most likely appear as an allophone *Ish-es* and indeed, we find two examples in the corpus NOW, which indicate plurality:

163 In Biber et al. (1999: 55), they are conceptualised differently: For them, the three major word classes consist of lexical and functional words as well as inserts,

(272) Ah the sketchy rhetoric of modern romance – all ifs, **ishes** and inverted commas. (NOW, The Independent, 13.02.2015)

(273) But are hungry-ish and tired-ish kinds of **ishes**? (NOW, Slate Magazine, 09.06.2014)

At present, we may argue that these are instances of *Ish* employed metalinguistically on a par with *ifs and buts* as Haspelmath (1999: 1064, footnote 1) claimed. Nevertheless, these examples indicate that *Ish* is open for further possible development. If *Ish* indeed has developed a nominal use, can we classify this development as an instance of lexicalisation, given that nouns are located at the lexical end on the continuum of grammaticality? Conceptions of what constitutes lexicalisation vary and Himmelmann (2004: 27) provides five basic uses, among them the most common notion in which lexicalisation involves a loss of productivity, transparency and compositionality. One group, however, called splits, conceives of lexicalisation as the derivation of new lexemes from a single existing one, both of which may continue to exist independently (2004: 27). For Himmelmann, splits are not confined to lexical items, but may also involve grammatical formatives. As evidence, he cites examples such as *ifs and buts* and *isms*, which are "used in slots usually reserved for full lexical items" (2004: 29). For him, they constitute examples of lexicalisation *or* de-grammaticalisation, which have in common the fact that they are opposite to grammaticalisation. This perspective neglects Norde's parameters of degrammaticalisation, however, which sets it apart from lexicalisation. As we have shown, *Ish* has not abruptly changed into a noun, but throughout its development is characterised by a slow and steady movement from a suffix to an adverbial free morpheme to a noun, with a transitional stage inbetween the bound and free morpheme (see section 5.3.3). Thus, if only the target category is considered as decisive, *Ish* can be said to have lexicalised. If, however, the manner of development is considered determinative, *Ish* has not lexicalised because it did not involve a straight jump on the cline of grammaticality. Given the remarks on degrammaticalisation above and the primitive changes involved in it as well as the nature of the development of *Ish*, I am inclined to say that *Ish* has degrammaticalised. If it develops into a full-fledged noun in the future and as such joins a major inflected word class, the model needs to find a way to account for that development, however, because it is normally not conceived of as a full reversal of a grammaticalisation cline.

6.1.7 Summary

The discussion in section 6.1.6 points *Ish* away from being classified as a discourse marker and as having grammaticalised. The main reason against the former classification concerns the

semantics of *Ish*, which has a clear effect propositionally on the unit it modifies, which is why it can also not be considered optional in semantic terms. The characteristics which have been considered decisive in conceptualising discourse markers show that *Ish* does not readily fit in this category, but must be described as something else. Of course, there has been development since the initial conception of characteristics of discourse markers in Brinton (1996) and the strong constraints in the form of criteria (e.g. sentence-initial position) have been subsequently diluted to allow for more leeway. Nevertheless, the discussion pointed *Ish* towards a different group of elements, sometimes classified as a subgroup of discourse markers: Hedging particles. Already in Brinton (1996), hedges were considered to encode speaker tentativeness, but as we will see, this is only part of the picture. Since *Ish* is quite similar to *sort of*, which is considered a hedge, it seems natural to consider this road of inquiry and investigate the nature of hedges. This is what we will explore more fully in the next section.

Concerning the development of discourse markers in relation to the development of *Ish*, viewpoints diverge in some respects. While discourse markers are most frequently considered to have grammaticalised, arguments for *Ish* have been put forward in favour of grammaticalisation (e.g. Duncan 2015) *and* degrammaticalisation (Norde 2009, 2010). Duncan's analysis is in line with a broad conception of grammar, which has also been posited by many proponents of viewing discourse markers as having originated by grammaticalisation (e.g. Traugott 2010a). If this line of reasoning is rejected, pragmaticalisation offers itself as an alternative if a narrow view on grammar should be preserved and the development of discourse markers involving scope expansion needs to be explained. However, the conceptualisation of pragmaticalisation, albeit improved (see Mroczynski 2012), cannot fully and satisfactorily account for the emergence of *Ish*, which does not operate solely on the pragmatic level and which does not originate from a content word (cf. Wiese 2011: 1018).

The second possible pathway proposed for *Ish* – degrammaticalisation (Norde 2009, 2010) – leads us further away from viewing *Ish* as a discourse marker, as they have not been described with respect to such a development in the literature. While a possible reason for this can also be found in the fact that degrammaticalisation has struggled to be accepted as a genuine path of development, Norde's conceptualisation of the change has improved understanding of it considerably. The application to *Ish* of the primitive changes involved in degrammaticalisation has shown that, given minor changes, they can felicitously explain the developments we have seen. The step-wise change of *Ish* also makes a case against viewing it as lexicalisation, if the conceptualisation of lexicalisation in Norde (2009, 2010) is accepted.

In sum, the counter arguments presented for the extended view on grammaticalisation and

pragmaticalisation might not entirely convince proponents of either type of change. However, I want to point to the fact that *Ish* is still in the process of transitioning and it might simply be too early to convincingly settle for one or the other approach just yet. However, at present, there is compelling evidence to consider degrammaticalisation as the relevant change to characterise the development of the bound suffix *-ish* to the free morpheme *Ish*.

6.2 Analysis of *Ish* as a hedging particle

6.2.1 Introduction

Research on the phenomenon of hedging by now comprises nearly five decades if we take the introduction of the term *hedge*[164] as its point of inception (cf. Lakoff 1973). The phenomenon itself has been studied under a number of different terms, such as 'metalinguistic operator' or 'approximator', and ”[t]he discussion of the notion has evolved far from its origin“ since the 1970s (Meyer 1997: 21). The ”dual origin“ (Mauranen 2004: 175) of hedges is what has principally shaped the concept in the years to come, shifting from an initially strong focus of a logico-semantic treatment towards more communicative-pragmatic aspects.

The term 'hedge' has generally been defined as follows:

> Hedges provide a means for indicating in what sense a member belongs to its particular category. The need for hedges is based on the fact that certain members are considered to be better or more typical examples of the category, depending on the given cultural background. (Bussmann 1996: 205)

> An application in PRAGMATICS and DISCOURSE ANALYSIS of a general sense of the word ('to be non-committal or evasive') to a range of items which express a notion of imprecision or qualification. (Crystal 2003a: 216)

In what follows, I will elaborate on some of the main semantic and pragmatic approaches to hedging, thereby attempting to show the various applications the term has experienced in different research agendas since its emergence. These different vantage points have contributed to a considerable extension of the term, but in doing so they have led to a paradoxical situation in making the notion itself fuzzier. In other words, the etymological signification of *hedge* as 'fencing in' or 'enclosing' cannot be said to still hold true for the term in its linguistic (or

164 Clemen (1998: 5) assumes the metaphorical notion 'hedge' to be in fact associated with its botanical application (see also Diewald 2006: 296). It comes as no surprise that connotations that arise with its botanical relative evoke notions such as fence, enclosure, (visual) cover or shield (cf. Clemen 1998: 5). In fact, its Old English predecessor *hecg* referred to a row of trees or bushes planted to create a boundary between pieces of land (cf. OED online, 'hedge') and its German cognate *Hecke* (from Old High German *hegga*) also evokes connotations of enclosing or fencing in of fields or scattered farmsteads (cf. the German dictionary *Digitales Wörterbuch der Deutschen Sprache* (DWDS) 'Digital dictionary of the German language', entry *Hecke*). The term has also found application in finance where it signifies the practice of securing oneself against possible losses in balancing financial risks (cf. OED online *hedge*, n., sense 5).

otherwise) application.

6.2.2 Approaches to hedging

Early interest in the study of hedging arose in the early 1970s with Lakoff's *Study in meaning criteria and the logic of fuzzy concepts* (1973). Lakoff was keenly interested in the way certain elements semantically behaved and which were outside the realm of truth functions[165]. While the technical term 'hedge' is attributed to Lakoff, the concept of approximation, imprecision or attenuation with respect to linguistic expressions was introduced earlier in the mid-60s. In fact, Weinreich identifies metalinguistic operators such as *true*, *so-called*, *strictly speaking*, German *eigentlich* 'actually', and "the most powerful extrapolator of all – *like* – which function as instructions for the loose or strict interpretation of designata" (1966: 163). His work on semantic operations (including deictic signs, propositional operations and quantifiers) is thus an early roadmap of linguistic expressions, which are located at the interface of semantics and pragmatics and, depending on the respective research agenda, they have been approached from multiple and diverse angles, also inspiring and spurring on further work in the fields of discourse markers, modal expressions, and hedges, among others.

Lakoff's work is oriented at previous accounts dealing with category membership, specifically Zadeh's (1965, 1972) fuzzy set theory and Rosch's (1973, 1975) empirical psychological work. For instance, Zadeh maintains the view that category membership of individual objects (i.e. linguistic and non-linguistic) is not absolute and clear-cut, but forms a continuum of degrees of membership to a 'class' with fuzzy boundaries (cf. 1965: 339). He even claims that "most of the classes encountered in the real world are fuzzy – some only slightly and some markedly so", as for example the class of young men or the set of red flowers (1972: 4)[166]. Similarly, Rosch (1973) conducted several psychological experiments aimed at scrutinising judgements about category membership in the case of categories on a perceptual basis (colours and forms), and semantic categories (she tested colour names, terms for fruit, birds, crime and others). She is regarded as one of the pioneers of prototype theory and many studies in the realm of cognitive semantics draw on her initial ideas (e.g. Fillmore 1975) and generally take a more holistic approach to word meaning[167]. Like Zadeh she assumes that categories do not comprise a fixed

165 While remaining invested in semantics, in subsequent work, Lakoff revised his model and firmly oriented himself towards cognitive semantics, specifically Fillmore's frame semantics and work in the theory of idealised cognitive models (ICMs) (e.g. Kay 1979). I will not delve further into these topics here as they would warrant a chapter-length treatment of their own.

166 For a criticism of fuzzy logic with respect to its applicability to linguistics, see Sauerland (2011).

167 Geeraerts holds the view that extensions to Rosch's theory about prototypes in the fields of, e.g. morphology, syntax or historical linguistics have rendered it one of the "cornerstones of Cognitive Linguistics" (2006[1989]:

bundle of instances which either fit the category or not, but instead they may fit the category to a greater or lesser degree. Consequently she conceives of categories as being structured internally, consisting of focal cases with a core meaning and peripheral members, which are less central to the category and thus may not show all the characteristics the clear cases do (cf. 1973: 112). For example, in the case of colours, peripheral members are often further classified with additional words, which demonstrate their distance to the core members of that particular category:

(274) Every other dress in here is white and we have this one **off white** one and we just thought that since she's not a virgin she shouldn't have an all white one. (COCA, SPOK: CNN_King, 2005)

In (274), the colour adjective *white* is contrasted with its derivative *off white*, which, according to the OED, may contain tinges of yellow or grey (like e.g. ivory), thus separating it from an *all white* colour that is most central to the category (cf. OEDweb, entry *off-white*). The example exemplifies the graded nature of (colour) categories, which also plays into the notions of frequency and 'good' or 'bad' characteristics associated with the status members of a category may assume.

As mentioned above, Lakoff's work in 1973 was grounded in semantics, in particular he rejected the formal logic approach of assigning binary truth values to sentences, i.e. in the traditional approach, they could be either true or false. Any deviation of that binary classification of truth values was considered 'nonsense' or comprised sentences lacking any kind of truth value (cf. Lakoff 1973: 458). Drawing on the work by Zadeh and Rosch and recognising that linguistic concepts could not be construed as discrete, he investigates the effect of the hedges *regular*, *technically*, *strictly speaking* and *loosely speaking*, among others. In particular, he asserts that hedges give information about degrees of category membership, but also illuminate the relationship of semantics and pragmatics. Consider his example given in (275) below (cf. Lakoff 1973: 473, my emphasis):

(275) a. Esther Williams is a fish.
b. Esther Williams is a **regular** fish.

In assigning truth values to the propositions in (275a.) and (275b.) we would have to negate the truth for (275a.): The proper name *Esther Williams* denotes a (female) human being, but the noun *fish* refers to the animal species of aquatic vertebrate with gills. The modified noun *fish* in (275b.), however, does not refer to an animal, but instead picks out certain characteristics typical for it as, for instance, its ability to swim well. Asserting that Esther Williams is a *regular* fish means that she behaves in some way typical like fish, but does not belong to the category of fish

145).

as she does not have gills, scales or fins. In essence, the hedge *regular* does not act on the literal meaning of *fish*, but picks out aspects associated with it (cf. Lakoff 1973: 474). In fact, this is very similar to Zadeh's fuzzy-set account of hedging in which he asserts that the effect the hedge *sort of* has on its operand is to reduce the grade of membership to core members while at the same time increasing that to peripheral members (1972: 31).

As a representative of fuzzy logic, Zadeh's account has been discussed in terms of vagueness (e.g. Pinkal 1991). In section 2.3.3 I mentioned that vagueness is a pervasive phenomenon, which is consistently found in linguistic expressions and is seen as a constitutive property of natural language semantics (cf. Pinkal 1991: 250). It has also found application in hedging research and in section 6.2.3 below I will discuss Pinkal's (1985b) classification of hedges with respect to their precisifying behaviour. Clemen (1998: 24) observes that the corresponding literature on vagueness has not discussed the hedging phenomenon consistently even though vagueness is an essential hedging strategy. Ballmer and Pinkal (1983) refer to the history of the philosophy of language as one of the reasons. In philosophical approaches which aimed at ”the construction of scientific languages that meet the standards of distinctness and exactitude established by the exact disciplines of mathematics and logic […] vagueness is just one of the troublesome deficiencies of ordinary language to be eliminated in the process of rational reconstruction“ (1983: 2). As a consequence, the phenomenon of vagueness was simply ignored in these early approaches. Similarly in the linguistic tradition scholars have long neglected the phenomenon of vagueness as becomes evident in Lyon's (1977) 700-page book on semantics which makes no reference to it at all (cf. Ballmer and Pinkal 1983: 3). In some approaches of the 1970s, however, vagueness has gained a stronger foothold in semantic research, especially in the works of Montague (1970) and Lewis (1970). Ballmer and Pinkal note that since then, different approaches have sought to integrate vagueness into their logico-semantic frameworks, either in a conservative way by retaining classical bivalent logic or by introducing more values into the system, which is the hallmark of multi-valued and fuzzy logics, respectively (cf. 1983: 4). In these accounts, logic and natural language semantics are no longer seen as being mutually exclusive, however, the treatment of vagueness remains a crucial problem which has been approached in various ways (for an overview and discussion of several 'conservative' and 'alternative' approaches, see Pinkal 1991).

One account on hedging that explicitly deals with vagueness in written economic language is that of Channell (1990, see also Channell 1980 concerning numerical approximation) and it will be briefly explicated here. She is particularly interested in number approximations and notes that they are usually interpreted as an ”interval of numbers symmetrical about the number provided“

(p. 97). Let us illustrate with a few examples using the approximator *Ish*. If, for example, a speaker utters the following sentence in (276), hearers typically assign a 'halo' (interpretable in the sense of Lasersohn 1999) of numbers around the core (i.e. of *three* weeks), which they deem as still close enough to interpret the statement as being true:

(276) This is the girl who grew only a centimetre over the whole school year, has now grown up and out a whole size since the beginning of the holidays **3 weeks ish** ago (GloWbE, GB G, http://rationingrevisited.com)

In (276) the interval will most probably contain a number of days, rather than weeks for the proposition to still be judged true. That is, applying *Ish* to the time designation of *3 weeks* will render the interpretation to something like '3 weeks plus/minus 3 days'. The implicit amount of days contain the halo in which the expression is interpreted. It is not the case, however, that this halo has a fixed numerical value, but it will vary concerning particular situations and speakers.
In some of the cases, the intended interpretation halo is given explicitly, as in (277):

(277) With a median income of $36,000, the median Mississippi resident pays an effective tax rate of **around 8%-10%ish**. (GloWbE, US G, esr.ibiblio.org)[168]

A few cases set only one of the boundaries for interpretation, i.e. in example (278), the writer explicitly defines his or her car's fuel consumption to 35 miles per gallon as the upper boundary for 'shorter journeys', but leaves the lower boundary undefined:

(278) My 2.0jtdm Bera does around 38 usually provided I don't press-on too hard – some journeys will creep up to 41 on a perfect run with no hold ups and not too much speed. Shorter journeys drop to **35 ish (or less)**. (GloWbE, GB G, alfaowner.com)

Coming back to Channell, she notes that in a given case ”[t]he perceived length of the interval cannot be determined precisely“ but it may be approximated via a number of contextual factors such as the size of the given core number, what item is quantified or the purpose of the expression that contains the hedge (1990: 98). She investigated three academic papers for their use of precise and vague quantities and grouped them into a total of five categories involving precise and approximated numerical and non-numerical quantities as well as date specifications. In her 1980 paper, she found that round numbers were frequently used for approximation whereas a non-round number more easily lends itself to exact interpretations (example quoted from Channell 1990: 101):

(279) a. The wedding cost £800.
b. The wedding cost £802.47.

While the cost in (279a.) might be a rounded number and thus an approximation on its own, it

168 Note that in many cases, the imprecision is qualified further with the help of adverbs (*around*, *about*, or *roughly*).

can also be interpreted as an exact number. The value given in (279b.) on the other hand designates a precise amount. She notes that in order for examples like this to be read as an approximation, it is necessary to add a ”lexical approximator“ like e.g. *approximately* (1980: 468).

Especially numerical values receive generally a precise treatment in scientific studies, not just in economics, but in any study that uses statistics to convey a quantitative interpretation of the analysed data. In doing so, researchers ensure the validity of their (quantitative) claims and adhere to a standard of precision and accuracy as part of their academic integrity. However, it may depend on the goal the writer wants to achieve with his or her work. In some cases, vague quantities might be chosen deliberately to convey a certain point and persuade the reader of the point made. Channell's subsequent interview with the authors of the academic papers revealed that in one case the researcher gave a vague reference of ”some 200 million tons“ because it presented a snapshot out of a range of dates that vary each year (1990: 109). Hence she chose to give the vague quantity because the snapshot number would not have resulted in an adequate and meaningful picture for the reader, but instead it would have represented an arbitrary number taken out of an entire range. Channell gives a number of further reasons for choosing vague instead of precise quantities, many of them having to do with Grice's maxims. For instance, (academic) writers resort to the Maxim of Quality, therefore giving rather less precise information than to violate the maxim by offering quantities they know not entirely to be supported by the evidence or simply lacking the relevant specific information (cf. Channell 1990: 111). As we have seen in section 2.3.3.2, it is close to impossible to be entirely exact when expressing time designations with numerical values. How do we define exactitude in a given case? For instance, where do we draw the line in saying 'Mary arrived at three o'clock' becomes false: At her arriving five seconds after 3:00, one second, or one millisecond? (cf. Lasersohn 1999: 544). Channell's contribution to the research of vagueness and hedging lies at the borderline of semantics and pragmatics. In fact, she considers ”[a] project […] which requires semantics and pragmatics together to give an account of language understanding, seems particularly apt and necessary in the case of numerical approximation“ (1980: 474).

Let us now turn our attention towards a major extension of the hedging concept, notably on the level of pragmatics, which has inspired a great deal of subsequent work and one could even say that in some areas (as for example, in grammaticalisation) it has largely supplanted semantic treatments of hedging. In particular, since Robin Lakoff's (1974) and Brown and Levinson's (1978) seminal work on strategies of conveying politeness in conversation, focus of the study of hedging devices experienced a shift towards a more pronounced interest in the pragmatic aspect

of communication, especially concerning politeness and face-saving strategies (e.g. House and Kasper 1981, Brown and Levinson 1987, Holmes 1993), in the context of illocutionary force (e.g. Holmes 1984: 359-361, Sbisà 2001), and mitigation (e.g. Fraser 1980, Caffi 1999, 2007), as well as research shading into discourse analysis with respect to discourse markers (e.g. Östman 1981, Redeker 1990), among others. Thus, due to the 'pragmatic turn' (”pragmatische Wende“, see Diewald 2006: 298) in hedging research, the range of described phenomena and individual expressions and their functions has considerably widened.

I will now briefly introduce the main points of Brown and Levinson's model (1987), which will receive some attention here due to its influence on later work, especially in grammaticalisation research, where politeness is discussed as one of the key factors of hedges. In their model Brown and Levinson (1987) assume discourse interactants to maintain a certain public self-image, called 'face', a notion that has been borrowed from Goffman, who defines it as

> the positive social value a person effectively claims for himself … Face is an image of self delineated in terms of approved social attributes. (2005[1967]:5)[169]

Brown and Levinson invoke the metaphorical characteristic of face with the assumption that someone may 'lose' his or her face in situations embarrassing for the person (1987: 61). Similarly, participants in a discourse engage in face-saving strategies that maintain their social image. The notion of face comes in two varieties: The 'negative face' refers to a person's ”freedom of action and freedom from imposition“ by others (p. 61), the 'positive face' is defined as ”the desire to be ratified, understood, approved of, liked or admired“ (p. 62). The aspect of face is understood as consisting of basic wants participants adhere to in interaction when they act cooperatively.

Politely speaking in Brown and Levinson's model implies that potential threats to a speaker's or hearer's (positive or negative) face are minimised or 'redressed', if not avoided. Specific verbal or non-verbal communication may 'threaten' someone's face (so-called face-threatening acts, or FTAs). For example, an FTA to a speaker's negative face includes ”unwilling promises and offers“ for which the speaker may need to commit him- or herself to future actions, and acts that may damage a speaker's positive face include accepting compliments or issuing apologies (p. 68). For more details on the types of potential face threats, see Brown and Levinson (1987: 65-68).

A speaker has two principal ways at his or her disposal for redressing potential face damage to an addressee with which he or she ”indicate[s] clearly that no such face threat is intended or desired“ on the part of the speaker: Positive politeness or negative politeness (p. 70). While

169 Additionally, the sociologist Durkheim (1915[1912]) is credited as an important early influence for Brown and Levinson's work with the concept of 'positive and negative rites' (1987: 61, footnote 8).

hedging is generally considered to be a property of negative politeness, speakers may employ hedges as a strategy to render their opinion ”savely vague“ (Brown and Levinson 1987: 116). Especially in light of adjectives on the extreme ends of the scale, such as *wonderful* or *ridiculous*, speakers often choose to minimise the impact such adjectives can have by hedging (especially if the addressee's opinion to the proposition is not known, cf. 1987: 116):

(280) About jury duty:
Former President George W. Bush reported for his civic duty in a downtown Dallas courtroom. Now, as you may expect, they did not select him. He's so cute. It'd be kind of distracting. It would be **kind of wonderful**. (COCA, SPOK: ABC: The View, 2015)

(281) About affordable neighbourhoods in Oakland for artists:
”They don't want to complain because they don't have anywhere to go. It becomes a question of staying put or facing homelessness. It's **kind of ridiculous**,“ she said. (COCA, NEWS: USA Today, 2016)

However, hedges are more firmly at home in negative politeness, i.e. when speakers choose strategies that reduce the impact a possible FTA might have on an addressee. Brown and Levinson define the term 'hedge' as

> a particle word, or phrase that modifies the degree of membership of a predicate or noun phrase in a set; it says of that membership that it is *partial*, or true only in certain respects, or that it is *more* true and complete than perhaps might be expected. (1987: 145, emphasis in original)

They thus view hedges not only as toning down the impact a predicate or noun phrase might otherwise have, but also that they may intensify it, which they acknowledge by saying that this intensifying sense is an ”extension of the colloquial sense of 'hedge'“ (p. 145). Hedges in their framework come in different forms and these relate to rather general strategies of communication and in many cases, several lexical items may perform these functions. This is one of the main difficulties in narrowing down the definition of hedges and assemble lists of linguistic devices that are in the service of these functions. In Brown and Levinson's words, ”it should be borne in mind that the semantic operation of hedging can be achieved in indefinite numbers of surface forms“ (1987: 146). In section 6.2.3 below, I will elaborate on establishing lists of hedging devices.

This pragmatic line of hedging research with its focus on politeness and speaker attitudes is also instrumental for the viewpoint and status hedges have acquired in grammaticalisation research. Particularly in research on (inter)subjectification hedges are perceived as a subgroup to discourse markers, (e.g. Traugott 2003: 130, 2010b: 37, 2012: 10, Traugott and Dasher 2002, Margerie 2010 on the 'pragmatic particle' *kind of/kinda*) and as such they may develop out of (subjectified) discourse markers and take on intersubjective functions such as addressee orientation in the form

of signalling politeness and managing image needs. Discourse markers may ”serve the function of hedges“ and Traugott classifies *well* as ”the most prototypical of all hedges in English“ (2003: 130). Moreover, hedges are placed firmly in the realm of pragmatics, thereby stripping them of the other side of the coin, i.e. semantic vagueness and modification of truth values (cf. Traugott and Dasher 2002: 89). I certainly do not want to claim that hedges do not function pragmatically, extensive research has shown that they do. Furthermore, hedges do not primarily function semantically *or* pragmatically, but they are firmly at home in both realms of linguistic description. I do, however, object to a unilateral representation of hedges as is present in many studies on grammaticalisation. Moreover, linguistic analyses without question face a demarcation problem between the two concepts, I still believe further mingling the concepts of discourse markers and hedges (see e.g. *well*) does not do justice to either of them. I will defer further discussion of this matter until section 6.2.5 in which I will also propose that *Ish* should be viewed as a hedging particle.

Before we delve into functions and characteristics claimed for hedging particles, we will first discuss possible proposals for classification systems in the following section. It will become evident that hedges are very similar in this respect to discourse markers in that they themselves are hard to categorise as a group. In other words, not only do they convey fuzziness and imprecision, but they are also fuzzy themselves.

6.2.3 Classification of hedges

Although there have been attempts to classify hedges meaningfully, no coherent or widely accepted classification has yet been established. With hedges, scholars face the same kinds of problems as we have seen for discourse markers, concerning a unified term to refer to them as well as in establishing an inventory of hedging expressions. Thus, similar to the term discourse markers, hedges are known under a number of other names such as downtoners (Holmes 1984, Quirk et al. 1985), deintensifiers (Lakoff 1973, Hübler 1983, who uses the term 'detensifier'), approximators (Prince et al. 1982), or simply as adjuncts (Mittwoch, Huddleston and Collins 2002), to name but a few (see Clemen 1998: 12 for more). Broadening the view to a wider taxonomy, Quirk et al. even rank the downward scaling downtoners (as well as the upward scaling amplifiers) under the umbrella term of intensifiers (1985: 445, 567), as mentioned in section 5.4.6 above.

Furthermore, atttempting to inventory individual expressions has led to a variety of items to be classified as hedges and Fraser's excellent (2010) survey collects some of them. The most cited

linguistic items are adverbials, which seem to lend themselves easily for use as hedges (e.g. *approximately*, *roughly*, *about*, *sort of*, cf. Lakoff 1973: 472, Holmes 1984: 361, Quirk et al. 1985: 597ff., Salager-Meyer 1994: 7, Fraser 2010: 23), expressions with epistemic verbs and parentheticals (e.g. *it seems*, *I believe*, *I think*, *I guess*, etc., cf. Hübler 1983: 114, Holmes 1984: 359, Fraser 2010: 24) metalinguistic comments (e.g. *strictly/loosely speaking*, etc., cf. Kay 1983: 130-134, Fraser 2010: 24), and hedged performatives (i.e. a performative verb is hedged via the use of a modal verb, e.g. *can promise*, *might suggest*, etc., cf. Fraser 1975: 187) but also *if*-clauses (e.g. *if you can*, *if you don't mind*, cf. Brown and Levinson 1987: 162f., Holmes 1984: 360, Fraser 2010: 22), impersonal constructions (e.g. *one suggests*, *one can imagine*, etc., cf. Clemen 1997: 239, Fraser 2010: 23), as well as a variety of modal words, e.g. modal auxiliary verbs (*can*, *might*, *would*, should, etc., cf. Hübler 1983: 126-136, Clemen 1997: 239, 1998: 30, Hyland 1998: 105-119, Fraser 2010: 24) or modal adverbs (*possibly*, *probably*, *apparently*, etc., cf. Hübler 1983: 119-126, Holmes 1984: 360, Salager-Meyer 1994: 7, Clemen 1998: 30, Fraser 2010: 23), among others. The boundary between discourse markers and hedges blurs in studies which discuss items such as parentheticals (*I guess, I suppose*, e.g. Holmes 1984: 359), adverbs (*well*, e.g. Traugott 2012: 10, referring to Jucker 1997; or *now*, e.g. Brown and Levinson 1987: 169) and even (concessive) conjunctions (*although*, *while*, cf. Fraser 2010: 23). Many studies discuss individual elements used as hedges in certain contexts and for specific purposes. According to Fraser (2010: 21) such endeavours have started around the 1980s. For instance, Kay (1984) and Fetzer (2010) discuss *sort of* and *kind of*.

The list does not end here and Markkanen and Schröder (1997: 6) remark that ”there is no limit to the linguistic expressions that can be considered as hedges“ and ”[t]his also means that no clear-cut lists of hedging expressions are possible“. In fact, the very notion of a 'list' of hedges has been called into question by Clemen (1997: 237f.) who discusses Lakoff's selection of hedges. To her it seems questionable to collect individual items ”because of the universal attributes of many lexical items and expressions“ (p. 238). However, these lists may serve as a reference to linguistic items which *have already been used* as hedges. Thus it is of a certain value, even though it does not necessarily help us predict which items may begin to serve hedging functions in the future, it can still be used in hindsight. There are certainly words which in all likelihood will never take on hedging functions.

Table 27. Some classifications of hedging expressions

Author	**Classification**	**Examples**
Lakoff (1973: 472)[170]	Deintensifier	*sort of* *more or less* *loosely speaking* *roughly*
	Intensifier	*very* *par excellence* *especially* *strictly speaking*
Prince et al. (1982)	Approximators: a) Adaptor b) Rounder	a) *somewhat*, *sort of* b) *approximately*, *about*
	Shields: a) Plausibility shields b) Attribution shields	a) *I think*, *I take it* b) *presumably*, *as far as anyone knew*
Holmes (1984)	Downtoner	*I guess* *if you wouldn't mind* *might* *somewhat*
	Booster	*truthfully* *naturally* *indubitably* *certainly*
Quirk et al. (1985)	Downtoners: a) Approximator b) Compromiser c) Diminisher d) Minimiser	a) *almost*, *nearly* b) *more or less*, *sort of* c) *partly*, *to some extent* d) *hardly*, *a bit*
	Amplifiers: a) Maximiser b) Booster	a) *completely*, *in all respects* b) *very much*, *so*
Pinkal (1985b: 48)	Hedges: a) präzisierend 'making more precise' b) depräzisierend 'making less precise' c) modifizierend 'modifying' d) quantifizierend 'quantifying'	a) *strenggenommen* 'strictly speaking', *genau* 'precisely' b) *sozusagen* 'sort of, so to say', *ungefähr* 'approximately, roughly' c) *sehr* 'very', *ziemlich* 'fairly' d) *in jeder Hinsicht* 'in all respects', *eindeutig* 'unequivocally'

170 Lakoff's list merely catalogues various hedges, he does not distinguish the individual expressions explicitly into intensifiers and deintensifiers. He picks out *very* and *sort of* as an example of either category.

Table 27 above shows an aggregation of some of the hedging expressions investigated in the literature along with the type they have been classified to. Note that the table is far from exhaustive. It represents an overview of common lexical devices, both single words and multi-word expressions. It further includes typologies which survey both ends of the scale, i.e. intensifying elements and downtoning ones (e.g. Lakoff 1973, Holmes 1984, Quirk et al. 1985), as well as those which subclassify attenuating devices (e.g. Prince et al. 1982, Quirk et al. 1985, note that the latter also subclassify intensifying devices). Some of these typologies need further clarification and in the following I will illustrate Quirk et al. (1985), and Prince et al. (1982) in more detail. In addition I will shed some light on a few other classifications, that is those that place hedges in relation to other types with a similar function. It will be seen that the concepts partially overlap with each other and in some studies are applied differently than in others. A two-way distinction is common among many of those approaches and Fraser's (2010) distinction into propositional hedges on the one hand and speech-act hedges on the other is what will emerge as a blueprint from the discussion.

Let us now have a look at Quirk et al.'s (1985) taxonomy of intensifiers. As stated in section 5.4.5 above, they use the term 'intensifier' as an umbrella term, covering both amplifiers, which ”scale upwards from an assumed norm“, and downtoners, which ”have a lowering effect“ (p. 445, 590)[171]. Amplifiers and downtoners are further subdivided, the former into two subgroups (a) maximisers, e.g. *completely*, and b) boosters, e.g. *very much*, the latter into four (a) approximators, b) compromisers, c) diminishers, and d) minimisers). The authors caution against viewing the subgroups as distinct and clear-cut classes, however, and note that they ”provide nothing more than a rough guide to semantic distinctions“ (1985: 590). Due to various overlapping functions often ascribed to these elements as well as individual speaker preferences, they may be used differently than suggested by Quirk et al. (1985). I will omit a discussion of their amplifiers here, a detailed treatment of them is found in Quirk et al. (1985: 590-597). Quirk et al.'s (1985: 567, adapted) taxonomy of intensifiers is given in figure 10 (next page).

171 This distinction is not new: Bolinger also referred to such words as 'intensifiers', which he uses ”for any device that scales a quality, whether up or down or somewhere between the two“ (1972: 17) and he also discusses some of the subgroups found in Quirk et al. (1985) (cf. Bolinger 1972: 17, 263ff.).

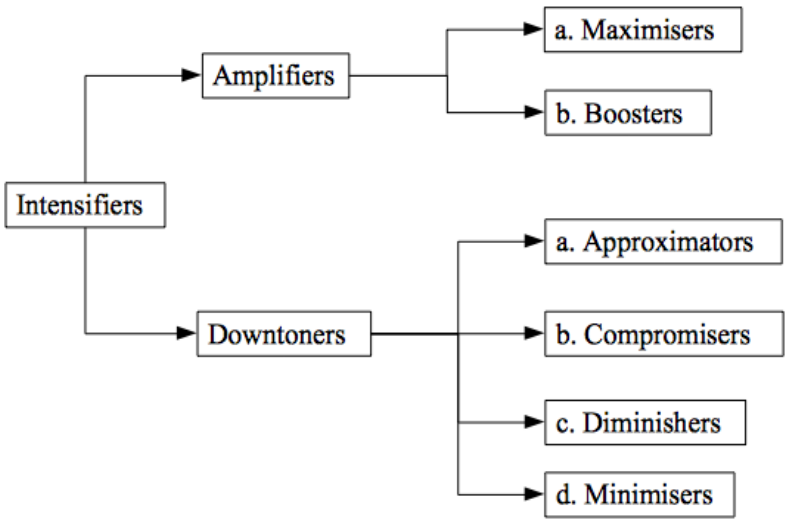

Figure 10. Quirk et al.'s (1985) taxonomy of intensifiers

Coming now to the subdivision of downtoners, consider (282) below, which gives examples for each subtype (cf. Quirk et al. 1985: 597f.):

(282) a. Approximators: *almost*, *nearly*, *practically*
b. Compromisers: *sort of*, *rather*, *more or less*
c. Diminishers: *somewhat*, *in some respects*, *merely*
d. Minimisers: *hardly*, *little*, *a bit*

Both approximators and compromisers are used in contexts where the speaker does not fully commit to the conveyed proposition; the former differ from the other groups, however, in implying a denial of the truth value denoted by the modified verb (cf. Quirk et al. 1985: 597, 599):

(283) a. I **almost** resigned (but in fact I didn't resign).
b. *I k**ind of** like him (but in fact I don't like him).

We can see a parallel in the use of *kind of* (a compromiser) and *Ish* in that the latter also does not completely deny the truth of the proposition, but merely modifies what is said:

(284) *I like him... **Ish** (but in fact I don't like him).

In this case, it is the degree of approval that is modified (and lowered) by *Ish* from an absolute standard ('I like him') to a slightly lowered assessment ('I like him... *ish*'), but it is not denied completely. In Quirk et al.'s words: ”Compromisers reach out towards an assumed norm but at the same time reduce the force of the verb“ (1985: 600). Following this line of argument, *Ish* would qualify as a compromiser in Quirk et al.'s framework, having a slight lowering effect and calling into question the appropriateness of the verb (cf. p. 597).

Diminishers roughly have the meaning 'to a small extent' and they come in two further groups: Expression diminishers and attitude diminishers (cf. p. 598). Examples are given in (285) below:

(285) a. Expression diminisher: I **partly** agree with you.
b. Attitude diminisher: I was **only** joking.

(285a.) conveys that the speaker agrees with the interlocutor to some extent. It is analogous to Pinkal's (1985b) quantifying hedge, but does not express the full extent of the verb concerned, instead it conveys that it is only true in some respects. (285b.) on the other hand reduces the force of what is denoted by the verb in question.

Finally, minimisers are ”negative maximizers“ (1985: 597) and while they do not deny the truth of the proposition, they modify it in terms of an approximation to ”a version that is more strictly true“ (p. 599):

(286) I can **barely** understand him (- in fact I can't understand him).

The terminology used in Quirk et al. (1985) has not seem to have been accepted widely, except for the more general term 'downtoner', which is frequently used elsewhere. However, especially elements from the subgroups a) approximators, and b) compromisers as well as those of the subgroups b) compromisers and c) diminishers are often grouped together, as in Mittwoch, Huddleston and Collins, who refer to them as 'degree adjuncts' (2002: 723). See table 28 for illustration.

Table 28. Hedges and their classification in two grammars

Hedge	**Quirk et al. (1985)**	**Mittwoch et al. (2002)**
sort of/kind of *more or less*	Compromiser	Approximating subgroup
nearly *almost*	Approximator	Approximating subgroup
quite *rather*	Compromiser	Moderate subgroup
partly *somewhat*	Diminisher	Moderate subgroup

Mittwoch et al.'s (2002) classification system should not be understood as lacking distinctions present in Quirk et al. They are merely divided differently and Mittwoch et al. define their set of degree adjuncts in terms of seven subgroups, containing intensifying and downtoning elements (cf. 2002: 721ff.), as (287) below shows. Both accounts agree in that the elements concerned have to do with the semantic category of degree, they differ in their assignment of individual

elements to subgroups.

(287) a. Maximal: *absolutely*, *completely* (=Maximisers)
b. Multal: *strongly*, *so*, *well*, *a lot* (=Boosters)
c. Moderate: *quite*, *rather*, *somewhat* (=Diminishers, Compromisers (*rather*))
d. Paucal: *a bit*, *a little*, *little*, *slightly* (=Diminishers, Minimisers (*little*))
e. Minimal: *at all*, *barely*, *hardly* (=Minimisers)
f. Approximating: *almost*, *kind of*, *nearly* (=Approximators, Compromisers (*kind of*))
g. Relative: *enough*, *less/least*, *sufficiently* (=Compromisers, undefined (*less/least*))

Apart from comprehensive grammars, individual authors have sought to carve out the realm of hedges in more definite ways. The first to be discussed are Prince et al. (1982) who have devised a binary system of hedges in order to account for those which involve the propositional content (termed 'Approximators') and those which relate the propositional content to the speaker and thus involve speaker commitment to the truth of the proposition conveyed (called 'Shields'). In doing so, they follow a model introduced by Gazdar (1979) who is known for a modular view of semantics and pragmatics[172]. The two classes of hedges reflect this division of labour and Prince et al. state that ”where a sharp division is made between truth-conditional semantics and non-truth conditional pragmatics […], Approximators and Shields have little in common“ (1982: 86). The dichotomic view presented above has received some criticism, as for example by van der Sandt (2010). He stated that

> [t]he idea that the semantic and pragmatic components of a theory of meaning can be seen as separate modules in the sense that a sentence in a context yields a fully determined proposition which may then be 'enriched' or 'strengthened' by pragmatic inferencing, thereby only affecting the output context, turned out to be untenable. (2010: 60)

Yet this mindset was prevalent at the time and presents itself in other Gricean frameworks as well (e.g. Karttunen and Peters 1979). Van der Sandt recognises a change in the perception of the relationship of semantics and pragmatics from a modular view to a more integrated representation where each component informs the other as early as the 1990s (2010: 60).

The approximators are considered to derive from Lakoff's concept of hedges and thus relate also to the concept of prototypes as introduced by Rosch. They invoke this concept in that they convey markedness with respect to class membership of the item in question. In particular the chosen hedge qualifies a term and indicates that ”the actual situation is close to but not identical with the prototypical situation“ (1982: 88). The two types in Prince et al. (1982), that is approximators and shields, each consist of two subtypes: The group of approximators are further subdivided into adaptors and rounders. The former hedge on terms that are perceived to not

172 Gazdar defines pragmatics as ”meaning minus truth conditions“ (1979: 2).

entirely and adequately describe a situation at hand and consist of hedges such as *sort of*, *almost* and *quite* (cf. 1982: 88). The rounders on the other hand relate to ranges of figures and are typically used in qualifying measurements, indicating that precise numbers are not at hand or may not be relevant to convey the speaker's intent. Examples include the adverbs *approximately* and *about*.

The second class of shields indicate that the speaker is not fully committed to the conveyed state of affairs. As such, Prince et al. note that they ”do not affect the truth conditions of the propositions associated with them“ (1982: 89). They consist of the two subclasses of plausibility shields and attribution shields. The former are those that convey a speaker's certainty or doubt about a situation about which s/he makes an assertion acquired via plausible reasoning (1982: 90). Hence they include modal verbs and adverbs (*might*, *can*, *probably*) and epistemic parenthetical verbs (*I think*). Attribution shields on the other hand do not concern a speaker's own commitment but assign beliefs and states of knowledge to another party. As such, they comprise expressions such as *according to X*, *X says*, where the attributee is explicitly stated, but also include adverbs which leave this information vague, e.g. *presumably* (cf. 1982: 91).

In sum, Prince et al.'s (1982) model assumes two different classes of hedges which are categorially distinct and leave no room for overlaps. While both types are in fact considered to be hedges which introduce markedness into an utterance, they differ with respect to their relation to propositions. Approximators operate within the proposition and affect truth conditions, whereas shields are supra-propositional in bringing a speaker's commitment to the truth of the proposition into the equation. In general, their binary approach to classifying hedges has been influential in the literature, although the terminology has remained variable to some extent. However, the class of shields has since gained a foothold in a number of more recent approaches, among which especially Caffi (1999, 2007) should be mentioned. As will be seen below, she adopted Prince et al.'s notion of shields, but employs them in a more narrow manner. Moreover, she introduces a third category, which she terms 'hedges', but which affect only the illocutionary force of a speech act. Prince et al.'s approximators surface under the term 'bushes' in Caffi's framework.

Hübler's (1983) classification system is again a binary one but due to the fact that it ”has found little support among researchers“ (Clemen 1997: 241) it will be presented only briefly. Clemen attributes the lack of acceptance of his model to the binary classification into hedges and understatements because understatement is one function that hedges can fulfill. Thus they represent a subgroup to hedges rather than forming a group of their own (cf. p. 241). Hübler (1983: 11) follows Lyons (1977: 749ff.) in dividing indetermination into two kinds, the *phrastic*

(concerning the propositional content) and the *neustic*, the latter of which concerns ”that part of the illocution which expresses the attitude of the speaker to the hearer regarding the proposition“ (cf. 1983: 11). Neustic indetermination is thus what we find in example (288a.) below and phrastic indetermination is its counterpart in example (288b.) (both examples are taken from Fraser 2010: 20):

(288) a. Neustic: It is cold in Alaska, **I suppose**
b. Phrastic: It is **a bit** cold in here

The phrastic indetermination corresponds to what he calls understatements and neustic indetermination is referred to by the term hedge (cf. Hübler 1983: 20). Again, the terminology is slightly misleading as hedges only concern the illocutionary force of speech acts, whereas understatements are taken to modify the propositional content. Furthermore, he classifies both terms as subgroups to understatement, which also seems to function as a cover term for both (cf. p. 20).

We do, however, find a correlation between Prince et al.'s classification and Hübler's. What Prince et al. (1982) have termed 'approximators' corresponds to Hübler's 'understatements' in that both concern the modification of propositions. Similarly Prince et al.'s shields correlate with Hübler's hedges, both referring to modification of the illocutionary force. As has been mentioned, this semantic-pragmatic distinction is taken up by a number of other researchers, some of which further subdivide their classificatory system and it is to those that we are now turning.

We will start with Caffi (1999, 2007) who situates her classification of hedges in the pragmatically-oriented context of mitigation (see Fraser 1980, Holmes 1984). As will become evident, the terms she employs are distributed rather differently to those used by Prince et al., but the concepts they refer to are comparable. Caffi employs 'mitigation' in its broader sense, referring to a general weakening of the illocutionary force and which is synonymous to 'attenuation' (1999: 882). As such, she sees its range of functions not reduced only to face-threatening acts, but as including further strategies that ”smooth interactional management“ as for instance reducing risks of self-contradiction, refusal, conflict, and others (p. 882).

In classifying individual mitigating devices, she devises a tripartite distinction depending on the element's scope. She remains in the metaphorical dimension of Lakoff's (1973) 'hedging' terminology in naming her concepts, hence she classifies individual elements as bushes[173],

173 The term 'bushes' seems to have been chosen for the sole reason of continuing Lakoff's botanical metaphor, but its meaning is not suitable in the same way to evoke associations of 'retreat', 'covering up' or 'shielding from' certain influences and thus is related to the notion of 'hedge' only insofar as both terms are used in botany. Its metaphorical value for linguistics is not quite clear.

hedges, and shields (1999: 883). *Bushes* have scope over propositions and ”introduce vagueness in the propositional content of an utterance“ (2007: 3), thus they are also called 'propositional hedges'. They correspond to Hübler's 'understatements' and to Prince et al.'s 'approximators. Conversely, her *hedges* scope over the illocution of a speech act as well as a speaker's commitment towards a proposition in assertive speech acts (p. 888). They have parallels to Hübler's notion of 'hedges' and Prince et al.'s 'shields'. Caffi's own group of 'shields' does not have an equivalent in the two frameworks just mentioned and focusses on the deictic origin of the utterance (=subgroup of attribution shields), following Bühler (1934) (cf. Caffi 1999: 888). Their function is to disguise the source of the speech act, i.e. the speaker shifts responsibility to other sources, including impersonal ones ('*The report* says' instead of '*I* think...') (cf. Caffi 2007: 50)[174]. I will not further elaborate on her shields because they do not have specific operators signalling this group. Instead, Caffi notes that mitigation effected by this group takes place at a more abstract level, affecting morphology or syntactic structures, as for example in transformations of the passive (cf. 1999: 889). These groups are not designed as absolute and discrete categories, but overlap due to fuzzy boundaries between different components of the speech act. Sbisà notes that ”[t]his distinction is undoubtedly useful when what is at issue are the linguistic means by which the mitigating effect is achieved, but the core illocutionary effect is achieved by both kinds of procedure in closely intertwined ways“ (2001: 1800).

Caffi calls her 'bushes' also *propositional hedges*, a term that seems better suited to express what they are and one which also Fraser (2010) adheres to. In her work, bushes are mitigating devices which serve on the propositional level, making the proposition less precise (1999: 890). The lexical expressions involved affect the truth value of the proposition and reduce the speaker's commitment to it. As such, they function as approximators, which signal that the standard expressed by the proposition is not completely reached when a 'bush' is employed to modify it. Precision-reducing degree-based items can be morphological (diminutive suffixes), existential indefinite pronouns (*qualcosa* 'something'), lexical choices of words (i.e. *dare* 'to give' instead of *prescrivere* 'to prescribe' in her example of doctor-patient interaction) or syntactic devices such as litotes (cf. 2007: 99-102).

Hedges in Caffi's framework correspond to devices which attenuate the illocutionary strength of a speech act. Among them are lexical items such as hedged performatives (*io le proporrei* 'I'd propose', i.e. the combination of a conditional auxiliary and a performative verb), modal adverbs (*probabilmente* 'probably') and routine formulas such as *se vuole* 'if you like' (2007: 102-104). Both types of mitigating devices may be combined, i.e. she explicitly refrains from designing

174 Kotthoff (1989: 201) calls them 'agent avoiders', following Kasper (1981: 109).

them as dichotomic since both the proposition and the illocution may be affected at the same time (cf. 1999: 892). An example is the following (from Caffi 1999: 894, emphasis added):

(289) D[octor]: magari **è un periodo così** – va a sapere – **qualcosa del genere**
Doctor: maybe it's a sort of bad moment – who knows – something like that

Both *magari* 'maybe' and *va a sapere* 'who knows' affect the force of the illocution, i.e. the speaker attenuates the illocutionary strength by reducing his/her commitment to it. Conversely, *è un periodo così* (literally: 'it's a period like that') and *qualcosa del genere* 'something like that' function as bushes in making the proposition vague (cf. 1999: 894).

Caffi's division of mitigating devices according to their scope is similar to that found in Diewald's (2006) definition of hedges, but applied slightly differently. Like Caffi (1999, 2007), Diewald differentiates between elements that have scope over the proposition and over the illocution, but contrary to Caffi, her third group focusses on the individual consituent which a hedge may scope over (cf. 2006: 307). Furthermore, she does not refer to these devices differently, but considers them all to be hedges. She bases her definition of hedges on Hyland's (1998a) classification, which she discusses and subsequently modifies.

Due to some difficulties in Hyland's classification model, Diewald proposes a narrower definition of hedges that does not organise them into a hierarchy. Communicative effects achieved by hedges are not considered to be essential to the hedging definition and aspects located on the interpersonal level of communication, such as face work and politeness, are regarded to be fundamental prerequisites in communication (cf. 2006: 306). Thus, she only considers Hyland's accuracy-oriented hedges and those aspects of writer-oriented hedges which are related to (epistemic) modality in her conception of hedges. Accuracy-oriented hedges are proposition-focussed and come themselves in two subgroups and these are familiar from the conceptions introduced above, albeit again with a distinct terminology, i.e. attribute-type hedges and reliability-type hedges. The former concern approximative elements and correspond to Prince et al.'s (1982) approximators, Hübler's (1983) understatements, and Caffi's (1999, 2007) bushes. They include mostly adverbials, which regulate precision and Hyland characterises them as functioning as 'downtoners' which ”weaken the force of an attribute and [which] can be graded as to their strength“, for example *more or less*, *quite*, *approximately* or *almost* (Hyland 1998a: 165). The latter group, reliability-type hedges, comprise elements which involve epistemicity and as such they ”acknowledge the writer's uncertain knowledge and indicate the confidence he or she is willing to invest in the validity of a claim“ (Hyland 1998a: 166). Typical lexical expressions encompass epistemic lexical and modal verbs ((*I*) *suspect*, *might*), modal adjectives and adverbs (*possible*, *probably*) and other expressions which concern objective

epistemicity. This group overlaps in some respects with Prince et al.'s group of plausibility shields, Hübler's hedges and Caffi's hedges.

As a result, Diewald's binary typology of hedges consists of what she calls *charakterisierend* (Hyland's attribute-type), which involve all those types of hedges which refer to the (weakened) precision level of the concerned expressions, and *perspektivierend* (roughly corresponding to Hyland's reliability-type, but also to his writer-oriented type), which involves objective and subjective epistemicity and designates the speaker's evaluation in terms of the validity of a proposition. Diewald emphasises that this second aspect has nothing to do with modifying the propositional content, but instead it concerns its modal assessment by the speaker and his/her distance to the content (2006: 302). As can be seen from this bipartite division of Diewald's hedging types, they only partially correspond to the types introduced above. However, in terms of scope, the relation to the previously discussed groups (proposition, illocution) can be recognised. The prime function of hedges is seen in their marking the lower deviation of the standard the expression denotes ('Unterschreitung des Standardwertes', Diewald 2006: 308).

From the discussion above, two main types of hedges emerge and as mentioned above, I will adhere to Fraser's (2010) terminology here: Propositional hedges and speech act hedges. The following table 29 seeks to integrate the typologies discussed above into Fraser's bipartite attribution of hedges and summarises some of the classifications which may be directly compared and illustrates their similarities – and differences, starting out with Lakoff's (1973) initial conception of hedges (the table is inspired by Kaltenböck et al. 2010: 6).

Table 29. Comparison of classification systems of hedges

Author	**Propositional content**	**Speech act**	**Other**
Lakoff (1973)	Hedges	-	-
Prince et al. (1982)	Approximators (adaptor, rounder)	Plausibility shields	Attribution shields
Hübler (1983)	Understatements	Hedges	-
Caffi (1999, 2007)	Bushes	Hedges	Shields
Hyland (1998a)	Accuracy-oriented (attribute-type, reliability-type)	Writer-oriented	Reader-oriented
Diewald (2006)	Charakterisierend	(Perspektivierend)	-

Note that the table is a simplification since the types of hedges discussed in the individual studies cannot neatly be classified into distinct and non-overlapping categories. This becomes especially

evident with respect to Diewald's (2006) typology: The hedging type she refers to as 'perspektivierend' integrates some of Hyland's writer-oriented hedges, but only those that relate to modality. Furthermore, both types of hedges in her framework can have scope over both, propositions and illocutions (as well as individual constituents). All in all, the table still is suitable to give a rough overview over the types of hedges and their distribution, along with the different terminology chosen by individual authors.

6.2.4 Properties of hedges

Before we can check whether *Ish* indeed qualifies as a hedge, we need to identify structural and functional properties with which hedges usually are associated. With such a heterogeneous collection of individual lexical items, however, including both monomorphemic and multi-word expressions, the same disclaimer holds as for elements qualified as discourse markers. That is, the diverse range of lexical items that can serve as hedges in natural language will not be exhaustively categorisable with a limited set of properties. Furthermore, to my knowledge there has not yet been any systematic treatment of hedging properties in a similar vein to Brinton's (1996) characteristics of discourse markers (pragmatic markers in her terminology). There are two quite extensive works dealing with the syntax of adverbials (Ungerer 1988) and degree words more generally (Bolinger 1972), which will serve to underpin the discussion. Other studies analysing hedges tend to concentrate on single lexical items or a small set of elements which are often semantically similar. For these reasons I chose to compare a set of four hedges which have received a more or less comprehensive coverage in well-known grammars of the English language and which are semantically comparable to *Ish*. Additionally, a small number of these hedges have been discussed in individual studies, which shall serve to obtain a more encompassing picture of their properties. The hedges as well as the grammar or study which discuss them are summarised in table 30 on the following page.

It should be noted that the table is far from complete. Individual hedges, especially *sort of*, are often mentioned in the literature. However, I chose to represent only those works which treat the hedges to a more considerable degree, rather than mentioning them in passing. Even so, the authors cited in the table above also differ in the extent to which they discuss these items, for instance some devote their entire article to one individual lexical item (e.g. Anderson 2013a, 2013b), the goal of others is to show subtle differences in meaning between a set of semantically related items and the discussed hedges thus share the space of the article (e.g. Wierzbicka 1986). The above-mentioned grammars, which try to be as encompassing as possible concerning

constructions and structures on several linguistic levels, are naturally more restricted in their approach to individual elements, which are usually taken to exemplify the discussed parts of the grammar. I therefore attempt to achieve a trade-off between detailed coverage of individual hedging items and comparability concerning the discussed properties more generally. Together, both approaches taken in the literature should help in shedding more light on the properties hedges can have in natural language.

Table 30. Four hedges and the literature discussing them

Hedge	**Grammar / Study**
About	Bolinger (1972) Quirk et al. (1985) Wierzbicka (1986) Huddleston/Pullum (2002)
More or less	Bolinger (1972) Quirk et al. (1985) Wierzbicka (1986) Ungerer (1988) Greenberg/Ronen (2013)
Somewhat	Bolinger (1972) Quirk et al. (1985) Ungerer (1988) Huddleston/Pullum (2002)
Sort of/kind of[175]	Bolinger (1972) Kay (1984) Quirk et al. (1985) Ungerer (1988) Denison (2002) Huddleston/Pullum (2002) Gries/David (2007) Fetzer (2010) Margerie (2010) Anderson (2013a, 2013b) Bochnak/Csipak (2014) Dehé/Stathi (2016)

I will predominantly concentrate on syntactic as well as semantic and pragmatic properties and discuss the properties of the chosen hedges exemplarily. Due to the variety of inventory, there has not (yet) been a feasible way to classify phonological and morphological properties in a meaningful way. The only study which investigates matters of prosody in some length with respect to the hedging particles in table 30 is that of Dehé and Stathi (2016) who study the

175 Several of the authors mention that there appears to be no difference between these two, except for regional preferences.

grammaticalisation of constructions with SKT-nouns (*sort*, *kind*, *type*). For this reason, I will elaborate on their findings below, also because they discuss the constructions *sort of* and *kind of*, which figure prominently in literature concerning hedges.

6.2.4.1 Phonological properties

Dehé and Stathi (2016) found that the stage in the grammaticalisation process correlates inversely proportional to the prominence of prosodic patterns. In other words, the further advanced an SKT-element is in its development of grammaticalisation, the less prominence it will have prosodically. Dehé and Stathi thus showed that the SKT-nouns in the least grammaticalised binominal construction receive greater prosodic prominence than the ones furthest advanced in this process (2016: 937). Hence, the adverbial construction, which is semantically bleached and phonologically unstressed to a larger extent than the others (cf. *kinda*), represents the most grammaticalised construction and thus features the most decreased prosodic prominence. In order to flesh out the different constructions more fully, let us now have a look at Dehé and Stathi's (2016) work in more detail.

In line with Denison (2002), they divide these nouns into different stages of development: The binominal construction (290), the qualifying (291), and the adverbial construction (292). Denison (2002: 12) remarks that the label for the category of *sort-of* in the qualifying and adverbial uses is not easy to determine if traditional categories are aimed at. He resorts to the label 'Qual' for the qualifying construction and proposes AdverbP(hrase) or Deg(ree)Mod(ifier) for the adverbial construction, while noting that both are usually considered infelicitous as modifiers of N(oun). In what follows I will adopt Denison's labels for the representations given below, however, without trying to make claims for syntactic theory.

(290) Is she **some sort of plant**? (COCA, Magazine, Levin 2008 *It's better in Bend*)
Syntactic representation: [DP [D some] [NP [N sort] [PP of [N plant]]]]

(291) Grandfather has always been **a sort of satisfaction** to mother. (Kruisinga 1932: 395, in Dehé and Stathi 2016: 916)
Syntactic representation: [DP [D a] [NP [Qual sort-of] [satisfaction]]]

(292) I **sort of saw** his point (Frown, in Denison 2002: 3)
Syntactic representation: [VP [Adv sort-of] [VP [V saw] [NP his point]]]]

In the binominal construction in (290), N1 (*sort*) is the syntactic and semantic head of the NP and represents a full noun which receives primary stress. N2 (*plant*) is contained in the PP which postmodifies N1 and both nouns usually agree in number (cf. Denison 2002: 2). The noun *sort*

belongs to a group of nouns which share a general 'class' meaning and in example (290) the construction *sort*$_{N1}$ *of plant*$_{N2}$ refers to a subclass (N1) of the superordinate class of plants (N2), with the subclass being left unspecified. The binominal construction shows the prosodic pattern where only the first part is prominent, i.e. N1[176].

Example (291) illustrates the qualifying construction which is generally considered to have derived from the binominal construction (cf. Denison 2002: 10, Margerie 2010: 332, Dehé and Stathi 2016: 917)[177]. In this construction, the syntactic and semantic head of the NP is no longer N1, but has shifted to N2. N1 combines with the preposition *of* to qualify N2, the latter of which determines the overall reference (Dehé and Stathi 2016: 916). The authors note that the ”referential potential“ associated with the SKT-nouns in the binominal construction is lost from *sort* and *kind* (the noun *type* does not occur in this or the following construction at all) in the qualifying construction (2016: 916). This construction is most often realised with the prosodic pattern which assigns stress on N2 (cf. 2016: 933).

Finally, the adverbial construction exemplified in (292) corresponds to the hedging use discussed in this chapter. *Sort of* (or *kind of*) in these constructions has widened its range of application and modifies adjectives, verbs, adverbs as well as APs, VPs, AdvPs and PPs (cf. Denison 2002: 4, Dehé and Stathi 2016: 917). Additionally, it may be used to modify entire clauses and occurs predominantly as a premodifier, but may also be postposed (which Dehé and Stathi call the 'independent use', cf. p. 917). A further difference to the previous two construction types is that the adverbial use is characterised by the lack of a preceding determiner or premodifiers (cf. Dehé and Stathi 2016: 917). The adverbial construction may be realised with the prosodic pattern which assigns stress to N2 or it may be left unstressed completely, which is the second most frequent realisation pattern (cf. 2016: 933). Note that the reduced forms *sorta* and *kinda* can only arise in constructions where *sort* and *kind* are not the head nouns, but are merged with the preposition. Consider again example (290) from above, repeated here as (293a.) and its ungrammatical version with a reduced form of *sort of* in (293b.):

(293) a. Is she some **sort of** plant?
b. *Is she some **sorta** plant?

The binominal construction cannot produce a reduced form because the head noun *sort* acts as a

176 They define the first part more widely as X1, i.e. they associate prosodic prominence with either the noun N1, the determiner D1, or both (cf. 2016: 927). For simplicity sake, I will only refer to the noun when discussing their prosodic patterns.

177 Denison additionally assumes the complex determiner (or postdeterminer) construction to have played a role in the development of the qualifying type (cf. 2002: 12). The complex determiner construction is used only in spoken language and involves examples of N1 and N2 which show a mismatch in number agreement: *these sort of skills* (2002: 2). I will not discuss this type further.

full noun and is stressed and the preposition is part of the following PP. Hence, in (293a.) there is a phrasal boundary between *sort* and *of*, making it impossible for them to merge. In (293b.) the phrasal boundary has shifted so that the merged form *sort-a* can arise[178].

A few remarks concerning Margerie's classification of types of *sort of* are in order before we can move on to the next property. In the work of Margerie (2010) and Dehé and Stathi (2016), this type receives a strong pragmatic flavour and is analysed as a ”discourse [marker] with a hedging function“ in the latter (2016: 918). Although leaning on Denison (2002), Margerie subdivides this construction slightly differently, identifying an intensifier use and a function as a purely pragmatic particle with both being able to modify adjectives, adverbs and verbs (2010: 332). *Sort of* (and *kind of*) can appear as a compromiser, diminisher and even as a booster (she thereby follows Quirk et al.'s 1985 classification with the notion 'intensifier' as an umbrella term) in the former and as an approximator or a hedge in the latter case. This very detailed further subdivision makes it rather difficult to see the differences that demarcate one from the other. Her aim is to show that in grammaticalising, the constructions also advance in expressing (inter-)subjectivity as discussed in Traugott (1989 and others). As discussed above, intersubjective meanings are assumed to arise out of subjective meanings and thus she justifies the division of types of *sort of* and *kind of* into an earlier intensifier with a degree meaning and a subsequent development into a pragmatic particle by adhering to these principles. In her words,

> we may argue that the intensifier uses arose earlier than, say, the hedging uses because the latter have a purely intersubjective meaning devoid of any expression of degree. (Margerie 2010: 342)

Apart from the rather unfortunate subdivision into approximators and hedges, which is not entirely licensed by the examples, the approximator use does make reference to a degree, implicitly. Consider the following examples, taken from Margerie (2010: 319 (294); p. 325 (295, abridged); p.327 (296, abridged)):

(294) I **kind of** like that sort of colour.

(295) 1 Rebecca: What did he do?
2 Rickie: Just looked. He [had a] …
3 Rebecca: [Did he] stop walking?
4 Rickie: No, just **kinda** looked … and then looked, and then … walked.

(296) I was just **kinda** hoping you'd read over and say this has to be changed or you know whatever.

178 This is reminiscent of the development of the *going-to* future, which can be reduced to *gonna* when it is a grammaticalised auxiliary functioning as a future marker (cf. I'm *gonna* go to London). When *go* is used as a main verb with the sense of movement, the phrasal boundary between *go* and *to* is intact, hence a merger cannot occur (cf. *I'm *gonna* to London).

According to Margerie, (294) represents a case of an intensifier, or more specifically a compromiser. It thus shows that the speaker does not express a full commitment to liking a particular colour, but does so to some degree. (295) illustrates Margerie's approximator use and indicates that the speaker modifies the first action expressed by the perception verb *looked*, which is taken to not be entirely appropriate to designate the action being performed. In Kay's words, it "[signals] that what is to follow is not the *mot juste*" (1984: 165). The meaning of *look* is approached, but the term holds only to some degree. Finally, (296) exemplifies Margerie's hedging use and the context in which *kinda* is used indicates more fully than the previous examples that the speaker uses this element to convey a polite request and *kinda* itself is reinforced by *just* (but see also (295), line 4). In this construction, the notion of degree is indeed absent, i.e. the speaker expresses a particular speech act with which s/he aims at achieving the result of gaining a second pair of eyes concerning a piece of writing. The entire speech act is marked by hedging particles which tone it down altogether (the hedges *just* and *kinda*, the conditional *would*, abbreviated as *'d*, as well as the final expression which contains the discourse marker *you know*). Therefore, the speech act of 'request' also shows the hallmarks of preference organisation, as discussed in section 5.4.6. The other two examples given to exemplify the hedging use in Margerie (2010) are inconclusive in this respect. This shows that a too detailed subdivision sometimes runs counter to an attempt for classification that seeks to be as comprehensive as possible. In fact, her classification of *sort of* into intensifier, approximator, and hedge, respectively, cannot neatly be teased apart in the examples above and they show a degree of overlap.

In sum, in the progression of the forms *sort of* and *kind of* a phonological weakening has taken place, as shown above. With *Ish*, we cannot felicitously speak of a weakening (see section 5.4.2) and this property does not apply to the morpheme. However, since *sort of* is the only hedge of the group of four hedges discussed here to show this sort of phonological development, the property is inconclusive and insufficient as to the question if *Ish* qualifies as a hedge. It can only be considered to apply to *sort of*, but is not generalisable beyond this particular expression. As such, the phonological property experiences some of the same difficulties as discussed for discourse markers with respect to generalisation.

6.2.4.2 Syntactic properties

Concerning the syntactic properties and distribution of hedges, a disclaimer is in order. Due to the varied nature of the phenomenon, it does not have a fixed place in grammars, which hence treat it under different headings. Many accounts converge towards an adverbial adjunct use, but

this is by no means an accepted classification. Depending on the (sub-)section in which hedges appear (if they even do so under this term), the presented properties may differ to some extent. In so doing, the descriptions may lean slightly into the direction of discourse markers, or they are treated together with modal adverbs, thereby integrating the notion of modality. This shows that hedges are by no means a clear-cut phenomenon, but are themselves fuzzy in their range of application.

I have combed through the grammars of Quirk et al. (1985) and Huddleston and Pullum (2002) as well as that of Biber et al. (1999) as a further source and additionally Bolingers (1972) seminal work on degree words. To round up the picture, I have consulted the work of authors which treat individual hedges or small groups of similar hedges, which are summarised in table 30 above. Attestation was checked in a randomised corpus sample in COCA with 100 hits each. In the case of *about*, the part-of-speech tag RG for 'degree adverb' was chosen to avoid confusion with its prepositional use. Similarly, the expressions *kind of* and *sort of* both were searched with the ditto tag RR for 'general adverb' as the tag RG was not available for them. Specifically, the ditto tag provides the items *kind* and *of* with digits to indicate the first and second element as well as the number of elements as a whole: *kind*_RR21 *of*_RR22. In what follows I will concentrate on pre- or postmodification preferences, positional matters, types of modified elements, and related to that matters of scope.

The hedges which are of interest in this section are treated under a variety of different headings in the grammars, depending on their focus on functionality and role in the overall clause structure. For instance, in Quirk et al. (1985) these lexical items are all considered downtoners, which are part of the general category of intensifiers. These in turn belong to subjunct adverbials, which are characterised by a more subordinate role compared to other clausal elements (cf. Quirk et al. 1985: 566f.). This role manifests itself in their greater grammatical integrity into the sentence, hence they also show a more limited range of positional possibilities. Quirk et al. (1985) thus clearly distinguish subjuncts from items we have labelled discourse markers above. That is, discourse markers appear as adverbials which belong to the category of disjuncts, which are characterised by a larger scope that may even extend over the sentential unit and which are more detached syntactically (cf. 1985: 613). A more or less similar distinction is made in Biber et al. (1999) who group hedges explicitly in the class of epistemic stance adverbials, of which hedges form one subgroup of elements that mark imprecision (cf. 1999: 856). Conversely, discourse markers are part of a separate group of inserts, which are characterised as 'stand-alone words' and which cannot ”enter into syntactic relations with other structures“ (1999: 1082). However, the authors explicitly caution against a clear-cut categorial thinking in all cases (cf. p.

858). In fact, stance adverbials (thus including hedges) are said to resemble more peripheral elements to the clause such as parentheticals and discourse markers (cf. 1999: 133). The principal distinction of hedges and discourse markers here seems to be one of semantics: While hedges convey imprecision, discourse markers are said to be void of lexical meaning, and rather carry a pragmatic function (cf. p. 1082). In Mittwoch et al., the hedges in table 30 are degree adjuncts and are distinguished into seven subgroups depending on their semantics (cf. 2002: 722f.). The hedges in focus here belong to the moderate (*somewhat*) and approximating subgroup (*kind of/ sort of*, *more or less*), whereas *about* is not explicitly mentioned, but can be assumed to fall in the scope of the approximating subgroup due to its ability to approximate numeral expressions[179]. Although not explicitly mentioned, it can be assumed that discourse markers belong to the group of supplementary adjuncts, which are characterised by prosodic detachment, and corresponding punctuation in writing (cf. Huddleston and Pullum 2002: 577). They share this group with other adverbials (e.g. *probably*, *frankly*), parenthetical verbs, which often are ascribed to discourse markers, and interjections, but also with appositions that contain a specifying NP (cf. 2002: 1357, 1359f.).

The grammars all agree that each of the hedges given in table 30 above can premodify their antecedents (contrary to *Ish*), either explicitly stating this fact or illustrating it with particular examples (e.g. Bolinger 1972: 239, Quirk et al. 1985: 451). More interestingly, however, is the property of some to be postpositioned after the element they modify. This holds true especially of *sort of*/*kind of* (cf. Bolinger 1972: 113f., 239, Quirk et al. 1985: 451, Ungerer 1988: 282, Denison 2002: 4) and to a lesser extent *more or less* (cf. Wierzbicka 1986: 601, who shows this with an example), and *somewhat* (cf. Bolinger 1972: 233, with reference to verbs). The degree adverb *about* is only mentioned in Quirk et al. (1985: 663) who illustrate it with respect to a focussed modified numeral (see (300) below). If we check these statements with corpus data, we find them confirmed with *sort of* and *kind of* (297), but postposition also quite frequently occurs with *more or less* (298). *Somewhat* occurs postposed with verbs and VPs as Bolinger (1972) mentioned, whereas the remaining adverb *about* was not found postmodifying in the sample. Recall that *Ish*, except for one example, has been recorded as always postmodifying.

(297) Like, the fat is, like, *globular*, **kind of**. (COCA, SPOK: NPR Saturday, 2005)

(298) …, *a feat achieved* **more or less** by Marcel Proust in a long novel. (COCA, FIC: MassachRev, 2001)

179 The adverb *approximately* may also qualify for inclusion into this group and it similarly modifies numeral expressions. Its semantics is also comparable to that of *Ish* which, after all, denotes an approximation already in its suffixal use. However, in terms of register it differs from *Ish* in that it is frequently used in more formal contexts as Wierzbicka (1996: 604) remarks. Thus, it will not be further considered here.

(299) … but those particles if you think of a little drop of dust in every molecule of moisture, it *reduces the light* **somewhat**. (COCA, SPOK: NPR_FreshAir, 2003)

(300) She is *FŎRty* **about**. <informal> (Quirk et al. 1985: 663)

Concerning the type of modified element, Kay gives a good overview over the varied range *sort of* (and *kind of*) can have, citing the lexical categories adjectives, adverbs, nouns, and prepositions, as well as APs, VPs, and NPs (1984: 158f.). Additionally, he shows that the hedges can modify (subordinate) clauses and entire sentences (p. 159), which gives them some of the largest scope of the investigated elements (and makes them most comparable to *Ish*, which also shows such a varied range). Both *sort of* and *kind of* can also precede negative VPs, but they cannot lie within the scope of clause negation (Quirk et al. 1985: 601). Example (301) below could be seen as some evidence to the contrary. Furthermore, *sort of* also seems to appear modifying propositions, especially when it is itself postposed (302).

(301) …, and I would say it does in a way that does*n't* **sort of** *validate* that these are good experiences to go through, … (COCA, SPOK: NPR_TellMore, 2011)

(302) Well, *it's about Rand*, **sort of**. (COCA, FIC: Bk:PiratesAlley, 2016)

Concerning adjectives, Bolinger adds that *sort of* more likely occurs as a modifier of comparatives than *kind of* (cf. 1972: 106). The corpus sample did not reveal any preferences concerning comparatives and a more comprehensive corpus search is required to answer this question satisfactorily. Note that Gries and David report that *kind of* generally occurs more frequently in American English than *sort of* (2007: 2), which may also have an effect on their distribution.

The other hedges are more restricted in the categories they modify, according to the literature. *More or less* can modify nouns preceded by indefinite determiners, as well as VPs (cf. Bolinger 1972: 109, Quirk et al. 1985: 598). Wierzbicka reports modification of numeral expressions (1986: 601) and Huddleston and Pullum (2002: 1169) mention occurrence with superlative phrases, where *more or less* precedes the definite article. Interestingly, when *more or less* occurs with nondegree verbs, it modifies them in what Bolinger calls the identifying sense (1972: 223), i.e. they approximate the meaning of the verb (e.g. I **more or less** *inferred* the correct answer). The corpus analysis in COCA revealed the ability of *more or less* to modify adjectives (303), adverbs (304), verbs (305), VPs (306), NPs (307) and PPs (308).

(303) Other birthdays followed with or without looks, **more or less** *happy*. (COCA, FIC: World Literature, 2017)

(304) Cattle have been moving **more or less** *freely* across the US-Canadian border for a very long time. (COCA, SPOK: NPR_Morning, 2003)

(305) Those same articles then fast-forwarded to his financials and **more or less** *said* he could be ugly as sin because no one cared, … (COCA, FIC: Bk: MrMissAno, 2009)

(306) Well, probably we will, because we **more or less** *bought the place* for a retirement home. (COCA, SPOK: Ind_Geraldo, 1992)

(307) ...youth opinions of other foreigners – Brazilian, Polish, French – remain **more or less** *the same*. (COCA, SPOK: NPR: Hidden B, 2016)

(308) But in the past I have seen it **more or less** *in the mid-40s*. (COCA, SPOK: Fox_OReilly, 2011)

Interestingly, *more or less* also seems to be able to attach to and modify propositions, see example (309), as well as occurring independently in an answer to a question just like *Ish* does, see example (310).

(309) Sex has always been in the workplace, **more or less**, just as it has always been in the family, **more or less**. (COCA, NEWS: SanFranChron, 1994)

(310) 'That about right?'
'**More or less**.' (COCA, FIC: Bk:LostOnes, 2008)

The hedge *somewhat* can modify (comparative) adjectives, verbs, and NPs when it is preposed by the preposition *of* (cf. Bolinger 1972: 108f.). Quirk et al. (1985: 598) additionally shows that it can be the modifier of a VP. As with *sort of*, Bolinger notes that *somewhat* cannot be negated (1972: 124) Ungerer concurs with Bolinger and states that as an assertive degree adverb, *somewhat* can only occur outside of the scope of negation and only with a narrow scope itself (1988: 278). With verbs, *somewhat* is usually postposed, and premodification depends on the type of verb: ”The more familiar the verb, the less acceptable *somewhat* is as a premodifier“ (Bolinger 1972: 234). The corpus analysis conducted with the COCA confirmed its use with adjectives, both positive forms (311) and comparatives (312), verbs (313) and VPs (314), but it is also attested with adverbs (315). *Somewhat* was also found as a premodifier with verbs (316) and the question presents itself how Bolinger exactly defines 'familiarity' of verbs. As there have been only two instances of preposed *somewhat* with the verbs *exaggerates* and *limits*, the limits of the sample cannot help in solving this question at the moment. It appears to be only possible when the verb is part of a verb phrase. It can be assumed that familiarity is gradient with no clear 'cut-off' point and has to be determined in comparison to semantically similar verb groups.

(311) These kinds of questions are always **somewhat** *hazardous*, … (COCA, SPOK: NPR_Weekend, 1999)

(312) I have been **somewhat** *more bold* than my colleagues … (COCA, SPOK: CBS_FaceNation, 1994)

(313) This cultural dimension *increased* **somewhat** in influence... (COCA, ACAD: FocusGeog, 2007)

(314) Hornacek will be missed, but Ainge *will ease the loss* **somewhat**. (COCA, NEWS: USAToday, 1992)

(315) She parted **somewhat** *reluctantly*, and Oswald's eyes followed her down the hall. (COCA, FIC: Analog, 1999)

(316) Although the book format **somewhat** *limits our understanding* of the scale of the pieces, … (COCA, MAG: AmericanCraft, 2003)

The last hedge, *about* is more restricted in its range of modification. It frequently modifies numerals and numeral expressions (cf. Payne and Huddleston 2002: 431), and it is able to ”apply to relationships between sizes and dimensions rather than to straight numbers“ (1986: 604), which differentiates it from the similarly approximating adverb *around*. Consider (317) below for illustration (slightly adapted from Wierzbicka 1986: 604). *About* is additionally mentioned to be able to modify NPs with an indefinite article in cases where the article ”is equivalent to the unstressed cardinal one“ (Quirk et al. 1985: 450, see example (318) below).

(317) The block is **about** (**around*) three times as long as it is wide.

(318) They will stay for **about** *a week*.

The adverb is able to premodify predeterminers such as *half*, *double* and *all* (cf. Quirk et al. 1985: 449) and Ungerer reports acceptability of *about* with adjectives (cf. 1988: 306). Checking these statements in the corpus, we find its preference with numerals and numeral expressions confirmed, see (319). Additionally, *about* is attested with the predeterminer *half* preceding NPs mentioned above (320).

(319) The trial is expected to last **about** *four months*. (COCA, SPOK: NPR_Morning, 2006)

(320) **About** *half the residents* are Catholic. (COCA, NEWS: USAToday, 2010)

Finally, regarding position, the grammars generally make a more or less detailed distinction, but all agree on three major positions for adverbial elements such as hedges to be placed in[180]: Initial, central, or final positions. Quirk et al. (1985) go a step further and distinguish a number of medial positions that specify more exact locations. Medial (M) position is defined by the occurrence immediately after the finite verb and before every possible non-finite verb as is illustrated in (321) below (Example by Quirk et al. 1985: 490):

(321) The book *must* **by then** *have been placed* on the shelf.

By comparison, Huddleston and Pullum (2002: 575, 779) only distinguish the three major positions mentioned above. Front position is defined for occurrences before the subject, end position ”is after the verb, and perhaps some or all of its dependents“, while central position is

180 These may not be termed 'hedges' explicitly, but may be readily identified as such when their semantic functions are considered.

distinguished by the type of verb: If a *lexical* verb heads the clause, central is defined as the position between the subject and the verb, in the case of an *auxiliary*, the adverbial adjunct may be placed either between subject and (auxiliary) verb or after the verb (Huddleston and Pullum 2002: 575).

Finally, Biber et al. distinguish four major positions: Initial, medial, final, as well as 'other speaker main clause' which pertains solely to conversations (1999: 771). Due to the fragmented nature of speech, sometimes the exact position may not be classifiable at all. The initial position does not differ from how the others above have defined it as occurring immediately before the subject. Medial position again depends on whether only lexical verbs occur in a clause or whether there are also auxiliaries (called 'operators' here). The position after all obligatory elements is defined as final. Concerning stance adverbials, which are the superordinate category to hedges, Biber et al.s (1999) account is inconsistent. At one place in their grammar they state that ”[s]tance adverbials are characteristically placed in clause-initial position“ (1999: 132), whereas elsewhere it is said that ”[t]he position which accounts for the highest percentage of stance adverbials – medial – has a number of variants“ (1999: 773). For that reason, I will disregard Biber et al.'s (1999) account for the discussion of position of hedges[181].

In Quirk et al.'s (1985) account, position seems largely to depend on the individual downtoner's preference. While they state that most favour a medial position, a few may also be restricted to end position and some can be placed at initial position (1985: 601f.). The downtoners *sort of* and *kind of* are said to be restricted to medial position in a positive clause, but can be placed at initial medial position in a negative one, i.e. before the verb phrase (cf. p. 602).

Huddleston and Pullum's (2002) account distinguishes position according to their relation to other elements of the clause. VP-oriented adjuncts, to which the above-mentioned hedges as degree adjuncts belong, are more closely associated with the constituents of the VP and their position is likely to be close to it (cf. 2002: 576). On the other hand, clause-oriented adjuncts, which cover modal words of all types among others, are oriented towards the clause as a whole and are less closely associated with the VP (cf. p. 576). Although the authors point to a large extent of variation and flexibility in use of adjunct placement, according to them end position is preferred by VP-oriented adjuncts, while clause-oriented adjuncts favour front positions more frequently (p. 576f.). Following the discussion in the grammars above, I will distinguish three major positions: *Initial*, which defines the position before the subject, and *final*, which corresponds to the position after the subject, verb or verbal group and all obligatory

181 A further reason concerns Biber et al.'s statement that ”stance adverbials are always optional“ (1999: 764), as well as the claim that ”they can be placed more freely in all positions“ (1999: 773), which makes them more reminiscent of discourse markers, but not hedges.

complements. The position *medial* is the most diverse and concerns positions immediately after the subject and before the finite verb, positions inbetween finite verb and non-finite verb(s), including the lexical verb, as well as positions after the verbal group and before all other obligatory elements. As the corpus also contains samples of spoken speech which have been transcribed, sometimes it is not possible to identify a position without doubt. In such cases I have coded the position as 'inconclusive'.

Positional distribution in the corpus shows that there is also a great deal of variation. In what follows I will not go into the frequencies of the individual hedges, but rather look for a general pattern of preferential positions to emerge from them as a group. As it turns out and in line with Quirk et al. (1985: 601f.), medial position seems to be the one favoured by most of the four hedges, while initial positions seem to be rare and in some cases unacceptable. Hence, *kind of* and *sort of*, *more or less* and *somewhat* turned out to rule out initial position completely. With the exception of *about*, all hedges occurred in medial position to a large extent, with *kind of* almost exclusively so. Furthermore, *about* seems to be more at home in any of the three positions, however, it shows a slight preference for final positions as part of an adjunct. Since it occurs frequently with numerals, it would be interesting to see if that has an effect on the various forms of placement. In (322) to (324) below are examples that show some of the positions the hedges can take:

(322) a. Initial: **About** half the residents are Catholic. (COCA, NEWS: USAToday, 2010)
b. Initial: **About** 85 percent of your efforts should be in marketing the new business. (COCA, MAG: Essence 2005)

(323) a. Medial: I mean, it's **kind of** foolish. (COCA, SPOK: Fox_Saturday, 2004)
b. Medial: I **kind of** hoped Jeff had somewhere else to live, like maybe in China. (COCA, MAG: BoysLife, 2002)
c. Medial: Cattle have been moving **more or less** freely across the US-Canadian border for a very long time. (COCA, SPOK: NPR_Morning, 2003)

(324) a. Final: Hornacek will be missed, but Ainge will ease the loss **somewhat**. (COCA, NEWS: USAToday, 1992)
b. Final: Pop superstar Usher joins the show and opens up about the love fest with the other celebrity judges **sort of**. (COCA, SPOK: NBC: Dateline, 2013)

The first example shows the hedge that is comfortable in initial position, *about*. It is placed immediately in front of the subject, modifying the predeterminer *half* in (322a.) and the numeral percentage in (322b.). Since *medial* defines several positions, three examples were selected to illustrate them. In (323a.), *kind of* is placed after the subject and finite verb, in (323b.), it immediately follows the subject and is placed in front of the finite lexical verb. Example (323c.)

on the other hand shows a position directly after the verbal group, but before the adverbial and obligatory PP (as well as the PP adjunct). The final position is illustrated in (324a.) and (324b.) with *somewhat* and *sort of* and both occur after all obligatory elements, i.e. subject, verbal group consisting of the finite auxiliary *will* and the non-finite lexical verb *ease*, and the object NP in (324a.) and after both the obligatory and optional PPs in (324b.).

In sum, the four elements discussed in this section show a rather wide range of distributional behaviour, some more pronounced than others. As we have seen above, premodification of elements is natural to all four hedges (contrary to *Ish*), while postmodification occurs only with *kind of/ sort of*, *more or less*, and *somewhat*. The hedge *about* is not able to postmodify. Concerning the types of modified elements, it has been shown that *kind of/ sort of* as well as *more or less* have the largest scope and are able to modify a great deal of lexical categories as well as clauses and even propositions, making them comparable to *Ish* in that regard. Again, *about* is much more restricted in its range of application in mostly modifying numeral expressions, while *somewhat* is inbetween the two extremes. Lastly, the consulted grammars have shown to not concur in their definitions of position, but all agree that there is rather much variation of individual items. Depending on their choice of grain size, the positional possibilities can be more or less detailed, with Quirk et al. (1985) showing the most fine-grained way of determining position. While Quirk et al. (1985) identify a medial position as the most common with downtoners (contrary to *Ish*), Huddleston and Pullum (2002), who distinguish VP-oriented from clause-oriented adjuncts, say that the former prefer final placement (in accordance with *Ish*). The preliminary corpus analysis above has shown, however, that medial positions seem to be favoured by most of the four hedges, except for *about*, which indeed seems to prefer a final position. In order to obtain a clearer picture of the individual preferences of these hedges, a more detailed corpus analysis needs to be conducted, which takes both American and British English into account and whose aim is to identify more fine-grained positional differences. Here, however, it suffices to gain an overview over general distributional patterns that will serve as the basis for comparison with *Ish* in the discussion below.

6.2.4.3 Semantic properties

The consulted grammars provide a broad overview over the semantic groups the discussed hedges fall into and generally discuss them in connection to degree. However, neither Quirk et al. (1985) nor Huddleston and Pullum (2002) classify *about* explicitly. Biber et al. discuss it with respect to its semantic category of stance and categorise it into a subgroup of hedges which modify numerical or quantifying expressions, called approximators (1999: 557f.). It seems

reasonable to also group the adverb into Huddleston and Pullum's semantic subgroup of appoximating elements, together with *kind of*/ *sort of*, and *more or less* (2002: 723). Quirk et al. also define a group of approximators, which, however, does not explicitly discuss modification of numerical expressions, but rather they concentrate on the effect on the modified verb (1985: 597).

Again, the subgroups differ widely, depending on how the semantic space is mapped out. As discussed in section 6.2.3 above Quirk et al. (1985) distinguish between four groups of downtoners of which the first three warrant a closer look[182]. To that end, their full definitions for all three are given in (325) below for convenience (from Quirk et al. 1985: 597):

(325) a. **Approximators**: serve to express an approximation to the force of the verb, while indicating that the verb concerned expresses more than is relevant.
Examples: *almost*, *nearly*, *practically*
b. **Compromisers**: have only a slight lowering effect and tend, as with [341a.], to call in question the appropriateness of the verb concerned.
Examples: *sort of*, *more or less*, *quite*, *rather*
c. **Diminishers**: scale downwards and roughly mean 'to a small extent'.
Examples: *slightly*, *somewhat*, *a bit*, *just*, *merely*

It becomes clear that without defining a further subgroup, the hedge *about* does not straightforwardly fit into any of these categories. On the other hand, the first two subgroups (325a.) and (325b.) have in common the doubtful appropriateness of the verb if left unmodified. Perhaps this commonality is the reason why Mittwoch et al. (2002) group this element under the heading 'approximating'. Even so, they differentiate lexical items such as *almost* and *nearly* from *kind of* or *more or less* in stating that the former, but not the latter ”trigger a strong negative implicature“ (2002: 723). That is, while *almost* denotes that an action has not in fact been carried out, but its execution has rather only been approximated to a large extent, *more or less* on the other hand means that the action denoted by the verb has actually been carried out, but not to its full extent. Consider the following examples for illustration:

(326) a. […] we **more or less** [**/kind of**] bought the place for a retirement home.
(COCA, SPOK, Ind_Geraldo, 1992)
b. […] we **almost** bought the place for a retirement home.

In (326a.) it becomes clear that the action denoted by the verb does not qualify as a purchase in the strictest sense, in fact, the speaker may refer to a down payment and considers it the first step in a long process of real estate proceedings. In the modified example of (326b.), however, no

182 Recall that the fourth group of minimisers are the negative counterpart of maximisers and express that a property holds 'not to any extent'. Thus, they will be excluded in the following.

such initial actions are implied and the speaker might have decided to continue looking for a better deal and refrained from taking any actions to actually purchase the property. Note that the same example becomes ungrammatical when *somewhat* or *about* is inserted instead, which actually warrants a classification in groups different from the ones above:

(327) *[…] we **somewhat / about** bought the place for a retirement home.

In Bolinger (1972: 263) *somewhat* as well as *sort of* appear as part of the compromisers, but the examples just given lend support to a separate classification. What is interesting, however, is his discussion of *sort of* (and *more or less*), in which he distinguishes the type of modification depending on the meaning of the verb. If, for instance, *sort of* modifies a non-degree verb like *thought*, it does so in an approximating sense (which he calls 'identification') (cf. 1972: 220). If, however, a degree word is modified, the sense becomes one of intensification (examples from Bolinger 1972: 220, 223 emphasis added):

(328) a. Identification: I **sort of** inferred the correct answer.
b. Intensification: I **sort of** worried you might need more.

Thus, in (328a.) the meaning is rendered into 'being close to inferring', while in (328b.) it rather means 'to worry to a small extent' (cf. Bolinger 1972: 220, 223). He tests the identification sense by explicitly negating it (example, see Bolinger 1972: 223, emphasis added):

(329) I **sort of** inferred the correct answer – not really, because I already had some prior information, but enough to satisfy my conscience.

The negation of the identification indicates that the chosen verb might not be fully appropriate in this context, but is closest to the meaning the speaker intended. In Kay's words, the approximating verb is not the ”mot juste“ (1984: 162), but signals that the activity denoted by it is not part of the normal denotation when modified by *sort of*. An illustrative example is taken from Kay (1984: 163, slightly adapted and emphasis added):

(330) With a number of disappointing program changes, pianist-composer B's Friday recital **sort of** imploded. (San Francisco Chronicle: Turcuit 1979)

He rightly observes that recitals cannot implode in the literal sense, since they are not physical objects (1984: 163). It becomes clear then that it is not a meaning of intensification, but of identification in Bolinger's sense, which is intended here. After all, ”the author has in mind not gradual, slight or partial inward physical collapse, but rather a metaphorical collapse“ (Kay 1984: 163).

A similar distinction is made in Anderson (2013a), but he claims that when *sort of* (*sorta*) modifies a non-gradable lexical item it induces a typeshift in order to give it a degree argument. The effect of *sorta* in this case is likewise to indicate conceptual closeness to what is being

modified by the predicate (cf. 2013a: 84). In doing so, it is capable of weakening the entailments of the verb phrase it occurs with, which ”shows that there are semantic, truth-conditional consequences involved with this modifier“ (2013a: 85). That is, when *sorta V* and *V* are being compared, they occupy different slots on a scale of degrees of resemblance. The gradability in inherently non-degree predicates is derived by the modifier *sort of* and Anderson invokes Lasersohn's Halo model introduced in section 2.3.3.2 above to account for the coercion induced by it (cf. 2013a: 88, see also Anderson 2013b). That is, the core of the halo is the denotation itself, while the halo additionally consists of a set of alternatives that resemble this core in some way (cf. Lasersohn 1999: 526, Anderson 2013a: 88). In lowering the degree of precision of the modified verb, *sorta* is able to expand the halo to include readings that normally would lie outside of the verb's denotation. In example (331) from Anderson (2013b: 8, emphasis added), it is shown what that means:

(331) He **sorta** swam over to the boat.
'He did something like swimming.'

The example indicates that the activity denoted by the verb resembles its usual denotation in some way, but is not *exactly* what typically counts as the core concept of *swimming*, however that is defined. That is, we may interpret that what happened does not precisely match the conceptual content of what the verb *swim* denotes, but it is related to it and approximates it in some way (cf. Anderson 2013b: 16). In Anderson's words, ”[*s*]*orta* allows a speaker to expand the meaning of the verb to encompass situations that it otherwise could not describe“ (2013b: 8). Essentially, what *sort of* does in these cases is to lower their precision so they can be interpreted with an approximative reading and it picks out an alternative from the expanded halo that resembles the core meaning of the verb. The expansion of the halo consequently renders the proposition true because the differences to the actual activity denoted by the verb are considered pragmatically ignorable when it is used imprecisely (see also Burnett 2017). The effect achieved by *sort of* and accounted for by Lasersohn's halo model has in fact already been discussed by Zadeh (1972) with respect to his fuzzy set theory. He states that ”[*s*]*ort of* is a member of a family of hedges which have the effect of reducing the grade of membership of those objects which are in the 'center' of a class x and increasing those which are on its periphery“ (1972: 31).
Kay also discusses a further meaning of *sort of*, i.e. when there are no issues with the denotation of the modified word. In the expression in (332) below, *sort of* modifies a non-degree noun *island* (example from Kay 1984: 163, emphasis added):

(332) Crete is **sort of** an island.

Kay gives more context information on the utterance, saying that the speaker replied to a

question of why the ancient Attic Greeks felt animosity towards the Cretans (1984: 163). Despite the fact, it is evident that an island is exactly what Crete is, so there cannot be a problem with its denotation. Hence, if Crete is precisely an island, how would a hedge like *sort of* find application in such an expression? Kay's plausible explanation involves the fact that ”*sort of* functions here as a hedge on the speech act“ in that it offers ”an apology for producing a declarative sentence with Crete as the subject in answer to a question about Crete“ (1984: 164). Thus, while it formally functions as an answer to the question, it does not fully answer it. In essence, *sort of* can function as a modifier on individual lexical items up to entire sentences and propositions, but it can also mark the inappropriateness of a speech act. This duality of function is mirrored in the semantics of *Ish* as I will discuss below.

Fetzer's interpretation of *sort of* having a 'more-fuzzy' or a 'less-fuzzy' meaning depending on context is not shared here (cf. 2010: 51). While what she terms 'more-fuzzy' denotes the typical approximating meaning *sort of* can have, her 'less-fuzzy' hedge actually corresponds to the binominal construction as examined by Denison (2002) and Dehé and Stathi (2016) above. While it is evident that the 'more-fuzzy' hedge has evolved from the binominal construction, the impression that is created in Fetzer (2010) is that there is no constructional difference but merely one in the direction of intensification.

Greenberg and Ronen (2012) examine the semantics of three approximators, among them *more or less*[183]. They investigate the hedge as a scalar operator and claim that it involves a two-way semantics in that it combines a negative (polar) and a positive (proximity) component. The negative component rejects the unmodified proposition under its current precision standard, whereas the positive component accepts a precision standard that is lowered, but still close to the one holding for the unmodified proposition (cf. 2012: 51). They investigate the scalar operators with respect to four differences between *almost* and the other two, as well as scrutinising the differences between the more similar approximators *more or less* and *be-gadol*. Since these are tailoured towards carving out the meaning of *be-gadol* rather than of *more or less*, which serves as a kind of point of reference against which *be-gadol* can be mapped out more precisely, I will not further discuss them here. What sets off *more or less* (and *be-gadol*, for that matter) from *almost* is 1) its close distance to the endpoint of the relevant underlying scale, while *almost* occupies a position even closer to it (cf. 2012: 52). Furthermore, a second difference is that *more or less* does not show a directionality effect with numerals or temporal and spatial expressions.

183 The other two, *almost* and the Hebrew *be-gadol* 'basically' show interesting differences in their semantics, and *almost* will be involved in the discussion to a minor extent when it serves the purpose of illuminating the use of and difference to *more or less*. The Hebrew approximator has no bearing on the discussion here and will therefore largely be omitted from it.

That is, the point on the scale may be approached from above or below (see *Ish* with numerals), whereas *almost* approaches it from below (cf. also Wierzbicka 1986: 607). Consider the examples below for illustration (from Greenberg and Ronen 2012: 52, slightly adapted, emphasis mine):

(333) a. John arrived at **almost** 3 o'clock.
b. John arrived at **more or less** 3 o'clock.

In (333a.) it is apparent that any time very close to three o'clock may be referred to, whereas in (333b.), John might have arrived two minutes after three o'clock sharp.

The third difference is one of polarity and it entails that in a situation where an exact number holds true, *almost* cannot felicitously be employed in such a sentence, but *more or less* is still able to be judged true (cf. Greenberg and Ronen 2012: 53). The reason for this difference might be that while *almost* is always set below the numerical standard and hence does not reach it, *more or less* is able to approach it from above, thus entailing the exact number. The last difference concerns the absence of a counterfactual reading for *more or less* that is present in *almost*. Consider the slightly changed examples below (from Greenberg and Ronen 2012: 53, emphasis mine):

(334) a. John **almost** arrived at 3 o'clock.
b. John **more or less** arrived at 3 o'clock.

In example (334a.), John has not arrived at three o'clock, but due to some unfortunate happenstance such as a late train, he might have arrived half an hour later. In (334b.), however, no such reading is present and due to the nature of *more or less* concerning directionality towards the target, the conveyed meaning includes time frames after the target of three o'clock, but which need to be close to it for the proposition to still count as true. The difference in counterfactuality has already been alluded to above with example (326): Almost buying a house entails that the house is not bought whereas more or less buying it entails that the house is actually bought (but maybe not every payment is done).

Let us now have a look at the meaning characteristics for *about*, as discussed in Wierzbicka (1986). Wierzbicka's aim is to tease apart the individual meaning properties of the approximative expressions *around* and *about*, *approximately* and *roughly*, as well as *almost* and *nearly* and she tries to isolate properties that hold only for one of the approximators, but not in case of the others. She observes that in dictionaries a single one of these approximators is usually defined by one of the others and in a number of cases indeed more than one possibility is felicitous (cf. 1986: 601). However, she rejects Sadock's (1981: 262) premise that the same definition of 'not exactly P' can be applied to them all without further differentiating their meaning (cf. 1986:

602f.). Thus, while *around* and *about* are both applicable to numerals, ”to which the speaker is not wholly committed“ (1986: 601), the latter refers to a particular point in time while *around* can apply to an entire period or various points in time (examples from Wierzbicka 1986: 602, emphasis added):

(335) a. Hats of this kind first appeared in Paris (in) **about** 1880.
b. Hats of this kind were worn in Paris **around** 1880.

Furthermore she states that *around* implies a 'rounded' number, whereas the same is not true for *about*. That is, with using *about* the speaker tries to be as close to the actual number as possible and therefore example (336a.) is fully felicitous, while (336b.) sounds odd:

(336) a. **About** 6 or 7 people came.
b. *?***Around** 6 or 7 people came.

Instead of attempting to estimate the number of people as exactly as possible, *around* seems more appropriate in contexts where rougher estimates suffice and in cases where speakers might not able to give a more concrete estimate. This refers back to work on approximating quantities by Channell (1980, 1990), which has been discussed above.

As for the last hedge, the diminisher *somewhat*, I will resort mainly to Huddleston and Pullum's (2002) account as well as to the discussion of it in Ungerer's (1988) monograph about English adverbs. To my knowledge, there have been no attempts at scrutinising the semantics of this individual hedge. Both agree that *somewhat* is slightly more formal than its approximative cousins (cf. Huddleston and Pullum 2002: 832, Ungerer 1988: 294). Moreover, they are also in agreement about it being a polarity-sensitive item which is oriented towards the positive end (cf. Huddleston and Pullum 2002: 60, 829; Ungerer 1988: 108), that is, it favours positive contexts over negative ones. Have a look at examples (337a.) and (337b.) below for illustration (from Huddleston and Pullum 2002: 60):

(337) a. He was feeling **somewhat** sad.
b. *He wasn't feeling **somewhat** sad.

Somewhat in (337a.) serves to tone down the expression of a negative feeling, but it cannot be used in a negative context as show in (337b.). In section 6.2.3 above, we have stated that in Quirk et al.'s (1985) classification, the diminishers, of which *somewhat* is an example, come in two subgroups. Hence, *somewhat* belongs into the subcategory of expression diminishers, which have the purpose of expressing part of the potential force of the modified predicate (cf. 1985: 598). In contrast, the attitude diminishers imply that the modified item's force becomes restricted by adding the modifier, e.g. *only*, *merely*, as shown below (1985: 598):

(338) He was **only** joking.

To sum up, it has been shown that the items under scrutiny show different semantic behaviour depending on the modified element and whether a proposition is being modified or a speech act (*sort of*), that some of the items show directionality and polarity effects (*more or less*, *somewhat*) as well as differences concerning the type of numerals they apply to and whether the implied approximation is taken as a rough estimate (*about*). The constant themes are approximation and imprecision, which are precisely the hallmarks of how *Ish* is defined here.

6.2.4.4 Pragmatic properties

The consulted grammars do not explicitly discuss pragmatic properties of such expressions that are counted as hedges here. This being so implies a peripheral status that pragmatics is allocated to in traditional grammar and it thus reflects its relative distance to the 'core' levels of linguistic expression which has also been discussed above in relation to discourse markers and grammar. However, the individual hedges are treated in a number of articles which will be expounded in the following. It comes as no surprise that the hedge *sort of* (and *kind of*) again has received the greatest amount of attention and various pragmatic topics are discussed in Bolinger (1972), Channell (1980, 1990) Kay (1984), Fetzer (2010), and Anderson (2013a, 2013b). The covered topics include pragmatic halos, different functions such as appropriateness and self-repair, Gricean maxims and implicatures, as well as politeness.

Concerning the first point, pragmatic halos, a disclaimer is in order. First, as has become clear in section 5.6.3.3, following Anderson's (2013a: 85) line of reasoning, the modifier *sort of* has truth-conditional implications. In Anderson's discussion, he makes use of Morzycki's (2011) implementation of the halo model and it becomes clear that he sees it firmly situated as part of the semantics: ”[W]e can think of Lasersohnian pragmatic halos as existing not in a post-compositional pragmatics, but as part of the compositional semantics“ (2013a: 88). It is thus located rather at the interface of semantics and pragmatics and the halo model will not be reiterated here.

However, what we can extract from Anderson's discussion of Morzycki (2011) is the question of appropriateness of an expression, to which modifiers like *sort of* point explicitly. This question has already been covered in Bolinger (1972), who distinguishes between identification and intensification senses of *sort of* and *more or less*, etc. Recall that when they are used to modify non-degree verbs, they are used in the sense of approximation, i.e. in an identifying sense. This sense is shown in example (339) below:

(339) We just **sort of** played them sort of for fun, … (COCA, SPOK: NPR: Fresh Air, 2015)

The expanded context of this example reveals that the games referred to in this exchange were games used in therapy, for example to aid family communication. *Sort of* thus modifies *played* not in an intensifying sense, but rather points to the appropriateness of the verb used: While games in the usual sense are intended as a fun (and voluntary) activity which the collocating verb *play* indicates (cf. OED *play*V 'to engage in activity for enjoyment and recreation rather than for a serious or practical purpose'), in a therapy session this sense could legitimately be called into question. This impression is further reinforced by the same hedge which modifies the prepositional phrase *for fun* in the same exchange. It is normally precisely not for fun that these games are played, but rather they serve the purpose to e.g. reveal certain previously unrecognised behavioural patterns in a patient and to aid him or her in future communication. In Kay's (1984) words, *play* is not the 'mot juste' in this particular context and this is alluded to by *sort of*. Hedges are not uniform in their behaviour, however, and subtle differences in appropriateness or the senses connected to them might occur. Kay compares *sorta* and *kinda* to the more formal hedges *loosely speaking* and *technically*, which explicitly lower the precision with which the modified expression is to be used. He argues that while the latter two are connected with the possibility of 'precisification' that the speaker may specifically point to the inappropriateness conveyed, with *kinda* and *sorta* ”the speaker is not prepared to specify the precise nature of the defect pointed to by the hedge“ and using it in discourse rather ”amount[s] to a verbal shrug of helplessness“ (1984: 167). The 'mot juste' is not available and the one uttered is the closest to the concept the speaker wants to convey. In natural language, however, some of these hedges may be used interchangeably provided a context that permits it. It is not entirely clear how to objectively test his intuitions and according to Kay (1984: 166) it boils down to speaker judgements of acceptability whether a given hedge is pragmatically appropriate in a context or not.

Another function of the hedges *sort of* and *kind of* as mentioned in Fetzer (2010) and Dehé and Stathi (2016) I want to address briefly. They follow Aijmer (2002) in identifying the function of self-repair in hedges (which Aijmer calls 'discourse particles'). The use of *sort of* signals an upcoming reformulation in the form of a lexical replacement or addition or a repetition (see Aijmer 2002: 198f. for details). The example below is from Aijmer (2002: 198f., abridged and slightly modified, emphasis mine).

(340) … you're **sort of** left with the – you **sort of** [əːm] – it's **sort** [əʔ] an end to a story in a way

The speaker makes two unsuccessful attempts in formulating what s/he intends to convey and each attempt is prefaced by *sort of*. This way, s/he indicates that the lexical choices in the first attempt are inadequate to convey what the speaker means. The second attempt breaks off before a suitable lexical item has been found and the final attempt, while successful, still displays the difficulties the speaker is confronted with in finding the right expression. Other functions of *sort of* like establishing common ground are discussed in detail in Aijmer (2002) and will not be expounded further here.

Grice's (1975) four conversational maxims, which have been formulated as part of his Cooperative Principle, have been evoked in a few publications that contain discussions of the aforementioned hedges. Channell (1980, 1985, 1990) for instance draws on the maxims in assessing approximation quantity hedges such as *about* and *around*, or *approximately*, among others. As mentioned in section 6.2.2 above, Channell (1990) couches her discussion of hedges more broadly in terms of vagueness and she investigates the goals speakers (and writers) might have in using imprecise expressions. Among the factors she distilled that account for the use of vague quantities, the maxim of quality appears a number of times. In brief, this maxim states that in applying it, the speaker/ writer ensures that his or her contribution is truthful (cf. Grice 1975: 46). It is divided into the following two submaxims which specify it:

(341) a. Do not say what you believe is false.
b. Do not say that for which you lack adequate evidence.

It is obvious that observing this maxim in academic writing is vital for good academic practice. It comes as no surprise that ”[g]ood academic writing is believed by its users to have characteristics of precision, detail, and accuracy“ (Channell 1990: 95). Nevertheless in practice it is often the case that in presenting quantities, writers resort to hedging expressions which qualify those quantities by making them vague. Reasons for doing so include that at the time of writing an author might simply lack more specific information (and is thus trying to observe the maxim of quality), but also has to include data which generally is difficult to measure or quantify (cf. Channell 1990: 111f.). The hedge *about* only occurs 7 times in academic texts in a sample of 100 tokens. However, also in these cases, it is predominantly used with percentages. By comparison, a sample of the adverb *approximately* occurs 62 times in academic texts out of a sample of 100 hits total. Out of these 62 hits, 25 tokens alone include percentages, the other results cover measurements of length, size, temperature, or currency.

In the context of academia, vague quantities are sometimes given purposefully. That is, even if the speaker or writer knows that the numbers are inexact, they might resort to giving vague numerical approximations in order to observe the maxim of quantity (cf. Grice 1975: 45):

(342) a. Make your contribution as informative as is required (for the current purposes of the exchange).
b. Do not make your contribution more informative than is required.

Specifically the second submaxim becomes relevant in this context, which may be invoked in order to foreground information and direct focus. Channell reports on a paper given at a LAGB workshop in which the linguist utters the following concerning work with informants and gives (343) below as example (1985: 11, emphasis added).

(343) We've got **about** five or six of them but I'm only going to talk about three of them today

Since it is highly probable that the linguist knows how many informants s/he has, the use of *about* in this utterance points to particular effects that are achieved by it. First of all, according to Channell (1985: 11), giving the exact amount of informants might not contribute anything useful to the subject matter, especially if only three are elaborated on. Secondly, the attention is shifted to what is considered most important for the task at hand: Giving information about specifically three informants and their work. In giving an approximate, the speaker contextualises the number of informants (there might have been 50 or even 100) while at the same time focussing the hearers' attention.

Gricean maxims (and specifically their violations) form the basis for inferences that are drawn in conversation. These inferences, called implicatures by Grice (1975: 44), arise in the pragmatic interpretation process and concern additional information that is not literally expressed in an utterance. They can generally be of two types: Conventional or conversational. The former is related to the conventional meaning a word has, which in some cases ”will determine what is implicated, besides helping to determine what is said“ (Grice 1975: 44), as in the case of the connective *therefore*[184]. Conversational implicatures on the other hand are determined by the conversational context, but at the same time they are constrained by the Cooperative Principle and the maxims connected to it. In Clifton and Ferreira's words:

> [Conversational implicatures] are not tied to the linguistic form of what is said, but rather, to its semantic content. To make a conversational implicature, a listener must have already parsed the sentence, assigned it its literal interpretation, realised that additional inferences must be added to make it conform to the Gricean maxim, and determined what these inferences are. Such activities could not reasonably affect the initial steps of parsing. (1989: 84)

There is a large amount of literature directed at conversational implicatures and indeed, Grice devoted most of his article to them. To stay within the limits of this subsection, I will restrict

184 There has been some controversy about whether conventional implicatures really exist (cf. Bach 1999). However work by Potts (2005, 2007, 2012, among others) has convincingly shown the pertinence of the concept.

myself to Kay's (1984) discussion of the implicatures (which he calls 'pragmatic forces') in conjunction with *sort of* and *kind of*. He raised the question whether the sense of apology or warning, that a word or phrase in the upcoming utterance is not entirely used appropriately and thus is modified by *sort* of, is part of the conventional meaning or determined conversationally (1984: 164). He discusses the following example (1984: 158, emphasis added):

(344) Those of us who grew up in the extremely **sort of** comforting days of linguistics...

In assigning the gloss 'as it were' to *sort of* to signal an upcoming inapt word or phrase, he argues in favour of viewing this to be part of the conventional denotation (cf. 1984: 165). Kay argues that "[T]he addressee is literally apprised that there is something a little off in the utterance" (1984: 165). *Sort of* (and *kind of*) thus seem to function to indicate something outside of the usual denotation and in cases where there is no denotational mismatch, as in his example about Crete being an island (see (332) above), the hedges function "to signal conventionally that there is something defective in the *speech act* being performed" (1984: 166, emphasis mine). He thus views the 'pragmatic force' as being conventionally assigned to the denotation of *sort of*, whose effect can cover individual words up to entire speech acts.

Some of these hedges have also been brought into connection with politeness principles as fleshed out in Brown and Levinson (1987). Thus, for instance quantity hedges can be used for redressing complaints or requests in order to signify negative politeness, i.e. a hearer's basic want of self-determination (cf. 1987: 70, 171):

(345) Could you make this copy **more or less** final?

(Example from Brown and Levinson 1987: 171, emphasis added)

In (345) the speaker voices a hedged request. According to Brown and Levinson (1987: 70), requests interfere with the addressee's negative face want, i.e. his or her freedom of action. Therefore the speaker in this example shows that s/he recognises and respects this want and acts accordingly by redressing the speech act.

To sum up, the pragmatic properties of hedges are not easily classifiable as pragmatics is usually not a component of written grammars. In turn, authors dealing with pragmatics in connection to hedges may focus on varying aspects, depending on their line of research. The pragmatic aspects presented here have crystallised out of the subset of individual authors discussing the hedges *sort of* (and *kind of*), *more or less*, and *about*. To my knowledge, the hedge *somewhat* has not been discussed in relation to pragmatic properties. The ensued discussion included prominent topics in pragmatics (e.g. Grice's maxims and implicatures), but also frameworks situated at the interface of semantics and pragmatics, what was shown in connection to Lasersohn's pragmatic halos. Generally, pragmatic functions of hedges may differ widely and even in this small subset, no

overarching property or set of properties could be identified. I chose to focus mainly on the function of appropriateness, as it is the one that has been raised for some of the hedges discussed in this section.

6.2.5 Discussion: Is *Ish* a hedging particle?

6.2.5.1 Classification

In the course of this chapter, we have seen that the descriptive realm of hedges is similarly fuzzy and non-uniform as that for discourse markers, pertaining to inconsistent terminology of the phenomenon at hand as well as a wealth of forms. Part of the reason for this variety lies in the fact that the field of study has considerably widened since the change of focus towards the pragmatic side of the phenomenon has taken place, largely neglecting the original semantic orientation as evident in Lakoff (1973) who coined the phenomenon. That is only one side of the coin, however, and another reason why the field of hedges is so heterogeneous lies in their very nature, which has prompted some linguists to claim that the strategy of hedging may be achieved by a virtually unlimited number of surface forms (cf. Brown and Levinson 1987: 146, see also Markkanen and Schröder 1997: 6), including prosodic devices such as intonation (cf. Holmes 1984: 355) and syntactic constructions like the passive (cf. Caffi 1999: 889). Hence, the very idea of compiling an inventory in the form of a list has been rejected as futile in the face of the sheer impossibility to exhaustively collect each and every expression that has lend itself to the service of hedging (cf. Clemen 1997: 237f.). However, I have noted the utility and meaningfulness of being able to draw on an established list (however comprehensive or fragmentary it might be) as it provides some insight into the phenomenon of hedges. While such lists certainly cannot be employed to predict forms to assume a hedging function, they shed light on the various strategies individual forms use.

The dawn of the rising pragmatic interest in hedging research has contributed to further blurring the distinction between discourse markers and hedges, as it is not entirely clear whether individual items should be felicitously described as illustrating the former or the latter (e.g. *well* is described as a hedging marker in Traugott 2012: 10, *now* in Brown and Levinson 1987: 169, *although* in Fraser 2010: 23). While it may be the case that individual discourse markers assume a hedging function, the two terms cannot simply be used interchangeably. To my knowledge, hedges have not been ascribed the primary function of establishing coherence in discourse, the textual function attributed to discourse markers. Whether hedges may be considered a subgroup of discourse markers or a separate group altogether will be the subject of evaluation of section

6.3 below.

The functions hedges may assume also vary with respect to the research agenda which investigates them. Lakoff (1973) was interested in their semantic fuzziness and aspects like vagueness, approximation and imprecision are closely intertwined in this line of inquiry. Some of the major aspects in pragmatically oriented works include politeness and face work, illocutionary strength and mitigation as well as Grice's (1975) maxims of conversation. As I have shown with Channell's (1980, 1990) work on number approximations above, the two levels of linguistic description may both be fruitfully employed to shed light on a particular question.

Most approaches which sought to classify hedges into manageable groups do so with binary conceptions (and possibly a number of subclassifications), others employ a tertiary distinction of hedges. Examples of the former comprise approximators and shields in Prince et al. (1982), understatements and hedges in Hübler (1983), characterising hedges and perspectivising hedges in Diewald (2006), as well as propositional hedges and speech act hedges in Fraser (2010). Caffi (1999, 2007) is an example of the latter in that she divides the space of hedges into three groups, bushes, hedges and shields. Her latter group of shields is not absent from some of the other accounts, but simply distributed differently (for example, Prince et al. 1982 discuss them as part of their subgroup of attribution shields). As can be seen from this small selection of works, the terminology used differs to a considerable extent, with the danger of leading to some confusion about what the groups actually entail. The inherent inconsistency in hedging research additionally makes it difficult for researchers primarily working in a different field to adequately use the terminology.

In table 29 in section 6.2.3 above, following Kaltenböck et al. (2010: 6), I have therefore attempted to clarify the picture by contrasting the respective groups with respect to their contributing to a proposition or a speech act. The table makes no mention of the grammars which have discussed hedges because they do not distinguish hedges in terms of their contribution to propositions or speech acts, instead they focus on subclassifying individual groups of hedges into several semantic groups. The early binary classification systems assume discrete, mutually exclusive categories of hedges, whose potential members are either able to modify propositions or speech acts. For instance, the conception of hedging categories devised by Prince et al. (1982) follows Gazdar's (1979) modular approach to semantics and pragmatics which distinguishes the two based firmly on truth conditions. The question is to what extent such a dichotomy can be maintained and indeed, Gazdar's views have attracted some criticism (see van der Sandt 2010). Applied to hedges, Prince et al.s (1982) binary system entails that items classified as approximators are only able to modify the propositional content, whereas shields regulate

speaker commitment to a proposition, but a single element is not conceivable of engaging in both categories simultaneously. In the conception of the properties of *Ish* in section 5.4 above I have argued that the free morpheme is principally able to function on both levels, albeit to different degrees. Its primary area of application are undoubtedly propositions, which it modifies to the extent that it lowers the degree of precision to which they apply, and in doing so it approximates the content of propositions without quite reaching the standard they entail. The standard can be conceived of as a proposition counting as true and the addition of *Ish* to the proposition modifies that truth value by accepting values that are not strictly true, but which are close enough to true (cf. again Lasersohn's halo model)[185]. As a secondary function, *Ish* is also attested to reduce a speaker's commitment to the truth of a proposition, whose otherwise strictly binary conception requires a third value to still count as true. It is precisely not the case that the unmodified proposition is considered true and the speaker distances him- or herself by employing *Ish*. Hence, I principally consider Fraser's (2010) terminology of propositional hedges and speech act hedges as suitable because it accomplishes to clearly encode the different levels on which hedges generally can be analysed. As we have seen, some of the terminology used in other accounts does not help to activate the concepts with which different hedges may be associated, e.g. Hübler's (1983) understatements which are both a superordinate group as well as one of the subgroups (the other subgroup being 'hedges', which a considerable number of researchers regard as the umbrella term). Further, labels coined for a subgroup of hedges only bear that particular name to maintain a continuation of Lakoff's original botanical metaphor, e.g. Caffi's (1999, 2007) bushes.

I do not assert, however, that these two groups are categorial with no possibility of overlap. Instead I assume them to be permeable to some extent, with one group acting as the primary designator for a given hedge, and the other as potentially lending functions to that hedge. This may not be the case for all hedges and also might not even be very frequently the case. However, to rule the possibility out categorically does not do *Ish* justice as it can be argued to operate in both of these groups.

Caffi (1999) argues in a similar vein in that she views bushes (i.e. propositional hedges) and hedges (i.e. speech act hedges) to work simultaneously in order to achieve a particular effect. The effect is not accomplished by a singular hedge which has both functions, however, but by combining lexical elements of both types: One which focusses on the illocution and the speaker's

185 Burnett's (2017) DelTCS model can also be used as a basis for analysing *Ish* here, although it mainly is discussed with reference to adjectives. In her multi-valued model, the classic semantic denotations are supplemented with strict and tolerant denotations which regulate whether an expression is used with a higher or lower precision in a given case. Her model makes some of the same basic assumptions as Lasersohn's model does, but differs in the execution as well as in certain details.

commitment to the truth, the other which makes the proposition semantically fuzzy.

Diewald's (2006) view is again slightly different from the previous ones discussed. She distinguishes two types of hedges, labelled characterising and perspectivising, to make reference to the fact that the former entail a comment on the accuracy of the chosen expressions, whereas the latter do not relativise the proposition as such, but evaluate the expression in terms of validity (2006: 307). Both types of hedges can, however, take scope over single constituents, propositions and speech acts. Hence, while her hedges have different functions, which determine the type of group the hedges are sorted into, each has the possibility to affect linguistic entities to a various extent and different structural levels.

Finally, Mauranen's (2004) analysis lends more substantial support to the view advocated here. She investigates hedges in the context of written academic discourse, a line of research which, she states, ”is ”characterised by an integration of the propositional role of hedges as modifying the precision or certainty of statements with the interpersonal function of politeness“ (2004: 175)[186]. She considers hedges to have different profiles of use, which can receive actualisations depending on which context they occur in. That is, she differentiates hedges into two basic types, markers of imprecision (e.g. *sort of*) and mitigators (e.g. *just*) and analyses their functions in epistemic or strategic contexts (cf. 2004: 174). For example, mitigating hedges like *just* are used primarily for strategic purposes to soften the effects of a face-threatening speech act, whereas a hedge such as *sort of* is considered to function primarily as an epistemic hedge, ”indicating conceptual openness rather than redressing a threat to face“ (2004: 174). To give an example, Mauranen (2004: 179) analyses spoken language with corpus data and discusses *kind of* as a hedge indicating fuzziness, imprecision and approximation and its primary function is epistemic. As such it prefaces ”*ad hoc* descriptive label[s]“ (Mauranen 2004: 180, italics in original) which could be considered to not be the mot juste as in (346) below[187]. Recall that Kay (1984: 163f.) also investigated *sort of* as being able to function as a speech act hedge in the Crete example above (332), lending further support to the assertion that *sort of* is able to function as both, a propositional hedge and a speech act hedge.

(346) you know it's just so, **kind of** earthy and real and and of the essence of, of life (Mauranen 2004: 180)

Kind of in (346) modifies the adjective *earthy* which apparently is a word that only approximates

186 The work by Channell (1980, 1990), discussed in section 6.2.2 above, also combines the semantic aspect of fuzziness and approximation of hedges with a pragmatic analysis in terms of Grice's maxims.

187 Mauranen's examples for the epistemic function include predominantly items with a narrow scope. However she considers the function of modifying the precision or certainty of statements as the propositional role of hedges (2004: 175). Thus, even if a hedge modifies only a single element like an adjective as in (357), she attributes the function of the hedge to the propositional use. Moreover, we have seen above that *sort of* (and *kind of*) are principally able to modify entire propositions.

what the speaker intends to say, it is the option that comes closest to what the speaker wants to convey. Mauranen, however, also found cases which do not conform to this primary epistemic function. In (347 *kind of* is employed in what she calls the strategic use, which includes strategies for softening or mitigating effects of certain speech acts. Both types of functions may also overlap as (348) shows.

(347) that'd be **kind of** an interesting thing for you to study if you're talking about gender relations (Mauranen 2004: 180, slightly adapted)

(348) that's that's, **sort of** like, this is **sort of** more of a, trade off or cost benefit, (mhm) you know (Mauranen 2004: 177)

In (347), the speaker tentatively suggests a topic which warrants further study and the hedge *kind of* is employed in a mitigating function which does not belong to its predominant basic function of indicating vagueness. Therefore, the primary profile of *kind of* is extended with secondary functions when it operates on speech acts. This is exactly what I argue for *Ish* in that it constitutes primarily a propositional hedge, which defines its basic profile, but it is also attested with some of the functions characterising speech act hedges such as reduction of speaker commitment. The latter, secondary functions do not fall in the scope of the primary profile of *Ish*, but can be regarded as an extension. In sum, the terms propositional hedge and speech act hedge give a principal orientation and enable researchers to discover similarities between different types of hedges, but they are not mutually exclusive, however, but allow for some overlap between the categories.

6.2.5.2 Properties

Next we want to compare the properties that hold for *Ish* to the ones that have been identified for the four hedges *about*, *more or less*, *somewhat* and {*sort of*/*kind of*} in section 6.2.4. Due to the lack of pertinent studies which investigate phonological properties of hedges, not much can be said in terms of a comparison. Only the hedge *sort of* was the focus of a study with respect to its phonological development (cf. Dehé and Stathi 2016). Their findings for *sort of* describe a shift from a prominent phonological status of N1 (*sort*, *kind*, or *type*) in the initial binominal construction to a gradual phonological weakening that correlates with its loss of semantic substance in the adverbial construction, culminating in the phonological reduction of the entire element (*sorta*, *kinda*). The same development cannot be traced for *Ish*, which, originating from a suffix, is monomorphemic to begin with and is characterised rather by a phonological strengthening. Nothing more can be said at this point about overarching phonological properties, which is why we will now turn to syntactic properties. The starting point is formed by a number

of grammars, which have been supplemented with initial studies focussing on certain hedges. I compared the assertions in the literature with a small set of corpus data from COCA. The focus was placed on the position a hedge can take in a sentential unit, together with whether pre- or postmodification occurs. Furthermore, I checked the types of modified elements as well as the hedges' scope. Section 6.2.4.2 found that all hedges were capable of premodifying their elements, but postmodification was only possible for {*sort of*/*kind of*} , *more or less*, and *somewhat*. The adverbial hedge *about* has been shown to differ in this respect, although Quirk et al. (1985: 663) give an example for postmodification (repeated here as (349)):

(349) She is *FŎRty* **about**. <informal> (Quirk et al. 1985: 663)

This example is perhaps conceivable in a context where the hedge functions as a kind of afterthought, uttered after a pause in speech. Since the corpus search in COCA in section 6.2.4.2 did not result in any valid hits for this structure, where I only used a small randomised sample for all of the hedges in order to maintain comparability, I decided to check this particular sequence in a much larger corpus of web-based data, the iWeb. The search query was designed to look particularly for the lemma of *be*, followed by any cardinal number and the respective hedges. Recall that *about* requires the POS tag RG, specifying it as a degree adverb. MC* is the tag for cardinal numbers.

(350) [be] _MC* about_RG

Only one hit of *about* qualifies the hedge as postmodifying (351), all others were found to be premodifying (e.g. (352)). In (351) *about* can be said to not modify 'grams', but the number 88, whereas in (352) it clearly does not postmodify the number 30, but instead it prefaces the numeral phrase '300 years ago'.

(351) Average weight is **88 about** grams with 6.3mm thickness. (iWeb, megaspin.net)

(352) Most Egyptians died by the time they were 30 **about 300 years ago** (iWeb, methodshop.com)

Thus, *about* is extremely restricted in the context of postmodification and even in a 14-billion-word corpus like the iWeb it only occurs once as such. Nevertheless, the majority of hedges were found to be principally able to postmodify and it is possibly the case that this is a matter of degree, with some hedges preferably being engaged in premodification and only infrequently postmodifying. Nevertheless, the fact that the majority of hedges can be shown to occur in postmodification is a commonality with *Ish*, which strongly prefers to postmodify its elements due to its origin as a suffix. In the corpus GloWbE, only a single example does not conform to this preference:

(353) Chenelle walked with Lesley and the dogs and (sort of... **ish**) handled the encounter with the cows. (GloWbE, GB B, contentedsouls.blogspot.com)

In (353), *Ish* is preposed to the predicate that is modified. However, it rather serves as a reinforcement of the hedge *sort of* than hedging the predicate on its own. The felicity of the example rests on the occurrence of *sort of*, which frequently preposes the elements it modifies, and its removal causes the sentence to become infelicitous. The hedging force is thus accomplished predominantly by *sort of*, with *Ish* amplifying this force.

Concerning the type of modified element and, connected to that, the scope of the hedge, section 6.2.4.2 has shown that *sort of* and *kind of* were similar to *Ish* to the highest degree in that they are able to modify clauses, entire sentences and their propositions, especially when they occur postposed (cf. Kay 1984). The other hedges were found to be more restricted, especially *somewhat* and *about* which do not occur with propositions and larger units. The latter adverbial hedge occurs with a crucial preference for numerals, making it comparable to *Ish* in that respect. With *more or less*, the picture is a bit more complex. The literature points out that this hedge is able to modify certain nouns, VPs and numeral expressions (cf. Bolinger 1972, Quirk et al. 1985, Wierzbicka 1986). The corpus analysis additionally revealed, however, that, like *Ish*, it occurred with propositions as well as singular answers to questions. Since the grammars and singular studies have investigated the hedge, it seems to have evolved and increased its scope, albeit it does not occur as frequently with these wide-scope elements as *Ish* does.

The variation in position the hedges can take is limited to medial and final occurrences with no initial placement. The grammars vary as to which positions are favoured, with Quirk et al. (1985) maintaining a preference for medial placement and Huddleston and Pullum (2002) advocating for a final position for VP-oriented adjuncts. However, these observations are not cast in stone as Quirk et al. discuss some elements which are restricted to final position (cf. 1985: 602) and Huddleston and Pullum maintain that ”[t]here is a great deal of variation in use“ (2002: 576). Huddleston and Pullum's (2002) distinction into VP-oriented and clause-oriented adjuncts seems to be based mainly on the semantic classes of these elements. For instance, VP-oriented adjuncts contain the semantic class of degree adverbs which in turn encompass the approximating subgroup. This subgroup features most of the elements discussed here explicitly (*sort of*, *kind of*, *more or less*, cf. 2002: 723). The hedge *somewhat* is part of the moderate subgroup and hence is also a degree adverb. This classification thus suggests the four hedges to be part of the VP-oriented adjuncts rather than the clause-oriented ones which favour initial positions (cf. 2002: 577). The corpus analysis largely corroborated Quirk et al.'s (1985) observations, however, in that all four elements showed a preference for medial positions and initial positioning was

categorically ruled out for *sort of*, *more or less* and *somewhat*. Additionally, it also made the point that there is variation because most of the hedges could also be placed in sentence-final position and thus, it can be seen as a matter of frequency and preference. *Ish* has been discussed to favour final placement, but it is found to a lesser extent also in medial positions. Hence, it can be placed felicitously among the group of hedges discussed in the grammars (albeit under different labels), although its profile shows a slightly different preference of placement than the others.

Coming now to the semantic properties of hedges, it has become apparent in the discussion above that recurring themes are centered around approximation and imprecision. In the grammars, some of the four hedges are explicitly categorised as approximators: *about* in Biber et al. (1999: 557) and {*kind of*/*sort of*} and *more or less* in Huddleston and Pullum (2002: 723), but we have mentioned that *about* could also be felicitously placed in Huddleston and Pullum's approximating subgroup as well. The others are variously distributed either over other categories (*somewhat* in the moderate subgroup in Huddleston and Pullum 2002) and some are placed in the more general group of hedges, which convey imprecision (*sort of*, *kind of* in Biber et al. 1999). The individual studies focus on a number of different properties of the hedges they discuss. Anderson (2013a, 2013b), for instance, discusses *sorta* in terms of approximation, conceptual closeness and Lasersohn's halo metaphor. In his (2013a) paper he investigates the effect *sorta* has with gradable and non-gradable predicates, the latter of which are coerced into receiving a gradable reading. That is, when *sorta* accompanies a non-gradable verb it allows situations to be considered true which would not normally be true.

The pair *sorta* V and V thus occupy different slots on the scale of degrees of resemblance, with the former only approximating the endpoint of the scale and inducing a lowering of precision. The pragmatic halo which is expanded by *sorta* renders the proposition true, making the differences to the core meaning of what is denoted by V pragmatically ignorable. We have seen *Ish* to be able to do exactly the same in that its modification of the proposition or the predicate render it true:

(354) By mile 22 Sarah and I were upping the pace and slicing (**ish**, think a blunt knife through a tough steak) through the field (GloWbE, GB B, actionaid.org.uk)

The non-gradable verb *slicing* in (354) is modified by *Ish* to receive a gradable meaning and becomes acceptable in this context. The meaning of the verb is metaphorical and conveys the idea of a particular way of moving through a field, which, by mile 22, can only approximate the meaning of the action of slicing denotes when it is used in its literal sense. The writer additionally appends an explanatory description of the action conveyed by the modified verb in

order to ensure the readers' comprehension of it. The core meaning of *slicing* is thus expanded to appropriately denote the action the writer intends to convey.

Greenberg and Ronen's (2012) investigation of the hedge *more or less* discusses some of the same principal points as those raised in Anderson (2013a, 2013b). The meaning of *more or less* encompasses a negative and a positive component, the former of which rejects the unmodified proposition under a higher precision standard, whereas the latter accepts a lowered precision standard which is close enough to the one holding for the unmodified proposition. The hedge itself is situated close to the endpoint of the underlying scale (cf. 2012: 52) and the degree on the scale may be approached from above or below. These remarks can be shown to hold true also for *Ish* in that in (355) below the higher precision standard that holds for the meaning of agreeing with someone is rejected, while with the lower precision standard that is induced by *Ish* the proposition becomes acceptable. Further, *Ish* implies that the action of agreeing is close to the endpoint of the underlying scale. In other words, the writer conveys the idea that an agreement is only approximated, but that s/he does not completely agree with the statement of the blogger from whose site the comment originates[188].

(355) While I agree with what you say, **ish**, i completely disagree with banning playdoh, … (GloWbE, NZ B, stuff.co.nz)

Greenberg and Ronen (2012) have investigated *more or less* as applying to the adjective *clean* in a proposition to make the last point. As such, they draw on the notions of scales as they are defined in degree semantic frameworks and which focus primarily on the semantics of adjectives (see section 2.3.3). Nevertheless, their remarks can also be shown to apply to propositions in which no adjective is present (as in (355)). Their last point about the ability to approach a standard from above or below has been discussed for *Ish* with respect to numerals. As such, this remark applies to a subset of examples and also holds true for the suffixal version -*ish*, when it is appended to a numeral or quantifying expression. It is thus not a unique characteristic of *Ish*, but a property that the suffix and the free morpheme share. The property of the approximation of the endpoint on a scale is likewise shared by the bound and the free morpheme, but can be established for all of the examples, not only for a subset of numerical expressions.

Lastly, Wierzbicka (1986) has investigated *about* and found that it is applicable to numerals to which the speaker is not wholly committed. We have repeatedly argued that a reduced commitment is a property that holds for *Ish* as well, albeit it does not constitute the primary profile for *Ish* (see the remarks about Mauranen's (2004) work above). Wierzbicka further argues that in applying *about*, an individual tries ”to be accurate as far as possible“ (1986: 603), hence,

188 The blog entry with the title *Hands off my playdough* is a plea for keeping edible playdough in primary schools.

s/he approximates the actual number as closely as possible. Thus, *about* differs in this respect from similar hedges such as *approximately* which implies a process of rounding, a finding also reported in Channell (1990: 101), who stated that round numbers often form the basis for approximations. In a similar vein to *about*, *Ish* closely approximates the meaning of the element it modifies, without quite reaching it. Speakers employing *Ish* actively reduce the precision with which a proposition is used.

In sum, the constant themes of approximation and imprecision with which most of these hedges are characterised can be applied to *Ish* as well. The remarks that hold for the syntactic and semantic properties, which emphasise the similarities between elements already discussed as hedges and *Ish* are thus a good indicator of analysing the latter as a genuine hedge. Before reaching a conclusion, however, the last set of properties that have been identified for the four hedges need to be discussed. As I have stated in section 6.2.4.4 above, the discussion of pragmatic properties has not led to identifying a closed set of properties that holds for the majority of hedges under scrutiny here.

In section 6.2.4.4, I have focussed on a set of pragmatic properties that have been discussed for at least one of the four hedges. These included their functions (appropriateness, self-repair), Gricean maxims and implicatures as well as politeness. To start with appropriateness, this function has been discussed in Kay (1984) with respect to the hedges *sort of* and *kind of*. More precisely, they point to the fact that the word or larger unit that is modified by them is not the appropriate one for the purposes of the communication at hand, but only one that approaches the concept the speaker has in mind. As such, the modified lexeme functions as a sort of stand-in for the particular concept and it is likewise required to be close enough to the concept that is meant to be conveyed. The hedges make explicit the fact that the modified entity is not the 'mot juste' and Kay argues that the hedges *sort of* and *kind of* imply a ”verbal shrug of helplessness“ because the speaker is not able to point to the ”precise nature of the defect“ (1984: 167). One could also argue, however, that the speaker/writer deploys productive means of language whenever a particular concept is not available, be it due to temporary memory lapse on the part of the speaker or the fact that the available words cannot completely convey the intended concept. In such cases, the speaker can draw on hedges as a means to characterise a particular word as not completely apt for the present purposes while simultaneously increasing the range of application (the halo) of the modified word. With *Ish*, it is not so much the case that a particular concept is not available, but rather the standard of application of a proposition (or word/ phrase in the transitional group 2, see section 5.3.3 above) that is lowered (see 356)).

(356) well im so far having fun..... **ish**..... (GloWbE, US G, eu.battle.net)

The question of self-repair that has been investigated for *sort of* in Aijmer (2002), Fetzer (2010) and Dehé and Stathi (2016) may be applied to *Ish* in a slightly modified way. While *sort of* frequently premodifies and thus can signal an upcoming reformulation, *Ish* is a postmodifier. It can rather be used to repair a previous statement after it has been uttered and that has been deemed too strong in the form of toning it down (see (357)). The difference between the self-repair with *sort of* and *Ish* is that the former is used in a context where the speaker cannot find the appropriate expression and hence s/he employs *sort of* as a kind of placeholder in Aijmer's (2002: 198f.) example above, repeated here as (357). *Ish* regulates the precision with which the statement is used in (358) and itself reinforces a parenthetical, which conveys the speaker's epistemic uncertainty in (359).

(357) … you're **sort of** left with the – you **sort of** [əːm] – it's **sort** [əʔ] an end to a story in a way

(358) Yeah, I guess I have been pretty busy recently. Not. Well. **Ish**. (GloWbE, GB B, hawth.me)

(359) Both hair & make-up girls arrived at about 9am (I think, **ish**) (GloWbE, IE G, mrs2be.ie)

Grice's maxims with respect to the hedge *about*, among others, have been the focus in Channell's studies (1980, 1990). She found that writers often make use of hedging devices in qualifying quantities to adhere to effective and truthful communication. For instance, vague quantities are employed in the situation where specific information is missing and cannot be determined or retrieved, which follows Grice's maxim of quality. While this is not a property that has been discussed for *Ish* yet, it is not difficult to apply to it. The unmodified proposition in (360) would be considered false and hence it would violate the maxim of quality, which is applied by cooperative speakers who aim at being truthful (supermaxim) and do not give false information (1st submaxim) or such that is not supported by evidence (2nd submaxim).

(360) A little while later and everything was done (**ish**) (GloWbE, GB G, datalas.com)

In (360), the addition of *Ish* makes the contribution of the individual true, hence his or her statement conforms to the maxim of quality. It is not surprising to see that *Ish* operates felicitously on this maxim, since Grice's maxims are construed to be a prerequisite to cooperative and effective communication. As such, this is presumably not a property of individual hedges, but of the set of hedges altogether. Whether all maxims are satisfied by the application of hedges or whether specific maxims frequently employ particular hedges remains a question for future research.

Kay (1984) additionally discusses whether the sense of inaptness of an expression is part of the conventional meaning of *sort of* or determined conversationally. Due to the fact that the hedges

are used to indicate something outside of the usual denotation and that ”the addressee is literally apprised“ (1984: 165) of this fact, he argues in favour of the former. Bochnak and Csipak (2014) have raised the possibility of analysing *Ish* as involving a conventional implicature. They cite the difficulty of embedding *Ish* under negation and *if* as indicating a commonality between the free morpheme and other expressions which have been analysed with respect to conventional implicatures (2014: 449). However, the fact that conventional implicatures are not defeasible and thus cannot be cancelled, (cf. Potts 2005: 28) is taken as tentative evidence that *Ish* does not constitute a conventional implicature. Bochnak and Csipak (2014: 447) give the following example in (361) as evidence for this claim:

(361) A: The Blackhawks are a good team …**ish**.
B: No, that's not true! They're awful!
B': No, that's not true! They're amazing!

B (and B') are considered felicitous responses to the assertion in A. Bochnak and Csipak analyse B as a denial of the inference that the degree of precision in A is lower than the standard degree, and B' indicates a denial of the degree of precision being close to the standard (2014: 447). Hence, the contribution of *Ish* is considered to be directly challengeable and as such speaks against an interpretation as a conventional implicature. They note, however, that the use of predicates of personal taste in example (361) may affect the results (cf. 2014: 447, footnote 25). If we construct a similar example, using (361) above as a baseline, but without such a predicate, on the basis of the corpus results from GloWbE, we obtain the following result[189]:

(362) A: A little while later and everything was done (**ish**) (GloWbE, GB G, datalas.com)
?B: No, that's not true. We still have to replace the antilock braking system.
B': No, that's not true. The engine is fixed and the car is running.

The B response in (362) is awkward because the use of *Ish* in A already indicates that the standard degree (*everything* was done) has not been reached, but that there are some minor parts left to be repaired before the entire car can be considered fixed and that indeed everything is done. The B' response can be used felicitously, however, because what is being denied is that the degree of precision is (much) lower than the standard. The principal parts of the car have been fixed and only some minor repairs are left to be done, but nevertheless the car is functional in its present state. The possibility to contest the contribution of *Ish* (at least in some cases) thus poses a challenge to the analysis of *Ish* as involving a conventional implicature. Nevertheless, Bochnak and Csipak (2014: 449) note that the aforementioned similarities with expressions that have been

189 The extended context for the example reveals that the writer repairs his or her car and has the engine fixed already.

analysed as such have yet to be accounted for.

As a last function identified for some of the four hedges above, let us briefly point to politeness phenomena. Brown and Levinson (1987: 171) have discussed hedges such as *more or less* as being able to redress speech acts which can pose a threat to an individual's negative face want, i.e. the individual's freedom of action. Speech acts which potentially challenge an individual's negative face want include requests or complaints. The use of hedges can minimise the effect of any such speech act, but other means may be used to accomplish the same outcome, i.e. a speaker offering an apology for interfering with a request (1987: 70). I have not found examples in my GloWbE sample of *Ish* in which it is used in speech acts such as requests or complaints. Since *Ish* functions first and foremost as a propositional hedge and makes use of functions characteristic of speech acts only secondarily, this is not a surprising finding. Nevertheless, the function of reducing the commitment toward the proposition that is conveyed, thereby modifiying the illocutionary force, is recognised as a means of indicating politeness in Brown and Levinson (1987: 147).

Until now, we have focussed solely on the pragmatic functions that have been discussed for one or several of the selected four hedges. In section 5.4.6 above, we have identified functions for *Ish* that have not (yet) been discussed for them: Afterthought and preference organisation. However, this section seeks to identify functions for more or less established hedges that can also be discussed for *Ish* in order to felicitously place *Ish* in the category of hedges. I will therefore not discuss the two functions identified for *Ish* with respect to their applicability to the four hedges {*sort of*/*kind of*} , *more or less*, *somewhat*, and *about*. The disclaimer mentioned above still holds: There is not one overarching property that has been unanimously discussed and holds true for all hedges, but the various studies focus on different pragmatic properties, resulting in a varied pool of functions and properties. This means for afterthought and preference organisation that they might simply be properties that are appropriately applicable to *Ish*, but they do not have to apply to all of the other hedges or to even one of them. To my knowledge, these two properties have not yet been discussed for any of the others and thus, this may simply be material for future investigations.

To round out this section, let us consider how the aforementioned grammars, specifically Quirk et al. (1985) and Biber et al. (1999), treat similarities and differences between elements that are frequently labelled hedges and discourse markers. If an intrinsic difference can be identified, this should also be reflected in their status in grammars. To be certain, we have discussed above that there are many commonalities between the two broad groups. Nevertheless, it is worthwile to concentrate on what it is specifically that they share and what divides them. What we can find is

that the grammars provide additional support for a more distinct view of hedges and discourse markers (even though they discuss each under different headings), although this is not a categorical distinction. They are distinguished primarily on the basis of syntactic and semantic properties, i.e. their status as clause elements plays a decisive role as well as their semantic roles. For instance, Quirk et al. distinguish the group of adverbials, i.e. adverbs which operate on the sentence level, into four broad subgroups, labelled adjuncts, subjuncts, disjuncts, and conjuncts (1985: 503). The first group is perhaps the most well-known and does not further concern us here. The other three are provided in table 31 below, together with some of their subtypes and examples.

Table 31. Quirk et al.'s (1985) types of adverbials

Type of adverbial	**Subtypes**	**Examples**
Subjunct	Downtoners: > Approximators > Compromisers > Diminishers etc.	 *almost*, *practically* *more or less*, *kind of*, *sort of* *quite*, *slightly*, *somewhat*
Disjunct	Style Content	*frankly*, *if I may say so* *perhaps*, *actually*, *possibly*
Conjunct	Resultive Concessive Transitional etc.	*now*, *so*, *therefore*, *hence* *notwithstanding*, *though* *now*, *by the way*

The table provides only an extract from the various subcategorisation options for subjuncts, disjuncts, and conjuncts[190] and the ones depicted in table 31 have been chosen because they include forms which frequently surface in discussions on discourse markers and similar elements.

The group of subjuncts includes the various types of downtoners, including our hedges *sort of*, *more or less*, and *somewhat*. The hedge *about* is arguably categorisable as approximators, but is not explicitly mentioned. The group of disjuncts includes items of (epistemic) modality, which are sometimes discussed as part of discourse markers (e.g. *actually* in Simon-Vandenbergen and Willems 2011) and sometimes as belonging to the group of hedges (e.g. *perhaps*, *possibly* in Fraser 2010: 23). The last group of conjuncts is the most diverse concerning the semantic roles, which are conjunct-specific according to Quirk et al. (1985: 631). Among them are many of the elements typically described as textual discourse markers which ensure cohesion. Quirk et al. (1985) specifically indicate the register in which some of the forms are used, but make not

190 The full overview over the categorisation of adverbials can be found in Quirk et al. (1985: 503).

mention of their written or spoken preference. I thus chose to represent lexemes as examples exemplifying either mode of language.

Grammatically, subjuncts are distinct from the other two types in that they are characterised by their subordinate role with respect to other clausal elements. That is, they are less independent both semantically and grammatically (cf. Quirk et al. 1985: 613). Semantically, subjuncts operate on the category of degree (p. 589). Both disjuncts and conjuncts are syntactically more detached as compared to other units of the clause. The former have a scope that extends over the entire clause (p. 613), whereas conjuncts conjoin two independent units, be they large units such as sentences, paragraphs or units of discourse or smaller units such as constituents of a phrase (cf. 1985: 632). Further, disjuncts function as comments on the accompanying clause and as such they contribute ”another facet of information“ (Quirk et al. 1985: 631). The authors note that some of them can in fact be used as hedges when they function as a metalinguistic comment and as such are linked to expressions of degree (1985: 618f.). That is, the elements categorised as subjuncts (e.g. *kind of*, also approximators) and those disjuncts that are concerned with metalinguistic comment overlap in their function. For instance, the subgroup of style disjuncts that is concerned with modality and manner also includes the adverbs *approximately* and *roughly*, which would be considered hedges here. By comparison, conjuncts do not contribute another point of information, but function predominantly as links between two linguistic units and thus they function ”beyond the particular grammatical unit in which they appear“ (Quirk et al. 1985: 631).

Also in Biber et al. (1999), the two groups of hedges and discourse markers are kept apart. There is much overlap within the groups with respect to whether they can function as adverbs or adverbials, and which semantic group they belong to. For instance, hedges are discussed as belonging to adverbs (and adverbials) marking stance, but Biber et al. (1999: 555) identify a relation between them and adverbs of degree. Biber et al. (1999) distinguish three types of adverbials and their relationship to the classification in Quirk et al. (1985) is depicted in table 32 below.

The principal categories are recorded in both grammars, they differ with respect to the categorical classification of hedges and elements of (epistemic) modality. That is, in Quirk et al. (1985), they belong to different groups of adverbials, while in Biber et al. (1999), they form different subgroups as part of the superordinate category of stance adverbials. Furthermore, Biber et al. (1999: 557) explicitly note that hedges can occur both as adverbs and as adverbials.

Table 32. Comparison of types of adverbials in two grammars

Quirk et al. (1985)		**Biber et al. (1999)**	
Type of adverbial	**Subtypes**	**Type of adverbial**	**Subtypes**
Adjuncts	Optional Obligatory	Circumstance adverbials	Optional Obligatory
Subjuncts	Downtoners: > Approximators > Compromisers > Diminishers etc.	Stance adverbials	Epistemic stance > (Imprecision)
Disjuncts	Style Content	Stance adverbials	Epistemic stance/ Style Epistemic stance > (Doubt and certainty)
Conjuncts	Resultive Concessive Transitional etc.	Linking adverbials	Result / inference Contrast / concession Transition etc.

Above, we have said that the group of conjuncts contains many of the textual discourse markers and thus, the implication drawn from this observation is that they form part of Biber et al.'s (1999) linking adverbials. Like conjuncts, these adverbials are characterised by a ”more peripheral relationship with the rest of the clause“ (Biber et al. 1999: 765). Nevertheless, we have seen in section 6.2.4.2 above that the category of discourse markers surfaces as inserts in Biber et al., including the well-known lexemes *well*, *now*, *I mean*, *you know*, and *I see* (1999: 1086). They note that they may overlap with stance adverbials (1999: 856) and some of the characteristics that they identify for stance adverbials in fact mirror those of inserts: greater potential mobility and prosodic separation (1999: 854) and they are considered ”always optional“ (1999: 764), the latter of which is problematic as we have seen. Characteristics for inserts include detachment, morphological simplicity, pragmatic function instead of denotative meaning, as well as their ability to occur on their own (1999: 1082). A difference between the two groups can be found in their position, with inserts occurring only rarely in medial position, and stance adverbials preferring medial positions (1999: 872).

To sum up, their characterisation and classification in grammars set hedges apart from discourse markers, but leave some leeway for overlap. The group of items concerned with modality seems to be located at the intersection between elements more closely analysable as hedges (Quirk et al.: subjuncts and disjuncts) and those that are characterised as discourse markers (Biber et al.: disjuncts and stance adverbials). Hence, certain elements center around items that mark

imprecision and approximation (hedges), others focus on establishing coherence between units of text or speech (textual discourse markers). Still others are not neatly classifiable as part of either of them, but serve as bridging the gap between them, i.e. elements of epistemic modality. Thus, both hedges and discourse markers have core elements, which do not overlap and cannot be considered as part of the other group. However, items concerned with interpersonal meanings, attitude and modality can felicitously analysed as forming an intermediary, which cannot be categorically distinguished. As such, they form the middle portion of a continuum with hedges and discourse markers characterising the endpoints (see figure 11). Which elements constitute this intermediate group exactly is left to future research.

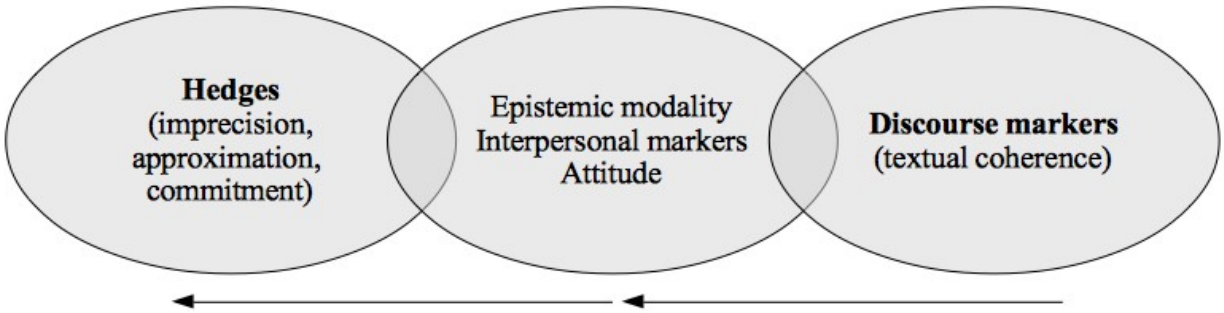

Figure 11. Three groups of markers

This categorisation into three principal groups (hedges, modality markers and discourse markers[191]) can also help to shed light on the question whether hedges evolve out of discourse markers as discussed in Traugott (2003a, 2010b). Given the tripartite classification of adverbials, it seems likely that most of the elements involved in this process form part of what has provisionally been called modality markers, rather than what I consider hedges. For instance, the content disjunct *actually* (cf. Quirk et al. 1985: 621), analysed as a discourse marker in Simon-Vandenbergen and Willems (2011), is considered a discourse marker used also to serve hedging functions in Traugott (2003a: 130) and Traugott and Dasher (2002). Their status as intermediate group makes them suitable to develop on the continuum and acquire functions that more fully characterise hedges. Given this classification, it should be less likely for textual discourse markers to develop hedging functions without having first developed functions that characterise modality markers. At present, this is only a thought experiment and space precludes a fuller investigation of this matter. As such, I will leave this for future research.

191 I am fully aware that this term does not comprehensively describe all the elements I have considered to be part of this intermediate group. It shall thus be considered to serve a temporary function as a placeholder until a more suitable term is found.

6.2.6 Summary

This section was concerned with the question whether *Ish* can be appropriately described and analysed as a hedging particle, which is the conclusion drawn here. After introducing the study of hedges (more precisely, the studies as there is much variation) and the richness of elements described as such, I focussed on what constitutes a hedge and how they may be classified (section 6.2.3). Next, I picked out four lexemes and expressions which have been discussed as hedges in the literature and analysed their characteristics with respect to phonology, syntax, semantics, and pragmatics (section 6.2.4). Finally, given these observations, I discussed whether *Ish* is classifiable as a hedge (or hedging particle in this case, given its monomorphemic nature) (section 6.2.5). In order to do so, I concentrated on the aspects of classification, properties of hedges, and the question of discerning hedges from discourse markers with the help of their characterisation in grammars.

The binary distinction between propositional hedges and speech act hedges (cf. Fraser 2010) is useful to allow for a principled classification of the heterogeneous elements described as such. The distinction is not conceived of as strictly categorical, however, and overlap is considered to be principally possible. The analysis of *Ish* as a hedge has revealed a core propositional profile, which is extendable to incorporate some functions characterised for speech act hedges (i.e. a lowered commitment). Mauranen (2004) and also Kay's (1984) discussion of *sort of* provide further support for this view.

The investigation of properties of four selected hedges have been shown to also be largely present in *Ish*. Specifically, many of the syntactic and semantic properties have been shown to hold for the free morpheme as well, lending further support to the view of *Ish* as a hedge. These two levels of linguistic description are pivotal for analysing *Ish* as such. Of course, as with the other hedges, there is variation in the applicability of individual properties and not all of them are true to the same extent. For instance, the grammars have identified a preference for medial positions, whereas *Ish* is placed predominantly in final position. It can therefore be considered an exception, which is, however, explainable by having a look at its origin as a suffix. As such, this can be considered part of the inherent variation in hedging particles and does not constitute a criterion for exclusion. We have seen that the four hedges do not pattern uniformly either. The variation is most evident in the pragmatic properties where there is no principal core of properties that all hedges share. I cannot make a conclusive assertion concerning commonalities or differences of phonological characteristics as these have not been in the center of attention for hedges, with minor exceptions (cf. Dehé and Stathi 2016). Thus, at present they are not decisive in identifying an element as being part of hedges or not.

Lastly, I have sought additional support for a more distinct view of hedges and discourse markers. For that purpose I have scrutinised two comprehensive grammars and have identified conformity to a large extent in their categorisation. That is, we can identify a core of hedging elements and a core of discourse markers, with a third group of elements signifying modality which do not felicitously belong to the core of either of those, but rather they form a bridging environment. Following this categorisation I plead for narrowing down the principal group of discourse markers to encompass mainly those that ensure textual coherence. At present, I know of no overarching term that is suitable for encompassing the intermediate group of modality markers, interpersonal and attitudinal elements and put this up for future research.

6.3 Conclusion

The present chapter has investigated the question how the free morpheme *Ish* may be analysed: as part of the extensive group of discourse markers or as a hedge? To answer this question, the analysis was widened to see how discourse markers arise and whether there are parallels to *Ish*, as for the free morpheme, two opposing trajectories have been proposed. The analysis strongly suggests to view *Ish* as a hedging particle and as having come about via degrammaticalisation. While this manner of change has struggled to become accepted, it has received a distinct characterisation in the work by Norde and does not merely constitute change in the opposite direction of grammaticalisation. The view put forward by Duncan (2015) that situates *Ish* on the path of grammaticalisation is rejected along with the accompanying broad view on grammar. *Ish* has a configuration of properties that does not convincingly align it with discourse markers or the evolution via grammaticalisation.

The semantic contribution of *Ish* to a proposition is one of the strongest arguments against viewing it as a discourse marker. In omitting it, the proposition in which it occurs is subsequently altered. It has been claimed that this is not the case for DMs. The wealth of different forms argued to be discourse markers makes it difficult to distill meaningful criteria that define them as a group. I suggested to only consider as DMs those items which ensure textual coherence between larger spans of text, which questions the validity of many elements that have an interpersonal function. Those may be considered more felicitously as forming part of their own group, together with other attitudinal markers, which serve as bridges to the final group of hedges. *Ish* has also been shown to express speaker tentativeness, an interpersonal characteristic, but this does not constitute its primary profile, which is its effect on propositional content. In this work, hedges are not merely considered to have pragmatic effects (as proponents

of grammaticalisation seem to do, who view them as a subgroup to DMs) and they are also not considered to only either modify a proposition (semantics) or express a weakened speaker commitment (pragmatics), but not both, as some proponents of hedging theory have characterised them. Instead of this static perspective, I follow work by Mauranen and others and view them as dynamic in having a core profile, but at the same time being able to operate on both levels which Fraser (2010) has characterised.

PART III

7 Synchronic comparative corpus study

7.1 Introduction

This chapter focusses on synchrony as opposed to the diachronic development presented in chapters 2 to 4. It further has a comparative aim, placing *-ish* not only in relation to similar English suffixes, but also to corresponding German suffixes. Both English and German are Germanic languages, but as is well-known English has adopted much more Romance-based lexis than German. Estimates number the increase of French vocabulary in Middle English to 10,000 words, of which 75 per cent have survived to Present-day English (cf. Minkova and Stockwell 2009: 43). With the Renaissance, an enormous amount of Latin and Greek words have entered the English language and subsequent borrowings from various languages (albeit not to such an extent) round out the picture of English as a hybrid language instead of solely Germanic in terms of vocabulary.

Although the methodology of corpus linguistics has been applied in previous chapters as well, this chapter focusses on the empirical approach to a greater extent and is conceived of as more technical than the previous ones. That means that in order to be as transparent as possible, the procedure is described in much detail. Comparing two corpora brings with it a special kind of challenge, especially if the corpora are designed differently to represent two different languages, both with their special requirements which is mirrored in the corpus design. This added layer of difficulty will result in individual choices that aim at preserving a high comparability. Nevertheless given the differences pointed to above, complete comparability will remain an illusion and thus the quantitative results should be taken with a pinch of salt.

In what follows I will give an introduction to the suffixes discussed below (section 7.2) and introduce the notion of rivalry that is prevalent in discussions of suffixes with a similar semantic content (section 7.3). Section 7.4 will present the quantitative part of the analysis, section 7.5 will round out the discussion with a qualitative discussion of the suffixes, which will concentrate on three domains selected to show their individual preferences. Furthermore, it will connect the lexical semantic feature identified for English *-ish* in section 4.9 above with a comparative analysis of further 'similative' suffixes in both, German and English. It will be shown here that

the feature is suited to analyse several adjective-forming suffixes, which on the surface appear as simple rivals. Both quantitative and qualitative analyses are combined as it is assumed that both contribute to meaningful corpus studies. This is best explained by McEnery and Wilson: ”Qualitative analysis can provide greater richness and precision, whereas quantitative analysis can provide statistically reliable and generalisable results“ (1996: 77).

7.2 The 'similative' suffixes in English and German

In this section, I will give a review of what the literature has to say about properties of the six suffixes on various levels of linguistic description, starting with the English suffixes *-ish*, *-like* and *-esque* and then moving on to the German suffixes *-isch*, *-lich* and *-esk*. The former are principally discussed in reference works, while the latter (with the exception of *-lich*) also occur as the subject of monographs. The literature compares *-ish* to other suffixes as well, for instance Malkiel's (1977) informative article about the distribution of predominantly *-ish* and *-y* over animal bases. The reason for choosing and shedding light on the three suffixes above and their German equivalents stems primarily from their discussion in Bauer, Lieber and Plag (2013), who conceive of them as ”rival formatives“ (p. 289) which principally overlap in their semantic content but only occasionally produce doublets which claim meanings unique to each. In this chapter, I want to show why I think the perspective should be turned upside down, namely each of the suffixes have their separate space of meaning in which they thrive, but which are not entered into by any of the others. This space can be considered a semantic niche, following terminology used by Lieber (2016: 57). Malkiel (1977) employs the terms 'semantic center of gravity' (p. 350) and 'semantic core' (p. 354), which I consider very similar to 'semantic niche'. These niches or cores come in different sizes: some of the suffixes have a more elaborated repertoire of semantic properties, that of others might be comparatively small, perhaps making them prone to more overlap. The niche of each suffix should not be conceived of as a neatly modular and absolute space, however, the presence of overlaps is evidence to the contrary. I object, however, to a view of these suffixes as serving primarily the same semantic purpose, with only a few interspersed doublets that differ in meaning.

The discussion in this section can only serve to give an insight into the characteristics of these suffixes, not, however, an in-depth coverage. Especially the German authors have established detailed sub-categorisations depending on the respective base forms and to discuss the intricacies of each suffix here is beyond the scope of this section. The references used in this section are likewise a recommendation for further reading.

7.2.1 The suffix *-ish*

In chapter 2, I have discussed some phonological, morphological and semantic aspects for *-ish* and these will thus be only briefly summarised in tabular form.

Table 33. Formal and semantic properties of -ish

	Property	**Application to *-ish***
Formal considerations	Origin	Native (Germanic)
	Derived categories	ADJ, N
	Kinds of bases	> Monosyllabic, di- and polysyllabic > ADJ, N, NUM, ADV, V, compounds, phrases > native and non-native bases
	Stress shift	No
	Base allomorphy	No
	Hiatus	Yes
	Haplology[192]	Yes
Semantic considerations	Readings	> relational (ethnic) > similative / associative: roughly 'similar to X' > approximative: roughly 'approximating X'
	Connotations	Neutral and negative

The contents of table 33 have been gleaned from reference works on morphology and word-formation such as Marchand (1969), Bauer et al. (2013), and Dixon (2014). The list could of course be extended and described in more detail, e.g. with a description of which types of nouns (common, plural, proper) and adjectives (scalar, non-scalar) and so on, but the aim here is to achieve an overview that is comparable with the other suffixes. Examples illustrating each property have been omitted in the table because the properties of *-ish* have been already discussed at length in chapter 2 and section 7.5 will give ample opportunity for further illustrative examples. For clarification, I will just briefly comment on two semantic properties. The first is concerned with connotation and in section 2.3.2 we have seen that it is common to

192 Haplology is defined in Bauer et al. as ”the avoidance of identical phonological structure in morphologically complex words, usually coming about by the addition of a suffix“ (2013: 189). They give the inacceptability of **rub.bi.shish* and **fi.shish* as examples.

claim that the suffix is used to convey a negative shade of meaning (e.g. Marchand 1969: 305, Dixon 2014: 235). While I do not claim that this is not the case – after all we find that many complex words derived from animal bases do express a negative quality – I argued that the matter is more complex than that. First, we need to distinguish between already negatively connotated bases to which *-ish* attaches (e.g. *hell*, *snob*, *brute*) and initially neutral ones (e.g. *sheep*, *wolf*, *book*). A combination of a dictionary and corpus study would shed more light on this relationship and could help to scrutinise the chronological development. Marchand argued that the derogatory shade of meaning was introduced with bases such as *ceorl* 'churl' and *hǣþen* 'heathen' (1969: 305), both of which we now consider as intrinsically negative. With *ceorl* this has not always been the case as shown in section 4.9 above, but instead the noun had a relational meaning in early Old English. It is argued that the meaning arose via an inference from 'freeman of the lowest rank' to 'man of low status in general', which has become equal to an undesirable quality and not simply a given hierarchical ordering in which the fact that the rank of a churl had been the lowest was not a salient property. Connected to the issue of connotation is the second point, i.e. the associative reading. This has been listed in the table as a separate reading to emphasise that neutral meanings with *-ish* may still occur with proper nouns which can be paraphrased as 'associated with'.

Both, Bauer et al. (2013: 305) and Dixon (2014: 235) consider *-ish* to be highly productive, however, the former explicitly note that ethnic *-ish* is excluded from this assumption (cf. 2013: 229), a claim that has been confirmed in chapter 4 above. Bauer et al. (2013) motivate the assumption of high productivity with the fact that it can attach to virtually any base and Dixon couches it in terms of base length. He claims that *-ish* prefers monosyllabic bases, but is also comfortable with di- and polysyllabic ones (cf. 2014: 235). While it is true that *-ish* occurs with a high number of monosyllabic bases, only a corpus study could reveal the true proportion of the base types to which it attaches. In the quantitative analysis below we will discern the productivity for the suffixes, employing Baayen's (1993) measure 'productivity in the narrow sense' and we will see there that productivity is also conditioned by the morphological category an affix attaches to, as has also been discussed in the literature (e.g. Motsch 2004).

7.2.2 The suffix *-like*

Coming now to the next Germanic suffix, *-like*, which is the only consonant-initial one in the set of English suffixes, Dixon (2014: 232) notes that it also does not affect stress on the base to which it attaches. Raffelsiefen (1999: 240) remarks that the occurrence of identical liquids in

subsequent syllables is not excluded, thus examples like *snaillike* are possible. It is likewise claimed to be a productive suffix and a reason given for this remark is that it is able to attach to nearly any concrete noun (cf. Dixon 2014: 232). Further bases include adjectives, proper nouns and phrases, but only occasionally does it occur with abstract nouns (cf. Marchand 1969: 356, Dixon 2014: 232f.).

It has been claimed that *-like* is ”more neutral in connotation“ (Bauer, Lieber and Plag 2013: 313) in comparison to *-esque*, but we may assume that the same holds for a comparison with *-ish*. In Dixon's words *-like* has a ”straightforward meaning“ in that the characteristics it relates to carry no overtones in terms of connotation (2014: 232). Its meaning can be paraphrased as 'similar to, characteristic of' when it attaches to nouns, but with adjectives it also conveys the notion of approximation (cf. Bauer, Lieber and Plag 2013: 313). I will return to this point below.

Before we move on, some remarks need to be made concerning its origin. Above I have used the term *suffix* to designate the status of *-like*, but some authors would not agree with this assessment. First of all, it is the only suffix of which a cognate free form of similar meaning exists, the adjective *like* 'similar, resembling, alike' (cf. OEDweb entry for *like*, adj.). For Raffelsiefen (1999: 279, footnote 70) and Dixon (2014: 232), *-like* developed from being the second element of a compound into a suffix[193], a path very similar to the one we have previously encountered with *-hood*, *-dom*, and *-ship* (Trips 2009). However, Plag, Dalton-Puffer and Baayen (1999: 213) describe its status as controversial and Bauer et al. (2013: 289) still consider *-like* a compound element. The latter give its close semantic similarity to the free form as a reason for their decision. Nevertheless, they discuss the element on a par with the other 'similative' suffixes ”for practical reasons“ (2013: 289). In their own words, ”[t]ogether with *-ish*, *-y*, *-esque*, and *-oid* it forms a set of closely related rival formatives that all derive words expressing a similative meaning“ (2013: 289) which warrants the investigation of all elements together. In Dixon's view, *-like* is clearly a suffix because 1) it productively coins new complex words, and 2) its semantic and syntactic effects remain predictable (2014: 55). The classification of such elements continues to pose a problem for linguists, which has prompted some to assign them to the category of *affixoids*, i.e. ”compound constituents with an affix-like behaviour“ (Booij and Hüning 2014: 77). In other words, affixoids present a compromise between the status of compounds and that of affixes. A proponent of such a view is Marchand, although he terms them semi-suffixes (1969: 356). He gives types prefixed with negative *un-* as examples in favour of this view, arguing that *unmanlike* would not be acceptable if *-like* was still a free morpheme[194]. However, that

193 This view of the origin of *-like* is already held by Jespersen (1961[1942]: 417).

194 This is an argument picked up by Dixon (2014: 55f.) who names it as one of the criteria to distinguish affixes from compound elements.

classification too has been met with criticism, in particular because a further term in addition to 'compound' and 'affix' is deemed superfluous (Schmidt 1987: 81). Schmidt (1987) is cited as a fundamental source against the terms of affixoids or suffixoids (cf. Elsen 2009: 320). He argues against the use of these terms on the grounds that minimal shifts in meaning do not warrant an initiation of a new category (1987: 84f.). According to him, it is part of the nature of polysemous words to be attested with different meanings in different linguistic settings (cf. 1987: 80f.). Arguments concerning the use of this term revolve around potential meaning differences to a cognate independent morpheme and productivity (see Elsen 2009 for a discussion). I will not go into the intricacies of this debate here, but instead choose to administer suffix status to -*like*. The reasons for doing so include practicality (like Bauer et al. 2013 above) and I follow the lexicographers of the OEDweb who have designated -*like* to be a suffix. Compound status may lead into suffix status which has been shown to be a historical fact for a number of affixes. Of course, this is not a necessary pathway. However, in the case at hand, -*like* has already been discussed with respect to suffixal status in Jespersen (1961[1942]: 417) who regards it as an independent suffix which developed from being the second component of a compound. In light of this and the fact that this section is concerned with the synchronic perspective of these suffixes, I reject for the time being the term of affixoids and consider -*like* a suffix as stated above[195]. A good summary of the arguments discussed in the literature is provided in Elsen (2009: 317-323).

7.2.3 The suffix -*esque*

The last suffix to be reviewed concerning its use in English is of Romance origin, in particular -*esque* has been borrowed into English from French (cf. Dixon 2014: 237). Although we can consider -*esque* to be a non-native suffix, it does have ties to native -*ish*, which, however, lie in the distant past (i.e. they both derive from the same Proto-Indo-European (PIE) suffix *-*isko*-, cf. Watkins 2000: 36). I will shed some more light on this connection in the following section. Not only the suffix was borrowed into English, but also originally French complex words, which are not analysable in English, however (e.g. *grotesque*, the base cannot be recovered in English) (cf. Dixon 2014: 237). This fact will play a role for the quantitative corpus analysis below where forms such as these are excluded from the analysis. Among the range of bases -*esque* attaches to are primarily nouns, but also adjectives and compounds, both native and non-native (cf. Bauer et

195 Fleischer and Barz come to the conclusion that a diachronic approach may employ the term 'affixoid' meaningfully to describe the continuum between stem and affix, but they themselves reject it on the grounds that their work is concerned with synchrony (2012: 61).

al. 2013: 291, 294f., 610). Furthermore, they observe a ”marked preference“ for proper names (2013: 295), a fact which also holds for the German counterpart and primarily distinguishes it from the other suffixes.

Concerning the stress pattern, there is some disagreement among researchers, with Bauer et al. (2013: 296f.) claiming it to have primary stress and Dixon (2014: 237) advocating for secondary stress. As *-esque* is not discussed at any length in most works on word-formation, it is not easy to decide on the stress pattern if one relies solely on morphological literature. More instructive are works from the phonological area, where suffixes such as *-esque* are also known under the term auto-stressed suffixes (e.g. Cahill 2019: 113, see also Bauer et al. 2013: 183f. for the use of this term), which means that the suffixes themselves are stressed and receive main stress. This can be shown with the examples (363) below:

(363) a. Róman – Ròmanésque, pícture – pìcturésque
b. réfuge – rèfugée
c. Japán - Jàpanése

The examples all show a stress shift to occur when the respective suffixes are added: In (363a.) and (363b.) the primary stress in the simplex is changed to secondary stress, with the suffix receiving primary stress. In (363c.) the suffix also receives primary stress and secondary stress is applied to the first syllable in the base word. Given these insights, we follow Bauer et al. (2013: 296f.) in assigning *-esque* primary stress and reject Dixon's (2014: 237) assertion of secondary stress.

There is also inconsistency in opinions about the suffix's productivity. For Bauer et al. (2013: 302) *-esque* is highly productive due to its ability to form complex words on the basis of any personal name. Dixon's view is not entirely clear as he states at one point that it ”has become mildly productive in English when added to the proper names of people“ (2014: 237f., see also p. 222) and at another point he considers it to be ”fully productive“, giving the example of Pinteresque 'in the (esteemed) style of playwright Harold Pinter' (2014: 52). As we will see in the corpus analysis below, *-esque* is highly productive with proper names.

Concerning its semantic contribution, Bauer et al. suggest *-esque* to be ”more elevated or academic in style“ (2013: 313) when compared to *-like*. Due to the general paraphrase 'like X, 'in the shape/style of X' they consider it a rival to *-ish* and *-like* with only little semantic difference (if at all) (2013: 311). For all three suffixes they contend semantic differences to arise only for individual doublets or triplets as with *dwarfish* and *dwarflike*. The former refers to the property of small size which is shown with collocates such as *features* and *short* in COCA. The following example given in (364) below illustrates this.

(364) Petrinius was a short, almost **dwarfish** man... (COCA, Fiction, *Dance of Shadows* 2007)

The adjective *dwarflike* does not necessarily refer to height alone, but instead seems to denote similarity to a type of person, of which height is only one factor among many. The type only occurs with three hits in COCA and could thus be a potential candidate for blocking. Given the semantic difference, however, subtle, of "individual salient qualities" for *-ish* and "similarity to a whole" for *-like* (Bauer et al. 2013: 312), it is safer to assume that in this case each of the suffixes has carved out their own niche. Other examples are not so straightforward and it is hard to discern any differences in meaning beyond style (examples taken from Bauer et al. 2013: 311f.):

(365) And second, it comes with an **iPod-esque** remote … (Men's Health 2004)

(366) Receptacle on the dashboard of most versions accommodates **iPod-ish** music machines … (USA Today 2005)

(367) … complete with a cool **iPod-like** handheld controller … (Time 2005)

Each of the derivatives is attested with only a handful of tokens, making it difficult to make any generalisations. In all cases the reading of 'similar to X, resembling X' is prevalent and other possible meanings the suffixes have are backgrounded. To appreciate the contribution these suffixes make to their bases, individual examples will be problematic as they can be very close in meaning as examples (365) to (367) indicate. Therefore, the discussion is deferred to the analysis of different domains in section 7.5.

7.2.4 The suffix *-isch*

Let us have a look at the properties of the German suffixes now, starting with *-isch*. To my knowledge, two relatively current monographs are explicitly devoted to characterise the properties of adjectives ending in this suffix: Schlaefer (1977) and Eichinger (1982) (see also the literature cited in these works). However, in general work on word-formation in German, the suffix is discussed to a lesser extent as well, e.g. in Motsch (2004) and Fleischer and Barz (2012) to name but a few. Klein, Solms and Wegera (2009) are interested in the historical perspective of word-formation and discuss *-isch* with respect to Middle High German.

Cognate to English *-ish*, the German variant is also a native Germanic suffix and derives from Old High German *-isg* (as in *chīndisg*, present-day German *kindisch* 'childish', cf. *IDS Grammis* entry 'Die Suffixvariante'; Fleischer and Barz (2012: 339) record the variant *-isc* as in English). Base forms for derivations with *-isch* are listed in Schlaefer (1977: 43-57) and include several sub-categories, e.g. ethnic terms (*japanisch* 'Japanese', *rheinisch* 'Rhenish'), which he simply

calls 'names', nouns (*kindisch* 'childish', *magisch* 'magical'), and one deverbal coinage (*mürrisch* 'grumpy' from *murren* 'to grumble'). He further distinguishes derivatives with multiple affixes according to suffix (e.g. *-al*: *postalisch* 'postal'), a number of compounds (e.g. *fachmännisch* 'professional, expertly'), as well as modified bases and suffixes (e.g. deletion of internal *-e-* in *bayr-isch* 'Bavarian', Umlaut in *röm-isch* 'Roman', or insertions 'Fugenelemente' as in *afrika-n-isch* 'African'). It becomes evident that the attachment of *-isch* can trigger phonological changes in the base, which is further discussed in Schlaefer (1977: 87-92). Next to ethnic adjectives, Eichinger (1982: 88-107) also discusses proper name bases (e.g. *homerisch* 'Homeric', *dürrenmattisch* 'Dürrenmattian')[196], and 'scientific adjectives' (e.g. *biogenetisch* 'biogenetic') as adjectives signalling affiliation or relation. He distinguishes this first main group from those adjectives which hold an evaluative component, and which are subcategorised into denominal adjectives designating characteristics (e.g. *höhnisch* 'mocking', moralisch 'moral'), denominal adjectives which refer to persons themselves (e.g. *angeberisch* 'pretentious', *optimistisch* 'optimistic') morphologically unanalysable adjectives (e.g. *cholerisch* 'choleric'), adjectives which describe abstract conditions (e.g. *periodisch* 'periodically') and the smallest group of deverbal adjectives (e.g. *neckisch* 'teasing' from *necken* 'to tease')[197]. His fine-grained subcategorisations cannot be discussed in detail here and the interested reader is referred to the list appended to his monograph (1982: 231-240).

Motsch (2004) also subdivides his discussion of adjectival derivation in various groups and provides his descriptions with short semantic and morphological analyses as well as indications of productivity, which he couches in terms of activity. According to him, word-formation patterns can be divided into those that are used to coin new words and those which belong to the lexicon (2004: 18f.). He does not consider productivity to be a categorial matter, but admits of degrees of activity (2004: 20). This results in a scale of productivity with inactive or weakly active formations on the one end and active or strongly active ones on the other. As we have seen in section 4.2.2 above, the assumption of scalarity in productivity is widely accepted among linguists.

The semantic contribution of *-isch* is difficult to reduce to a common denominator in such works, for example Schlaefer (1977: 96-98) provides individual paraphrases for various derivatives. From these paraphrases we can glean some generalisations which, unsurprisingly, have many overlaps with English *-ish*. For instance, the sense 'belonging to X' can be discovered in English

196 Forms like *dürrenmattisch* also come with the suffix variant *-sch*, where the vowel has been deleted. For Motsch (2004: 248) it is a distinct suffix which only appends to family names.

197 Eichinger includes in this category forms such as *halsbrech-erisch* 'breakneck', which have been argued to be suffix variations (e.g. IDS Grammis, entry 'Suffixvariante'), or suffix extensions (Eichinger 1982: 102). Motsch discusses these forms but considers them derived from agentive nouns (2004: 189).

relational adjectives which are predominantly ethnic terms. In fact, Fleischer and Barz (2012: 308) claim that the suffix *-isch* (as well as *-lich*) are principally used to coin relational adjectives in German. Remarkably, deadjectival derivatives with an approximative reading are predominantly excluded from the discussion, which is a major point of departure for the cognates *-isch* and *-ish*. An exception constitute Fleischer and Barz (2012: 341), who briefly discuss adjectival bases with *-isch*. However, they discuss them in relation to their origin, with the rare derivative *link-isch* 'awkward' as the only example for a native base. To see which readings are possible in principle, it is instructive to list some the various subgroups from Motsch (2004) in table 34 below.

Table 34. Excerpt of Motsch's (2004) categorisation of -isch adjectives

Categorisation of word-formational patterns	**Examples**	**Semantic categorisation**	**Status of activity (Productivity)**
Relation to items	*französischer Adliger* 'French aristocrat'	[AND (N)] (x) 'belonging to x, the properties of N are likewise properties of x'	strongly active
Comparison	*knechtisch* 'churlish' *schweinisch* 'swinish' *episch* 'epic'	[LIKE (N)] (x) 'like x, the salient properties of N are properties of x'	strongly active
Location	*spanisches Dorf* 'Spanish village'	[LOCATION of (N)] (x) 'belonging to x, having N as a location is a property of x'	predominantly lexicalised

Table 34 conveys Motsch's discussion of word-formation patterns in reduced form and shows only a portion of the twelve different patterns he recognises. He frequently considers the derivative in relation to a referent, which can lead to overlap of individual types in these groups. Likewise, both the categories 'relation to items' and 'location' evoke a sense of belonging and the adjectives given as examples are relational, although the former do not have to be ethnic adjectives. The example *demokratische Senatoren* 'democratic senators' can be given as evidence (cf. Motsch 2004: 195), which denotes individuals which are senators additionally belong to the class of democrats. The group of denominal adjectives of comparison predominantly contains derivatives with a pejorative connotation, notably those bases which denote persons or animals.
The productivity of *-isch* is generally considered to be high (cf. Fleischer and Barz 2012: 298) and coins especially adjectives on the basis of nouns (2012: 339). However, it is also dependent

on the word-formational pattern, with what Motsch terms 'recategorisations' of nouns or verbs to adjectives listed as inactive (e.g. *neid-isch* 'jealous', *zänk-isch* 'quarrelsome', from *Zank* 'quarrel, altercation' with Umlaut) (cf. 2004: 182 for N → ADJ and 2004: 189 for V → ADJ). Note that these are also negatively connotated.

7.2.5 The suffix *-lich*

The suffix *-lich* is not treated individually, but only in reference works of word-formation. Like its English cognate it is of Germanic origin, but apart from the noun *Leiche* 'corpse' and the adjective *gleich* 'like', which bear reflexes to an earlier free form, it does not occur independently with the same form (compare Middle High German *līch* 'body'). It attaches predominantly to nouns (e.g. *menschlich* 'human'), verbs (*bedrohlich* 'threatening'), and adjectives (*rötlich* 'reddish'). Fleischer and Barz (2012: 345) additionally mention isolated deadverbial formations and their rare occurrence is attributed to blocking from the suffix *-ig*. Numeral bases, specifically ordinal numbers with *-lich* are not adjectives, but adverbs and are thus excluded from consideration (e.g. *erstlich* 'firstly'). Interestingly, *-lich* is the only of the three suffixes which freely attaches to adjectives and the semantics of the derivative most closely resembles that of English *-ish*. It modifies colour adjectives in German with the same sense of approximation as its English cognate, but also appends to relative adjectives (e.g. *dicklich* 'chubby'). Some formations are lexicalised and their meaning has diverged from that of the simplex by metonymy (e.g. *kleinlich* 'pedantic'). Derivatives in relation to properties of persons are frequently used in a slightly pejorative manner (e.g. *kleinlich*, *weichlich* 'soft, wimpish', but also *zärtlich* 'tender') (cf. Naumann 1972: 72f.). Compared to denominal formations, however, *-lich* picks out a neutral or positive connotation whereas the same base with *-isch* denotes a negative property (e.g. *herrlich* 'wonderful' – *herrisch* 'bossy', *weiblich* 'female, feminine' – *weibisch* 'womanish') (cf. Fleischer and Barz 2012: 316). We have seen this distribution with their English counterparts above. Adjectives derived from simplex and complex nouns generally prevail with this suffix, but only with singular forms, and *-lich* causes Umlaut in some of them (e.g. *Vater* 'father' – *väterlich* 'fatherly') (cf. Naumann 1972: 74). Fleischer and Barz (2012: 316, 342) as well as Motsch (2004: 204) point out, however, that the share of denominal derivatives denoting a comparative relation, such as the example *väterlich* above, only make up a small fraction of them (Motsch calls this type of formation 'weakly active').

Verbal bases occurring in this derivation are infinitival stems, which are restricted due to the productive formation of such derivatives with *-bar* '-able' (cf. Fleischer and Barz 2012: 343).

Examples include transitive verbs (e.g. *hinderlich* 'hindering' from *hindern* 'to hinder, prevent from') and intransitive verbs (e.g. *verderblich* 'perishable' from *verderben* 'to spoil, perish'), the latter of which denotes that the referent is inclined to show this behaviour. This type of deverbal formation includes a meaning component indicating that the action the verb denotes is particularly easily accomplished: *zerbrechlich* 'fragile' denotes that an object is easily able to break into pieces and with the meaning *fragile* it can also be applied to individuals. Naumann (1972: 56) and Fleischer and Barz (2012: 333) refer to this property of *-lich*, the latter of which note its similarity to *-bar* '*-able*' derivatives.

As is noted by Motsch (2004: 200), *-lich* as opposed to *-isch* disprefers non-native bases, which might explain why there is relatively little overlap between the suffixes concerning the bases they take. That will become evident in the analysis in section 7.5 below. In section 7.5.2.2, I will address this issue with respect to colour bases that are attested for English, but not for German.

Concerning the status of competition amongst suffixes, Eichinger (1982: 164f.) discusses *-isch* and *-lich* with respect to rivalry, but as stated above, each is distributed in different and opposing ways when attached to the same base. Synonymous formations in other works emerge only with suffixes not discussed here, e.g. *-lich* and *-bar* as noted above, as well as *-lich* and *-ig* (cf. Fleischer and Barz 2012: 351). Compare *erklärbar – erklärlich* 'explicable' and *schaurig – schauerlich* 'spooky', which should additionally be tested for their respective collocations, however.

Together with *-isch*, the suffix *-lich* is considered a highly productive suffix[198] but as with the former, also *-lich* shows differences according to the type of derivative. For instance, Motsch (2004: 182, 188) considers 're-categorisations' like *ängstlich* 'fearful, scared' (N → A) and *beweglich* 'flexible' (V → A) as inactive, while other denominal and deverbal formations are considered strongly active (e.g. the word-formational pattern *Geltungsbeschränkung* 'restriction of application' such as *beruflich* 'occupational'). He primarily discusses denominal formations and a few deverbal ones, but surprisingly he omits derivation from adjectives including colour adjectives from the discussion entirely. Perhaps the reason for this omission can be found in the fact that he discusses formatives like *-farbig*/*-farben* '-coloured' specifically, both of which are deemed active (cf. 2004: 208f.). Naumann (1972: 71) concurs with Motsch in regarding derivatives on the basis of verbs as rather unproductive.

198 Wellmann (1998: 530, in Fleischer and Barz 2012: 298) attributes 40% of adjectival word formations to *-isch*, *-lich* and *-ig*, to which Fleischer and Barz add *-bar* as well.

7.2.6 The suffix *-esk*

Let us now consider the last suffix, the Romance-based *-esk*. In reference works this suffix is neglected at best, in some it is overlooked completely. Kühnhold, Putzer and Wellmann (1978) is a notable exception as they discuss non-native suffixes alongside native ones. In Naumann it is merely listed as a non-native suffix and as such it cannot form derivatives that are unproblematic for some native suffixes (e.g. **schreibesk*, **schreibal*, **schreibiv*) (cf. 1972: 57, 60) . This example is uninstructive, however, as some native suffixes are also unacceptable with this base: The online versions of the dictionaries Duden and DWDS (*Digitales Wörterbuch der Deutschen Sprache* 'digital lexicon of the German language') both contain no entries for either **schreibisch* or **schreiblich*, and only the latter gives an entry for *schreibbar* 'writable'. For Naumann the non-native suffixes are all considered unproductive, which is the reason he gives for omitting them. Likewise, Motsch (2004) neglects suffixes such as *-esk* completely.

Fleischer and Barz (2012: 316) recognise *-esk* as one of the non-native suffixes that realise a relation of comparison, a sense also attributable to *-isch* and *-lich* (see above). The main category to which *-esk* appends are nouns, especially proper names (e.g. *clownesk*, *dantesk*), and in some cases it denotes literary or musical styles (e.g. *balladesk*) with a comparative meaning (cf. Fleischer and Barz 2012: 350). In fact, Kühnhold et al. (1978: 338) state that derivations with proper names as bases amount to 57.1 per cent of all derivations with *-esk*. Since the total amount of types amounts to only 28 in this work, however, this number is not very informative[199].

The meagre attention *-esk* is given in reference works is remedied in part by one monograph solely devoted to classifying *-esk* as a suffix. Hoppe (2007) gives a comprehensive account of derivations with this suffix, discussing its morphology, orthographical features, phonological characteristics as well as its semantic structure. Furthermore, she compares *-esk* with respect to similar suffixes such as *-isch*, *-artig*, and *-haft* and sheds light on the suffix's etymology. According to her, *-esk* as a productive suffix enters the word-formational landscape in German only in the middle of the 19th century with *peruginesk* 'peruginesque' (1855), but the first attestations include borrowings from Italian and French such as *moresk* 'moresque', (1480 as the noun *Moreske* 'moresque', the adjective is attested since around 1529) *grotesk* 'grotesque' (1575) and *burlesk* 'burlesque' (1682) (cf. Hoppe 2007: 23), all of which are morphologically unanalysable in German[200]. This situation thus mirrors that of the English counterparts.

199 A comparison of productivity for *-esk*, *-isch*, and *-lich*, among others, is given in Kühnhold et al. (1978: 341). Of course, the share of each suffix might have changed over the past forty-odd years. Already in 1978 Kühnhold et al. note that the protion of *-esk* derivatives is increasing (cf. p. 342).

200 Hoppe (2007: 232) notes, however, that these opaque formations remain sporadic.

Formations with *-esk* have emerged primarily in the context of the scientific discussion of Italian Renaissance, especially in cultural studies and in the science of fine arts. It is therefore not surprising to discover many derivatives on the basis of proper names of Italian personalities well-known from the area of fine arts, but also architecture and music (e.g. *caravaggesk*, *leonardesk*, *michelangelesk* 'in the style of Caravaggio/ Leonardo da Vinci/ Michelangelo').

Hoppe gives Hans Wellmann as one of her notable sources, acknowledging his previous work in word-formation (cf. 2007: 1). Thus, following him, she gives two basic meanings for *-esk*, the first denoting similarity and the second denoting affiliation or relation, both of which are said to be productive (cf. Hoppe 2007: 24f.). The former type of meaning of <similarity> is the predominant type of the two, both synchronically and diachronically, and it is used in the context of academic language and jargon (cf. Hoppe 2007: 230). As stated above, the relation to fine arts is salient in this type and formations with proper names as bases are to be understood with respect to this relation, that is, a painting said to be *michelangelesk* is specifically likened to the style of Michelangelo and the manner of his art, bearing characteristics tantamount to this school. The referent of the derivative is characterised as showing similar and sometimes even almost the same characteristics as the model on which it is based (cf. Kühnhold et al. 1978: 338). Which of the characteristics are considered as salient and similar to the referent of the base is a matter of subjectivity, however, and they do not have to conform to verifiable lines of tradition corresponding to actual work of the referent (cf. Hoppe 2007: 231). According to Hoppe, the second type of meaning of <affiliation> has increased its productivity only on the basis of derivations of the first type (cf. 2007: 231). These are formations prevalent in academic and journalistic language and are less subject to jargon-specific contexts. This distribution does not necessarily contradict the earlier established line of development from relation > similarity > approximation, but for this suffix it might have to be adjusted slightly. It has been noted that these meaning components are indeed very close to each other and it is a matter of salience which one is predominant. Thus, the trajectory might not be conceived of as strictly linear for each of the suffixes. In this particular case it very well may be that the notion of 'similarity' had been salient to a greater extent than that of 'relation', thus leading to an earlier coinage and a temporarily higher productivity of the former. The fact that both meaning components have surfaced shows how closely connected they are.

Hoppe (2007: 48) also notes the high frequency of proper name bases, and notes that native nominal bases (or those which are nowadays considered to be native) are rare, e.g. *schlageresk* from *Schlager* 'German pop song'. She gives a detailed account of what kinds of proper names are involved in derivation with *-esque*, including first and family names, less commonly a

combination of both, ethnic and geographical names and occasionally names (also abbreviations) of institutions[201].

Interestingly and different from the English counterpart, German *-esk* derivatives occur only in lower case, even when proper names serve as bases (cf. Hoppe 2007: 31). This will play a role for the search modalities described in detail below. Orthographically, some *-esk* formations are attested with a graphical separation in form of a hyphen, which serves to identify the components of the derivative more clearly (*fellini-esk* vs *felliniesk* or *fellinesk*) (cf. p. 32f.). In the corpus analysis below, it will become evident that omitting a marked segmentation may lead to slower processing of the derivative in some cases. In a few cases linking elements are used to avoid hiatus (e.g. *dali-n-esk* from *Dalí* (cf. p. 35). As with the English counterpart, *-esk* is stated to bear main stress (cf. Wellmann 1975: 411), thereby confirming Bauer et al.'s (2013) statement also for German. The fact that the stress pattern is different to native *-isch* and *-lich*, is an indication of the suffix's non-native origin. Wellmann notes that the phonetic structure is foreign to the German standard language, but not unknown in a number of dialects and in earlier periods of the language (1975: 412). The Old High German suffix *-isc*/*-isg* in *frenkisc* 'Franconian' may serve as an illustration for this. The fact that the Germanic suffix *-isch*/*-ish* and the Romance suffix *-esk*/*-esque* are historically related will be dealt with below (section 6.3.1).

7.2.7 Summary of suffixes

The above introduction of the suffixes *-ish*, *-like*, *esque* (English) and *-isch*, *-lich*, *-esk* (German) has shown that while there are individual preferences on the bases they take and certain semantic niches each of the suffixes exploits to a different extent, many of the semantic properties recur in varying degrees of manifestation.

The English suffixes present different preferences concerning the bases they attach to and the main base categories are given in table 35 below. Furthermore, the semantic contributions of each suffix resemble each other. The table is of course an oversimplification. For example, it has been shown that *-ish* attaches to a wide range of bases, but only the most basic or productive are listed here. Likewise, the base category of noun covers proper nouns and compounds with nominal bases here. Thus, as will be shown in the corpus analysis below, *-like* also attaches to a few adjectives (e.g. *short-like*) and nominal compounds (e.g. *cardboardlike*) and *-esque* is attested with some nominal compounds (e.g. *chicken-soup-esque*), phrases (e.g. *atwateresque*), or numerals (e.g. *1918-esque*), but these are predominantly infrequent or can be subsumed under

201 Hoppe includes a list of involved proper name bases (2007: 67).

one of the categories above (nominal compounds as a complex nominal base, for example).

Table 35. Comparison of the English suffixes -ish, -like and -esque

Suffix	**Base categories**	**Semantic contribution**	**Examples**
-ish	Noun	Relation/ Association	*English* *Spanish*
		Comparison/ Similarity	*childish* *sheepish* *summerish*
	Adjective	Approximation	*blackish* *oldish*
	Numeral	Approximation	*25-ish* *fiftyish*
-like	Noun	Comparison/ Similarity	*childlike* *motherlike* *hawklike*
-esque	Noun	Relation/ Association Comparison/ Similarity	*dantesque* *bondesque*

Without going into detail of the various differences of base categories and semantic specialties as recorded in Motsch (2004), Fleischer and Barz (2012) as well as Schlaefer (1977) and Eichinger (1982), the predominant base categories and semantic properties of the German suffixes are listed in table 36 below. A comparison of bases of *-isch* and *-esk* is given in Wellmann (1975: 418).

It is striking that only *-lich* productively forms adjectives from other adjectives and also bears the semantic characteristic of gradation. The closely related semantic properties of affiliation and comparison can be found across the board in all three suffixes. Note that *-esk* only productively coins new proper nouns, given here under the more general heading of 'noun'. It is especially noteworthy that the same derivative may give rise to one or the other meaning component, depending on the referent of the derivation: *kafkaesker Hirschkäfer* 'Kafka-esque stag beetle' refers to a stag beetle which is similar to the beetle in Kafka's *The Metamorphosis* in a grotesque way, whereas *kafkaeskes Werk* 'Kafka-esque work' relates somebody else's work to that of Kafka (cf. Hoppe 2007: 24f.). As I have stated above, given the close relatedness of the two senses, the meaning may also be mingled in particular cases and thus will not allow a neatly unblurred disentanglement of each.

Table 36. Comparison of the German suffixes -isch, -lich and -esk

Suffix	**Base categories**	**Semantic contribution**	**Examples**
-isch	Noun	Relation/ Association	*schulisch* 'educational' *dichterisch* 'poetic, literary'
		Comparison/ Similarity	*bäurisch* 'boorish', *hündisch* 'doggish'
	Verb	Behavioural properties	*misstrauisch* 'suspicious', *mürrisch* 'grumpy'
-lich	Noun	Relation/ Association	*herbstlich* 'autumnal' *elterlich* 'parental'
		Comparison/ Similarity	*freundlich* 'friendly', *menschlich* 'human'
	Verb	Behavioural properties	*beweglich* 'flexible', *weinerlich* 'whiney'
	Adjective	Approximation	*rötlich* 'reddish', *dicklich* 'chubby'
-esk	Noun	Relation/ Association	*dantesk* 'Dantesque' *kafkaesk* 'Kafka-esque'
		Comparison/ Similarity	*kafkaesk* 'Kafka-esque', *clownesk* 'clownish'

What tables 35 and 36 show is that concerning the main lexical classes, there is quite a few overlap semantically, with the senses of affiliation and comparison being the most predominant in both. However, concerning adjectives, the suffixes behave quite differently. For instance, *-ish* is very comfortable in taking adjectival bases, whereas in German it is *-lich*. Neither of the other suffixes (*-like*, *-esque*, *-isch*, *-esk*) are particularly productive with adjective bases. Furthermore, what the tables do not show is the intrinsic preferences of each suffix, be it a preference for non-native (*-isch*) or proper noun bases (*-esk*, *-esque*), the difference in range of bases (e.g. *-ish* vs *-like*), or particular semantic contributions (e.g. negative connotation with *-ish* and *-isch*). Thus, the tables above should be taken as giving the essence of the scholarly treatment as well as an approximation to the variety inherent in the individual suffixes. They are not exhaustive and do not aim at completeness. The individual differences will be distilled in the analysis below.

7.3 The concept of rivalry in morphology

This section will scrutinise the question whether derivatives which differ in the attached suffix but not in the base form, such as *sheepish* and *sheep-like*, can be considered morphological rivals and I will follow Trips (2008, 2009) here who convincingly shows that the salient meanings present in the suffixes do not support the hypothesis of suffixal rivalry.

In the pertinent literature on morphology, it has often been stated that derivations with the same base but a different suffix are rivals which are in competition with each other. Early contributions claimed that the resultant derivations are synonymous and do not show differences in meaning (Martin 1906: 71). This view has been maintained in many publications up to the 1990s, for example in Aronoff (1976: 51f.), who distinguishes derivations with *-ity* from those with *-ness* on the basis of the feature [+/- latinate], i.e. *-ity* differs from *-ness* in that it does not attach to latinate bases. Cutler (1980: 48) argues on the grounds of phonological transparency and concludes that the choice of suffix is largely determined by how transparent or opaque the base form is in a derivative. Dalton-Puffer (1996) investigates several Middle English derivatives and finds a considerable number of 'parallel derivatives', which are bases that co-occur with several of her investigated eight suffixes. From this basis, she offers two possible conclusions of why so many doublets occur: First, the suffixes are sufficiently different in their semantics, essentially leading to two different types of words and second, the suffixes are not sufficiently differentiated and can be used interchangeably (1996: 126). She eventually comes to the conclusion that ”[t]here are no systematic meaning differences“ between several of the suffixal pairs, e.g. *-ite* and *-ness*, or *-ship*, *-ness*, *-hede*, and *-th* (1996: 128). In her words, ”[...] in the absence of any positive evidence pointing towards systematic meaning differences between parallel formations in Middle English, I assume the suffixes involved to be synonymous“ (1996: 128).

However, the assumption of synonymy has been met with criticism, for example by Riddle, who argues that *-ness* and *-ity* are largely semantically distinct, thus rejecting the synonymy hypothesis (1985: 436f.)[202]. Some of the more recent publications on rivalry in morphology also do not posit absolute synonymy (e.g. Plag 1999: 95, Plag 2003: 66). Nevertheless, the concept of morphological rivalry has prevailed and is discussed, for example, in the context of productivity, especially with regard to the restriction of blocking (e.g. Rainer 1988, Plag 1999, Plag 2003), but also in the context of the diachronic development of suffixes (e.g Arndt-Lappe 2014). Arndt-

202 I do not deny that there can in fact be affixes that are synonymous and may be used interchangeably, provided phonological and morphological properties permit it, such as the prefix pair *en-/in-* or the suffix doublets *-ance/-ancy* as mentioned by Kaunisto (2009), among others. However, they can be considered as variants of the same affix and not distinct suffixes with independent meanings, such as *-hood*, *-ship* and *-dom* with their particular historical trajetories.

Lappe and various other publications do not provide the concept of rivalry with a precise definition, however, which makes it difficult to assess the underlying concept in many of those works. A proliferation of phenomena that are described by the same term thus lead to confusion of the concept. Hence, Arndt-Lappe considers *-ness* and *-ity* to be rivals even though she investigates derivatives with different bases, whereas rivals in Plag (2003) and others concern parallel derivatives, i.e. different suffixes that attach to the same base (e.g. *decency* vs *decentness*). A notable exception concerning the term 'doublets' (and by extension, rivals) is Hegedüs (2014, 2017). She reviews several definitions brought forth for German, English, and Hungarian and cites Skeat's early definition, given below:

> doublets are words which, though apparently differing in form, are nevertheless, from an etymological point of view, one and the same, *or only differ in some unimportant suffix*. (Skeat 1967[1882]: 648, in Hegedüs 2017: 24, my emphasis)

She criticises his definition and considers it inadequate ”because it neglects not just the relevance of the suffix but the whole mechanism of the emergence of doublets“ (Hegedüs 2017: 24). As a result she formulated criteria to distinguish between what she calls etymological doublets and 'quasi-doublets'. The former concern borrowed bound morphemes which coexist with a native affix, but both descend from the same etymological source. The latter term is used, among other things, for coexisting native and non-native variants which do not descend from the same etymon (cf. Hegedüs 2014: 312). To give an example, the suffixes *-ish* (Germanic) and *-esque* (Romance) are considered to be true etymological duplications because they both ultimately derive from the same Proto-Indo-European (PIE) suffix *-*isko*-, according to Hegedüs (2014: 317), who bases her argumentation on Watkins (2000: 36). The native suffix *-ish* directly descends from the PIE suffix, while *-esque* was first borrowed from the Proto-Germanic (Pgmc) suffix *-*iska* into Vulgar Latin (*-iscus*), which then developed into French *-esque*. Via this trajectory, the Romance suffix *-esque* found its way into the English language, where it is used alongside native *-ish*. In section 7.5 below, I will go into more detail concerning the suffixes' meaning and use and it will become clear why the two suffixes, despite their common etymological origin, should not be considered rivals as posited in the publications cited above. By comparison, the ethnic use of the suffix *-ish* and the Romance-based ethnic suffixes *-ian* or *-ite* would be considered examples for a quasi-doublet (or triplet, to be more specific) because they do not derive from the same archaic etymon. Thus, parallel derivatives fall into the group of quasi-doublets. However, Hegedüs distinguishes between parallel derivations such as *kingdom*, *kingship* and *kinghood*, all three of which she does not consider to be synonymous and doublets such as *accurateness* and *accuracy*, which are called morphological doublets by Szymanek 2005:

441). Morphological doublets in Szymanek's sense are claimed to be in competition, effectively making them rivals, a term which Hegedüs prefers for this kind of quasi doublets (cf. Hegedüs 2014: 314). Hence, she applies the term for derivational variants that have been in competition historically and for which one variant surpassed the other in productivity, eventually ousting its 'rival'. Opposed to that, morphological (or more precisely, derivational) variants may coexist side by side when ”the forms cease to be synonymous because they obtain specialized meanings, and thus enter a semantically complementary distribution enabling them to survive independently“ (Hegedüs 2014: 314). As an example she cites the variants *economic* and *economical*, which have developed the distinct meanings 'of, relating to, or concerned with the science of economics or with economy in general' in the former case and 'relating to (personal) monetary circumstances, financial' in the latter (cf. OEDweb entries for later *economic*, sense 4a, and earlier *economical*, sense 1b). Therefore, she employs the concept of rivals, but distinguishes between forms depending on their semantics.

By contrast, she bases her argumentation of the parallel derivations *-hood*, *-dom* and *-ship* on Trips (2008), who has shown that these word-formations are not synonyms as has been claimed. Trips shows that by tracing the historical development of each of the three suffixes, the argument of synonymy can be shown to not hold water. Despite all three forming abstract nouns, they have salient meanings that already differ in Old English (from Trips 2008: 135):

(368) a. *hād*: 'status, office, rank'
b. *dōm*: 'authority, judgement'
c. *scipe*: '(resultant) state, condition'

These salient meanings have developed further meanings in the course of time, which arose by metonymic shifts and thus, together, these sets of meanings shape each of the present-day suffixes (cf. Trips 2008: 135). Thus, to presume that parallel derivations are simply synonymous ignores a) the diverse historical developmental paths these suffixes underwent and more generally that b) these suffixes have meaning which interacts with the meaning of the bases they attach to (cf. Trips 2008: 138). Hegedüs thus observes that

> [w]ith the relatively recent grammaticalization of the second elements into suffixes, the semantic distinction may have reduced between them but not to such an extent as to allow a rivalry between them. (2014: 315)

The investigation of parallel derivations therefore strongly calls for the need to closely inspect the semantics of these suffixes. Superficially, many of the suffixal doublets may appear synonymous and thus act as rivals and for variants such as *-ance* and *-ancy* this may well be true. However, when the historical development and the consequential developments in meaning are taken into consideration, the synonymy hypothesis does not hold water for many of the suffixes. A

thorough semantic investigation of a large range of suffixal doublets could shed more light on this matter and reveal subtle differences in meaning which have evolved historically. As will become evident, the suffixes *-ish*, *-like* and *-esque* can also not be considered rivals which are in competition with each other, simply because they each have carved out their own semantic niche, which occasionally may overlap. However, they are distinct suffixes with a separate historical trajectory which passes on their individually developed semantic traits. Thus, employing the term 'rivals' here without scrutiny means to measure these distinct suffixes and their development by the same yardstick.

As a case in point, consider the suffixes *-ish* and *-y*, of which is said that they form ”a set of closely related rival formatives that all derive words expressing a similative meaning“, together with *-esque* and *-oid* (Bauer et al. 2013: 289). Malkiel (1977) primarily investigated those two suffixes and found that while *-ish* adds a sense of resemblance to the animal bases, *-y* is an ”abundantial suffix“ (p. 347) in that derivatives with *-y* denote a sense of abundance. For instance *snaky* denotes ”a pit infested with snakes, and *spidery* describes ”a dark corner of the room abounding in spider webs“ (1977: 354). Malkiel shows that over the course of their development, derivatives ending in these suffixes have changed meanings as with *crabby* 'abounding in crabs', which has developed a sense of 'grouchy, irritable' (1977: 356). Thus, their development even has led some of them to ”trespass on the adjoining territories“ (Malkiel 1977: 356), resulting in doublets with only little semantic overlap. From a synchronic point of view they are simply that, rivals with closely related meanings, however, when we apply the diachronic lense we can see that there have been transient stages of semantic divergence and convergence. It remains to be seen to what extent distinct trajectories verify these transient stages. This can only be achieved by analysing these suffixes diachronically, however, and as I have chosen to scrutinise their synchronic state, I will have to leave this endeavour to future work.

7.4 Quantitative analysis

7.4.1 The corpora

We have already seen in chapter 4 how the suffixal variant of *-ish* is employed in present-day British English with the BNC. Due to the shortcomings of an otherwise well-developed and balanced, but stable corpus, the BNC does not qualify for a comparative study which is supposed to represent language in its latest state.

For this reason, the dynamic *Corpus of Contemporary American English* (COCA) has been

chosen to represent recent (American) English. COCA further fulfills the characteristics of being a representative corpus by its five different text types and its overall word size. Concerning the German language, the well-known corpus platform Cosmas II[203] has been chosen, which contains written material from the ***De****utsches* ***Re****ferenz****ko****rpus* 'German reference corpus' (DeReKo in short), organised in several archives. Since the corpus in general contains language exclusively from the written domain and the chosen subcorpus is restricted to newspaper articles, COCA's section Newspaper will be chosen to ensure comparability. Both corpora are suitably large and up to date, which is essential to ensure the highest amount of representativity. Although there cannot be a guarantee that any corpus analysis is representative for a given phenomenon, since a corpus always is just a snapshot of language (cf. Lemnitzer and Zinsmeister 2006: 54), a large amount of relatively recent data may lead to a significantly higher representativity of any synchronic corpus analysis. Below, the two corpora employed in this corpus study are introduced and discussed in more detail.

7.4.1.1 American English: *Corpus of Contemporary American English* (COCA)

COCA is part of the BYU corpus database, which was created by Mark Davies of the Brigham Young University (hence BYU) and which includes corpora in different languages or dialects (Spanish or Canadian English, for instance), different text types (i.e. corpora which only feature texts from the TIME magazine or exclusively web-based corpora), as well as different time periods (among them stable corpora which range from the early 19th century to the beginning of the 21st century, but also dynamic corpora like the COCA[204].

As of December 2017, COCA contains 570 million words and its time span ranges from 1990 to its latest entries of 2017, which neatly connects to the BNC (recall that the BNC ranges till 1993), making it a continuation of the use of the suffixal *-ish* variant (albeit in American English)[205]. Text types are balanced and words are largely evenly distributed over the five text types Spoken, Fiction, Magazine, Newspaper and Academic. In table 37 below, an extract of the word count of each text type in the earliest and latest two years, respectively, is presented.

---

203 'Cosmas' is an acronym which stands for ***Co****rpus* ***S****earch,* ***M****anagement and* ***A****nalysis* ***S****ystem* and has been developed by the Institute for the German language (IDS) in Mannheim. See http://www.ids-mannheim.de/cosmas2/projekt/referenz/korpora.html for details (last accessed 20.08.2019).

204 An overview of the featured corpora concerning their size, time period and other information can be found under the following link: https://www.english-corpora.org/ (last accessed 20.08.2019).

205 Since the meaning and types of register of derivatives with *-ish* are not affected by their occurrence in British or American English, using an AmE corpus as a 'continuation' of a BrE corpus study should not pose a problem.

Table 37. Extract of word count per text type in COCA

Year	Spoken	Fiction	Magazine	Newspaper	Academic	Total
1990	4,241,820	4,100,296	3,993,642	4,000,927	3,914,328	**20,251,013**
1991	4,183,317	4,075,428	4,099,198	44,003,173	3,980,425	**20,341,541**
…	…	…	…	…	…	**…**
2016	4,371,199	4,197,883	4,087,037	4,134,560	4,005,824	**20,796,503**
2017	4,404,291	4,228,709	4,141,556	4,242,760	4,109,588	**21,238,237**
Total	**116,748,578**	**111,845,122**	**117,354,113**	**112,995,407**	**111,410,528**	**570,353,748**

Table 37 shows that the word count for each text type averages around 4 million words each, with only minor outliers in either direction of the scale (the lowest word count for a given year amounts to 3,456,761 in academic texts in 2014, the highest to 4,551,005 words in the column Academic in 2011 (not in the table)[206]. The total word count for the text types together amounts to roughly 20-odd million words each. Again, the lowest overall word count for a given year is 19,681,916 words total that were collected in 2010, the highest amount of words was collected in 2011, with 21,663,420 words total (not in the table). The table (as well as the more detailed information on the corpus web page) illustrates that much care was taken to create a balanced corpus, which is essential for corpus studies. Concerning the ratio of spoken to written text types, it is important to bear in mind that COCA features a similar distribution to the BNC by having a 1:4 ratio (only one of the text types entails spoken data, the rest is entirely written).

Considering the content of the individual text types, the 'Spoken' section contains unscripted TV and radio programs which have been transcribed by the corpus developers. Examples include the news show *Good Morning America* (broadcasted on the network ABC) or the talk show *Jerry Springer*. A documentation on relevant issues such as authenticity of spoken data and their naturalness is given on the corpus' web page. The text type 'Fiction' entails short stories directed at adults and children, first chapters of books and movie scripts. 'Magazine' features a wide selection of popular and well-known magazines such as the *Time*, *Cosmopolitan*, *Men's Health* or *Good Housekeeping* and is well-balanced between different contentual domains, including gardening, financial, religion or sports. The 'Newspaper' text type contains newspapers with local and national scope, e.g. the *New York Times*, *San Francisco Chronicle* or *USA Today*, which is also balanced between different newspaper sections (e.g. local news, opinion, sports, among others). This text type has been chosen for the corpus analysis, as the text type 'Newspaper' can be compared to the German subcorpus used, which only contains newspaper articles. Finally,

206 The information can be accessed by clicking the icon 'See texts and registers' on the corpus' web page: https://www.english-corpora.org/coca/ (last accessed 20.08.2019).

'Academic' consists of peer-reviewed journals covering a wide range of topics, among them, world history, education, technology or philosophy.

7.4.1.2 German: *Deutsches Referenzkorpus* (DeReKo)

As noted above, to represent the German language, one of the Cosmas II-corpora has been chosen, which are a collection of texts which originate for the most part from the German reference corpus, DeReKo. Cosmas II is the web-based user interface with which these corpora can be accessed and when I refer to Cosmas II in this chapter I automatically include DeReKo as well. It contains 367 corpora in total which are organised into 18 archives. For instance, CosmasII includes an archive devoted to Wikipedia articles from 2015, but also historical corpora and a corpus entirely composed of articles from the German newspaper *Süddeutsche Zeitung*. For this corpus analysis it is essential to use a POS-tagged corpus to be able to find derived adjectives with the respective suffixes. Cosmas II offers several annotated corpora, however, the archive Tagged-T2 has been chosen as it is best suited for the task. It is annotated for part of speech and, in comparison to the sister archive Tagged-T (whose entries range from 1994 to 2009), it contains entries from 2010 to 2014, which is more up to date. Even though this corpus is a static one it covers relatively recent articles and is thus comparable to the COCA. The 17 subcorpora of Tagged-T2 cover 1,378,830,000 words in total and contain newspaper articles from three German-speaking countries (i.e. Austria, Germany, and Switzerland)[207]. The corpus analysis has not been restricted to the German of Germany, but includes the German used in the other two countries as well. The reason for doing so is that the derived words with their respective suffixes do not differ significantly in these three languages in the text type 'Newspaper'. Although regionalisms might occur occasionally, they will not be as frequent as in data stemming from spoken language and they may occur in data from different areas within Germany, too. That is to say that the written language in a country cannot be seen as homogeneous and might differ from region to region in a few aspects. I will point out entries which show peculiarities for the German used in Austria and Switzerland, respectively.

Most of the newspapers included in the archive Tagged-T2 range from 2010 to 2014, with the exception of the Swiss newspaper *St. Galler Tagblatt* (2010-2013) and the German newspaper *Braunschweiger Zeitung* (2010 – 2013), as well as the Austrian newspaper *Niederösterreichische Nachrichten*, which has a gap from April 2011 to February 2012. Concerning the word span of the individual newspapers in the corpus, the largest amount of words is featured in

207 Details to the newspapers and the respective sizes of the subcorpora can be accessed via http://www.ids-mannheim.de/cosmas2/projekt/referenz/korpora.html (last accessed 20.08.2019).

the German newspaper *Rhein-Zeitung* (218,90 mill. words), the lowest amount of words (i.e. 8,27 mill. words) is found in the weekly distributed German specialist journal *VDI Nachrichten*, which encompasses information addressed to engineers and related professions.

7.4.2 Search process and queries

In the following, the queries that were used to conduct the corpus study will be introduced. In each of the two corpora a query will be needed which will result in a complex word of the word class adjective, ending in the respective suffix. Since there is no POS tag for suffixes the query has to look for the word class of the resulting derivative when adding the suffix. The tagset behind COCA is the CLAWS7 tagset[208] and it differs in the types of tag used from the BNCweb, which still uses the CLAWS5 tagset. In practice, the queries for the three English suffixes in COCA look as follows:

(369) a. -*ish*: *ish_j*
b. -*like*: *like_j*
c. -*esque*: *esque_j*

The POS tag for adjectives in COCA is *j* and the string *_j** is an automatic output of COCA once the user selects 'adj.ALL' in a drop-down menu for POS tags. Therefore, possible comparative and superlative forms will be included in the output. Recall that the asterisk *in front of the suffix is a metacharacter used to denote zero or more arbitrary characters before the suffix itself. With such a query it can be ensured, for instance, that the word does not start with the sequence *ish*, that the morphological category in the output is an adjective and that the resulting word terminates in -*ish*. Thus, possible pseudo hits such as $wish_{N/V}$ or $accomplish_{V}$, proper names (*Ish Smith*) as well as elements of foreign language (e.g. Hebrew *ish* 'man') are sorted out in an initial step. Nevertheless, since the corpus has no machinery to detect word boundaries, it will still display hits in the output that have to be excluded manually. I will defer this discussion to the next section which details the results of the corpus analysis. Furthermore, COCA does not incorporate the operator NOT as in the BNC. As a consequence, ethnic forms cannot simply be excluded in the search query, but have to be manually teased apart in the results. Interestingly, Hoffmann et al. remark that this operator is ”rarely needed“ (2008: 229). However, in section 4.8 above, we have seen that it proved valuable to distinguish between ethnic and non-ethnic adjectives.

208 See http://ucrel.lancs.ac.uk/claws7tags.html (last accessed 21.12.2019) for the full tagset.

Since Cosmas II has a different corpus design, the search process and therefore the search queries will vary from that of COCA. The web application Cosmas II is based on the ***S**tuttgart-**T**übingen-**T**ag**s**et* (STTS in short), which is described as a standard for German corpora (cf. Lemnitzer and Zinsmeister 2006: 66)[209]. Since a tagset for German needs to meet different criteria than one for English, it will make use of different tags. For instance, the German tagset includes additional values for inflectional categories, similar to the earlier stages of English, cf. Schiller et al. (1999: 8). Furthermore, compilers of a tagset usually strive to achieve a balance between granularity and manageability, which can result in differently-sized tagsets. Currently, the CLAWS7 tagset used for COCA comprises 137 tags, the STTS consists of overall 54 tags (cf. Schiller et al. 1999: 5). Lemnitzer and Zinsmeister (2006: 66) state that a typical tagset spans between 50 to 150 different tags. Having a closer look at the individual tags the two tagsets provide will illuminate the differences in size: COCA specifies nouns according to number (neutral, *sheep*_NN, singular, *book*_NN1, plural, *books*_NN2) and additional attributes such as direction (ND1), location (NNL1, NNL2) or quantities (NNO, NNO2) and time (NNT1, NNT2), which again can be specified for number e.g. *north*_ND1, *Island*_NNL1, *dozen*_NNO, *day*_NNT1, *days*_NNT2. The STTS by comparison only uses two types of noun, general nouns (tag NN), including concrete and abstract nouns, units of measurement, titles and temporal specifications (e.g. *weeks*, *months*) and proper nouns with the tag NE (cf. Schiller et al. 1999: 11-17). Concerning adjectives, CLAWS7 differentiates between general (JJ, represented as _j* in the dropdown menu of the current version of COCA), comparative (JJR, i.e. _jjr* in COCA) and superlative (JJT, i.e. _jjt*). The additional category of catenative adjective (be *willing* to) is available in COCA, but not an explicit option in the drop-down menu, which only lists 43 of the 137 CLAWS7 tags specifically. Nevertheless, all of the potential tags listed in CLAWS7 can be used in COCA, both in their original form (i.e. JJ) and in the slightly altered version shown above (i.e. _j*).

Cosmas II also displays a more elaborate search syntax. It makes use of a number of operators that refine a search. The search queries used in Cosmas II are given below:

(370) a. -*isch*: &-isch /w0 MORPH(ADJ)
b. -*lich*: &-lich /w0 MORPH(ADJ)
c. -*esk*: *esk oder *eske oder *eskem oder *esken oder *esker oder *eskes /w0 MORPH(ADJ)

The queries (370a. and b.) only differ in the suffix used. Contrary to COCA and most other corpora, Cosmas II has defined a number of searchable affixes and -*isch* and -*lich* are two of

209 More information on the STTS can be found here: https://www.ids-mannheim.de/cosmas2/projekt/referenz/stts/ (last accessed 21.08.2019) and in the guidelines by Schiller et al. (1999).

them [210]. The metacharacters & and * are part of a series of operators specifying word forms, with the former having the function of finding inflectional and derivational forms[211] and the latter functioning as a general placeholder, whose use is tantamount to the wild card introduced above. A proximity operator (/w) has been used with which the user can specify how many words are inbetween the infinitival form and the respective suffixal string. Since the desired output is a complex word, which does not allow characters inbetween infinitive and suffix, the value has been set to zero. Finally, Cosmas II has the option to select a word class. Out of the underlying word classes as formulated in the tagset, the annotation operator MORPH selects the desired one, which is the basic tag ADJ in our case to include all possible types of adjective in the search and therefore ensure a high recall[212]. Notice that the query used for finding the suffix -*esk* is different. The reason behind this deviation is that Cosmas II has not defined -*esk* as a searchable suffix in its list and thus searching for it with the same query as with -*isch* and -*lich* resulted in zero hits. As a result, the lemma operator does not produce results with this ending and in order to remedy this situation, the general placeholder * has been used instead of the infinitival operator *&*. Each word form was thus entered separately and this procedure resulted in a separate word form list for each infinitival ending.

Finally, the search process and display of results for the two corpora is different to an extent that required distinct strategies in order to obtain results that were comparable to a large degree. First of all, in COCA the result page lists hits according to types, sorted from most frequent to least frequent. In order to acquire hapax legomena, which will later be required for determining the suffixes' productivity, the number of hits have been preset to 2,500. However, only -*like* exceeded 2,500 types in the selected subsection NEWS, the other two suffixes did not reach 1,000 types in the output. To ensure manageability and likewise obtain a suitable number of hits, which includes hapax legomena, the results were limited to 1,000 hits. Another reason for this amount is that statistical tests require a suitable amount of hits in order to function reliably and be diagnostic. For -*ish* and -*esque*, this limitation arises naturally due to the lower amount of overall hits, whereas for -*like*, a manual cut-off point was put in place after reaching 1,000 types. This number still includes potential pseudo hits for all three suffixes, which have been removed in a second step.

---

210 For details see http://www.ids-mannheim.de/cosmas2/web-app/hilfe/suchanfrage/affixe.html (last accessed 21.08.2019).

211 The metacharacter & is called *Grundformoperator* 'lemma operator' in Cosmas II. More information can be found on the help pages: http://www.ids-mannheim.de/cosmas2/web-app/hilfe/suchanfrage/eingabe-zeile/syntax/grundform.html. (last accessed 21.08.2019).

212 All operators used in Cosmas II can be found here: http://www.ids-mannheim.de/cosmas2/web-app/hilfe/suchanfrage/eingabe-zeile/syntax/operatoren.html. (last accessed 21.08.2019).

To achieve a manageable output in Cosmas II, the option of assigning a fixed random selection out of all possible hits was selected. In order to take effect, this option is selected before all mandatory steps such as the search query. A difficulty that arises is that this random selection concerns tokens, not types. That is, the term *hits* in the options section of both corpora is differently defined in COCA and Cosmas II, leading to different considerations regarding the output. Thus, in order to obtain a comparable output to COCA, a suitable number of tokens has to be anticipated. Eventually, a sample space of 20,000 hits (i.e.tokens) has been selected as this amount offers a comparable amount of types. This means that while 20,000 overall tokens are presented in the result list for each suffix, the amount of types may differ to some extent.

After typing in the search query in Cosmas II, the user is presented with a list of word forms with which s/he can unselect irrelevant hits, e.g. nouns that erroneously appear in the output (e.g. *Handball-D-Jugendlichen* 'handball D- youths'[213])[214]. Cosmas II presents different challenges concerning its output. As mentioned above, it presents a word form list in which individual forms can be checked off before the actual results are displayed. Due to this setting, nouns have been excluded from the word form list (e.g. *Nachtisch* 'dessert', *Degenfisch* 'scabbardfish', *Mauernischen* 'alcoves'). Allowing only uncapitalised hits in the output has the effect that nouns, which also have a formally identical adjectival form, are excluded as well. For instance, capitalised word forms such as nominal (*die*)$_{\text{Det\_pl}}$ *Einheimisch-en*$_{\text{N\_pl}}$ '(the) locals' are excluded, while adjectives like the uncapitalised attributive adjective *einheimischen*$_{\text{pl}}$ 'native' in *die*$_{\text{pl}}$ *einheimischen*$_{\text{ADJ\_pl}}$ *Vögel*$_{\text{N\_pl}}$ 'the native birds' remain. This step proved necessary to also determine and remove conversion nouns, such as *Spanisch*$_{\text{N}}$ 'Spanish' concerning the language as such. While the option to separate capitalisation from non-capitalised word forms exists, this option is overridden when the lemma operator *&* is employed[215], which is required for the search queries (see (383) above). The process has been repeated with *-lich*, which faces some of the

213 The letters signify different groups of young athletes in Germany, which are classified according to age, with A being the eldest (usually between 17 and 19) and D signifying young athletes in their early teens (usually between 11 and 13).

214 With very common suffixes like *-isch* and *-lich*, the word form lists can become very large and caution has to be taken with the underlying session tracking ('Sitzungskontrolle'). This device ensures that inactive or overly long user sessions do not burden the server (See https://www.ids-mannheim.de/cosmas2/web-app/hilfe/allgemein/sitzung.html (last accessed 2.108.2019) for details). Unselecting word forms from the list seemingly has the same effect as being inactive and so, in order to avoid a session being terminated, not all irrelevant word forms can be eliminated. Both *-isch* and *-lich* generated 201 pages with 100 word forms each and the message of session control was issued *after* the pages were searched. The result is a relatively high recall but also means that some of these word forms are clogging the output. In order to manage these difficulties, I resorted to a general setting that regulates capitalisation. In particular, the setting ensures that only uncapitalised word forms are searched which leads to a lower recall as sentence-initial word forms are excluded. Nevertheless, it is a safeguard against having too many unwanted or wrongly tagged word forms in the word form list and hence, ensures a higher precision.

215 See http://www.ids-mannheim.de/cosmas2/web-app/hilfe/suchanfrage/eingabe-zeile/kochbuch/bsp-flexion.html. (last accessed 21.08.2019).

same problems: Compare (*die*$_{Det\_fem}$/*der*$_{Det\_masc}$) *Jugendlich-e*$_{N}$ '(the$_{Det_fem/masc}$) youth' versus *der*$_{Det\_masc}$ *jugendlich-e*$_{ADJ\_sg}$ *Enthusiasmus*$_{N\_sg}$ 'the youthful enthusiasm'. To ensure comparability, the setting has been applied to *-esk* as well. As such, the pseudo hits including (simplex) proper names (e.g. *Hawresk*, the name of an Armenian village), and compound nouns (e.g. *Helpdesk*, an English compound with updated German spelling) were sorted out.

Additionally, Cosmas II provides the user with the option to export the results, which assures that the ascertained results remain stable. They are, however, server-internally limited to only show a portion of the enire result list. This limitation makes it impossible to check for the real distribution of adjectives as compared to conversion nouns with the generally high output the German queries (except *-esk*) provided. These limitations led to the decision to opt for a slightly higher precision in favour of a higher rate of recall in these cases.

7.4.3 Results

The raw data from the search queries and settings in section 7.4.2 above result in 899 types for *-ish*, 351 types for *-esque* and over 1,000 for *-like*. In Cosmas II, the search queries resulted in over 2,500 types for *-isch*, 317 types for *-esk*, and 2,135 types for *-lich*. Recall that the maximum amount of types considered has been limited to 1,000 to ensure comparability. Furthermore, these are absolute numbers without manually going through them and without yet sorting out faulty or irrelevant hits. This was done in the next step. It will be shown that manual post-processing of the initial raw results of a corpus analysis can lead to dramatically different final quantitative results. Lüdeling, Evert and Heid (2000) discuss that neglecting to adequately post-process results from a corpus search can lead to skewed results and thus wrong conclusions. They investigated German derivatives ending in *-bar* ('-able') and *-ös* (roughly translates to '-ous') and have found that their initial calculations of productivity led to unexpected (and highly surprising) results, prompting them to go back to their results and reassess them. In doing so, they found a significant amount of types which were created by morphological processes other than derivation (2000: 59) and thus have to be excluded from the final result set. If this step is neglected, they might arrive at a productivity count which includes types arising from compounding or other morphological processes, leading to a skewed assessment of a suffix's authentic degree of productivity. A number of their remarks have been discussed in this thesis as well, such as types which accidentally end in the same sequence of letters as the suffix, but which in fact are simplexes for instance. It is necessary to explicitly point out their other remarks, as they have been applied here as well. A corpus search that looks for adjectives ending

in *-ish* for example, will also frequently output forms created by compounding and not derivation such as *yellow-greenish* or *Irish-Scottish*. These instances tell us nothing about the degree of productivity of the suffix *-ish* and hence should be excluded from the list of types (and hapaxes). A further important point made in Lüdeling et al. (2000: 59f.) concerns the nature of complex bases. It is frequently the case that derivatives are negated with one of several prefixes, e.g. *non-* or *un-* as well as *nicht-* in German. They suggest that negated forms which do not have corresponding positive counterparts may be counted as genuine derivatives, which add to the number of types and/or hapaxes (cf. 2000: 59f.). On the other hand, it is counted as a prefixed derivative if there is a positive counterpart available to the negated form (cf. 2000: 60), for example if both the types *un*-A-*ish* and A-*ish* exist, with A referring to the same base. These remarks also apply to prefixed derivatives with prefixes other than the ones mentioned (e.g. *anti-*, *super-*, *pseudo-*, etc.) since they likewise do not inform an affix's potential to derive new words if there are already corresponding types present without the prefix.

I will now give an account of the results which were manually sorted out. The result list in COCA featured a number of pseudo hits which include lexicalised types where the base form has been lost or cannot be recovered convincingly (e.g. *garish;* the OED suggests the verb *gaure* 'to stare' as its base, but also notes that *-ish* is not frequently added to verbal stems, see OEDweb entry *garish*).[216] However, in order to find a baseline of what to include and what to discard as well as to maintain a high recall, I chose to leave forms in in cases where the OED did not explicitly mark them. As such, I opt for a conservative take on lexicalisation, but one that is consistent across suffixes.). Further excluded types for *-ish* are forms of conversion (e.g. *lavish*, which is converted from the noun *lavish* 'profusion, excessive abundance', see OEDweb entry for *lavish*, adj.), proper nouns (e.g. *Amish*), types the tagger did not recognise as including simplex nouns (e.g. *city-parish*, *satellite-dish*, which probably were considered adjectives due to the hyphen which indicates a complex word), verbs (e.g. *reestablish*) or abbreviations (e.g. *delish* for 'delicious'). As has been stated above, forms created by compounding have been sorted out as well, both for the ethnic and non-ethnic types: *English-Spanish*, *yellow-greenish*. Especially the ethnic hits proved quite productive concerning compounding. Furthermore, also prefixed forms for which there are positive counterparts have been excluded, among them *pro-British* and *unbookish* (compare *British* and *bookish*, both of which are frequently attested types). Attestations of hyphenated types which also occur as a separate unhyphenated type in the result

216 Whether a type can be considered fully lexicalised in a speech community may not be determined in all cases without residual doubt, thus only the cases which the OED lists without a definite base form or with obsolete uses will be considered lexicalised in the following. The reader might disagree with individual choices, and I am well aware of different conceptions of lexicalisation in the literature (for details see Brinton and Traugott 2005).

list have been consolidated and are counted as one type only (e.g. *sweetish* and *sweet-ish*). This procedure was applied to all possible variants of a type also for the other suffixes.

It has to be noted that in the set of searched-for adjectival types there may also be pseudo hits among the positives[217]. This is especially true for words concerning ethnicity, which can be either adjectives or nouns. Even though the search query requires its output to only contain adjectives, a number of tokens have been found that do not entirely satisfy the demands of the query. As the tagger is a word-for-word tagger, combinations of article and noun are overlooked, similar to the diachronic corpus analysis in chapter 4. This means that sequences like *the British*$_{N}$ appear in the output, with *British* tagged as an adjective. Furthermore, some ethnic terms are also used to designate the language spoken in the respective area, such as *English* or *Spanish*. In accordance with the OED, these results are considered excludable as they constitute nouns (cf. OEDweb entry for *Spanish*, sense B.1). Next to these unequivocal examples of pseudo hits, a number of tokens are not so straightforward. These include adjectives as part of proper names, such as *British Open* or *British Airways*. The setting 'Show POS' in COCA is of limited help here as in the former case *British* is tagged as an adjective (hence, this is the reason it appears in the output) and *Open* predominantly also receives the tag for general adjective (JJ). The latter is slightly more telling, as COCA tagged *Airways* as a common noun in the plural (NN2), with *British* again being tagged as an adjective modifying the noun. We may draw two initial conclusions out of this result. Either we take option one and just regard all these cases as adjectives which merely modify the noun they attach to (*Airways*, *Telecommunications*, *Petroleum*, etc.). This is the option taken by Schiller et al. (1999: 15) and the CLAWS7 tagset. Option two would be to consider these ethnic terms as part of the proper noun, which is indicated by capitalisation of the nouns. In a sample of 200 tokens for *British*, 53 such cases were found. A third available option is to combine the two approaches and calculate the tokens with and without the disputable cases separately. As many of the ethnic adjectives have a large amount of tokens and thus were not searched completely manually, a confidence interval has been calculated to indicate the number of positive hits.

For the suffix *-like*, the three most common types COCA listed were not the suffixal form, but instead its simplex adjectival or adverbial homonym *like*, the negatively prefixed *unlike*, as well as the adjectival and adverbial form *alike*, which together amount to over 7,000 tokens. As with *-ish*, types formed with negative prefixes appended to the derivative have been removed (e.g. *unsportsmanlike*, compare the attested positive *sportsmanlike*). Concerning *-esque*, lexicalised

217 Positives are genuine adjectival tokens as expected from the search query. Their counterpart are negatives, i.e. nominal conversions, proper names and other tokens which have to be sorted out.

forms were excluded (e.g. *grotesque*, *burlesque*) as well as simplex proper names (e.g. *Presque*) and instances formed by other morphological processes than derivation (e.g. *postcard-picturesque*, *unpicturesque*).

In the following, we will consider the results for the German suffixes. After removing a portion of pseudo hits such as nouns prior to the display of the word form list by unselecting the option of capitalisation, remaining pseudo hits were removed manually. The result list for *-isch* still contained a significant amount of hits which cannot be attributed to the morphological process of derivation or, more specifically, suffixation. Among these are many compounds (e.g. *medizinisch-technisch* 'medical-technical', *amerikanisch-italienisch* 'American-Italian') and prefixed derivatives (e.g. *unpoetisch* 'unpoetic', *antiaufklärerisch* 'anti-rationalist'). As with its English counterpart, German *-isch* forms are especially productive concerning ethnic compounding (e.g. *böhmisch-jüdisch-wienerisch* 'Bohemian-Jewish-Viennese'). In those cases where *-isch* is added to a compound, thus deriving a new type, the form has been retained in the result list (e.g. *niederbayerisch* from *Niederbayern* 'Lower Bavaria').

For *-lich*, lexicalised adjectives (e.g. *möglich* 'possible') and adverbs (e.g. *endlich* 'finally, eventually') were sorted out from the word form list. The result list still included an extensive number of items which were not formed by suffixation with *-lich*. For instance, forms ending in *-tauglich* have been formed by compounding, rather than derivation. Consider the adjective *fahrtauglich* 'fit to drive' which is morphologically analysed as a compound of *fahren* 'to drive' and the complex adjective *tauglich* 'fit, suitable' (from the verb *taugen* 'to be suitable'). Thus, the verb *fahren* is appended to the complex word *tauglich*. The structure looks as follows: [*fahr*$_{V}$ [[*taug*]$_{V}$ [-*lich*]]]$_{ADJ}$. Thus it cannot be counted as a type (and in this case a hapax) because the relevant morphological process is not one that derives complex words with *-lich*. Other complex adjectives with *-lich* have been retained as they have been created by derivation: The adjective *jugendrechtlich* 'pertaining to juvenile law' is formed by adding *-lich* to the noun-noun compound *Jugendrecht* 'juvenile law', having the form [[[Jugend]$_{N}$ [Recht]]$_{N}$-lich]$_{ADJ}$. As with the English examples, prefixed complex adjectives such as *super-glücklich* 'super happy' have been removed. Whether or not a type belongs to the final result list had to be decided on an item-by-item basis and the German dictionaries Duden and DWDS have been consulted for the decision-making process. For instance, the type *zwischenmenschlich* 'interpersonal' has been sorted out, but the type *gutmenschlich* 'humanitarian' (also pejorative 'do-gooderish') has been retained. The latter complex adjective has not been formed by adding *gut* 'good' to *menschlich* 'human', but in fact has been created on the basis of the compound *Gutmensch* 'do-gooder', a word which has been added to the renowned German dictionary Duden in 2000 (cf. Duden

online, entry 'Gutmensch'). In the online dictionary DWDS, the noun is said to have appeared in the newspaper context since 1991[218].

Finally, in the same manner as with the English lexicalised types, the German *-esk* types with an obsolete base form have also been removed (e.g. *grotesk* 'grotesque', *burlesk* 'burlesque') and the same caveats hold for the German lexicalisations. As with the previous two suffixes, only non-capitalised forms were selected in the word form list for *-esk*. The reason for doing so is that this way comparability can be maintained even if it means that recall is slightly limited in favour of precision. This suffix only included few compounds in the result list, which were subsequently discarded (e.g. *poetisch-clownesk* 'poetic-clownesque'). Prefixed forms also had been removed when there was a corresponding positive form in the result list (e.g. *unvangaalesk* from *vangaalesk* 'van Gaal-esque', *posthippiesk* from *hippiesk* 'hippie-esque'). Since *-esk* may be appended to any proper name and thus can also be a possible basis for negation in each case, the practice applied to the negative prefix *un-* might need more refinement in the future. For the present purposes, the prime motivation exclude these forms (and retain the ones where there is no positive counterpart present) was one to ensure comparability and consistency.

I will now discuss a statistical setting that became relevant for English ethnic *-ish* adjectives in this study. As I have said in the previous section, the number of types has been limited to maximally 1,000 to have a manageable and comparable set across the two languages as well as ample opportunity of finding hapax legomena. Furthermore, the suffix *-ish* has a few types which concentrate a large amount of tokens, e.g. *British* with 10,162 tokens. As these amounts are not manually manageable, for those types a random sample of 200 tokens was selected, manually checked for positive cases and a confidence interval (CI) has been calculated from the results. A confidence interval calculates ”a range of plausible values for the 'true' proportion in the full result set, given the number of 'positive' cases“ that were observed in a given sample set (Hoffmann et al. 2008: 80). In our case, the sample set constitutes 200 tokens and the full result set for *British* amounts to 10,162 tokens. Since the true proportion of genuine adjectival cases for *British* has not been determined, the result of the sample is extrapolated to the full result set. For the calculation, the Corpus Frequency Wizard[219] has been used.

218 See the trajectory ('Verlaufskurve') as depicted by the DWDS.

219 It was developed by Baroni and Evert and available online at http://sigil.collocations.de/wizard.html.

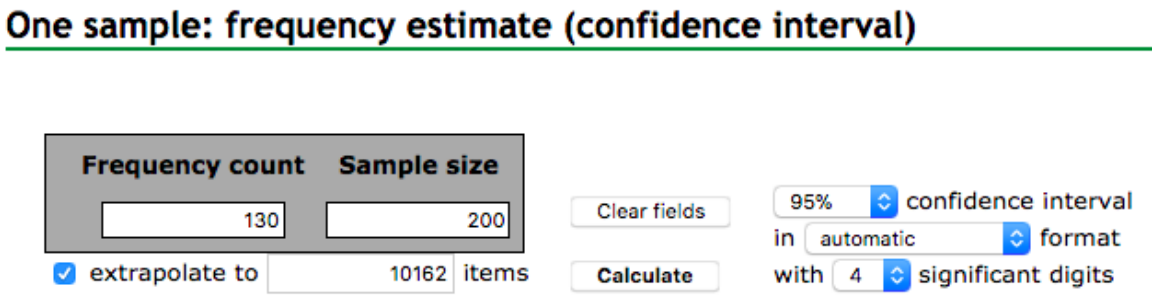

Figure 12. SIGIL Corpus Frequency Wizard Interface

Figure 12 shows the Wizard's layout for calculating the confidence interval. The field 'frequency count' describes the number of positive cases that were found in the manually searched sample of 200 tokens, which constitute the sample size. The findings are extrapolated to the full result set, i.e. to 10,162 tokens in the subcorpus NEWS for *British*. The calculation is preset to a 95% confidence interval, i.e. the degree of certainty that the true proportion lies within the specified range (cf. Hoffmann et al. 2008: 82)[220]. According to Hoffmann et al., this confidence level is the standard for most statisticians even though the calculated results bear the minimum level of statistical significance (cf. 2008: 82). A higher degree of confidence, say one of 99% (or $p < .01$), leads to ”more conservative confidence levels“ and a larger sample set also reduces the amount of uncertainty of the range indicating the true proportion (cf. Hoffmann et al. 2008: 82). This has been additionally calculated for the affected non-ethnic adjectives, however, the standard confidence level of 95% has been maintained throughout for the ethnic adjectives as they are not in the focus of this investigation. The result of the calculation for British is given in figure 13 below.

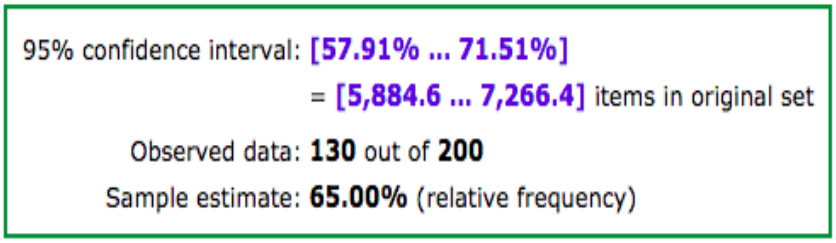

Figure 13. SIGIL Corpus Frequency Wizard output for the calculation of the confidence interval of 'British'

The 130 positives out of a sample of 200 manually checked tokens results in a range of [5,884.6 ... 7,266.4] tokens in the full set of 10,162 tokens which can be considered genuine

220 A 95% degree of confidence conversely signifies an error rate, called the *p*-value, of 5%. This probability value is also frequently written as $p < .05$.

adjectives as defined for this search. If the 53 disputable hits (e.g. *British Airways*, *British Broadcasting Company*, see above) are considered as positives, we obtain a total of 183 positive hits ouf of a sample of 200 hits. Given the same settings, the amount of plausible positive items in the full result set increases to a range of [8,791.8 ... 9,635.7] tokens. The differences in the calculation of the confidence interval, given these hits are considered or not, are exemplarily shown with three types in table 38.

Table 38. Sample of the calculation of the confidence interval with and without disputable ethnic hits

Type	**Tokens**	**Number of genuine *positive* hits (in 200-token sample)**	**Number of *disputable* hits (in 200-token sample)**	**CI calculation without disputable hits**	**CI calculation with disputable hits**
British	10,162	130	53	[5,884.6 … 7,266.4]	[8,791.8 … 9,635.7]
Finnish	278	167	19	[215.3 … 245.2]	[245.5 … 266.8]
Spanish	4,583	112	6	[2,237.5 … 2,884.7]	[2,375 … 3,016.7]

Whereas with *British*, the increase is quite substantial given the disputable hits are added to the genuine positives (i.e. hits which are undisputably adjectives), the difference is not as large for *Spanish*, which in fact shows an overlap of the confidence intervals, as only 6 hits were counted as disputable (e.g. *Spanish Inquisition*).

The procedure was repeated with the seven non-ethnic types that exceeded 200 tokens as in some contexts the adjective may have been converted into a noun, as in the example below:

(371) And **the**$_{Det}$ **selfish**$_{N}$ realize$_{V}$ how much they'll gain by considering another point of view. (COCA, NEWS: USA Today, 1990)

The calculation of a confidence interval was performed on the types *stylish*, *selfish*, *foolish*, *sluggish*, *bullish*, *outlandish*, and *boyish*. All others were checked manually. Table 39 shows the results.

Table 39. Calculation of confidence intervals for seven non-ethnic types

Type	**Tokens (total)**	**Number of *negatives* found in 200-token sample**	**CI calculation (95%)**	**Manual check-up of tokens (*negatives*)**
stylish	756	0	[738.2 … 756.0]	
selfish	657	1	[636.1 … 656.8]	
foolish	638	0	[623.0 … 638.0]	
sluggish	552	0	[539.0 … 552.0]	
bullish	328	0	[320.3 … 328.0]	3
outlandish	220	5	[206.7 … 218.0]	7
boyish	209	0	[204.1 … 209.0]	0

As can be seen in the third column, the number of negatives for non-ethnic types is much smaller than that for ethnic ones. In fact, the most frequently occurring type *stylish* does not show any negatives in the random sample of 200 tokens selected for manual search. Of course, a random sample might just miss negatives that happen to appear in the rest of the tokens not manually searched, which is why a confidence interval can shed some more light on the true proportion. As we can see in the fourth column of table 39, a 5% error rate also gives a range for those types where no negatives were found, as with *stylish*. The cut-off point is the total number of tokens found for this type, i.e. 756 items. Those types which *did* have negatives in the sample show a range of positive items, which do not reach the maximal amount of tokens (e.g. *outlandish*). The range of a 95% confidence interval gives a statistical estimate of the probable amount of positives within a sample of the population. Increasing the degree of confidence to 99% or 99.9% means the range of probable positive items widens (cf. Hoffmann et al. 2008: 82). In fact, this is exactly what we can see with *outlandish* when calculated with a more conservative error rate of 1% (i.e. 99% statistical confidence): The range of probable positive items in the full result set of 220 slightly increases to [203.4 … 218.4]. In order to arrive at the actual distribution of the three types with the lowest amount of tokens, a manual check-up was performed (see the last column in table 39), which showed that the type *bullish* actually had three negatives in the full result set of 328 tokens, the number of negatives for *outlandish* increased to 7 tokens, and the 209 tokens for *boyish* were all positives. It shows, however, that the confidence interval results in a range of probable positive items that is affirmative of what was found in the manual check-up.

In the quantitative analysis of Cosmas II, the maximum amount of types has also been limited to maximally 1,000. The results are sorted by the most frequent types appearing at the top of the

result list, just as in COCA. Different from the English corpus is that each word form is identified as a single type, i.e. the lexeme *künstlerisch* 'artistic' appears as four individual types corresponding to four inflectional endings. These individual hits had to be consolidated since they do not correspond to a type as defined here. This means that the several word forms have been manually lemmatised before conducting the frequency count because they merely constitute variants of the same lexeme (see also McEnery and Wilson 1996: 82). The raw hits for the three suffixes are as follows: Due to the preliminary limitation of tokens, the result list will show maximally 20,000 tokens, which is true for *-lich* and *-isch*. The search for the suffix *-esk* showed significantly less tokens in its output, with initially 1,966 tokens overall (before manual checking). It is also the suffix with the lowest initial result for types (see above). Remember, however, that the raw number of types contains the lemma as well as various inflectional forms, which are each counted as one type in the corpus. These word forms were subsequently assigned to the lemma and counted as one type, which results in a lower amount of types after manually checking them.

The decision to exclude capitalised forms in advance proved valuable as it reduced the amount of faulty hits significantly. The corpus' tagging system fortunately works with a relatively high precision, so the types to be manually sorted out are narrowed to those lexicalised types that could not previously be removed in the word form list, such as *bienenähnlich* 'beelike' or remaining simplexes, compounds or prefixed adjectives (this pertains to all three suffixes).

The server-internal limitation of the result list to 10,000 hits did not permit to exhaustively search the suffixes *-isch* and *-lich* for remaining erroneous hits. To remedy this situation, several individual types were randomly checked in Cosmas II by typing in their lemma together with the word form operator *&*. In the word form list, all capitalised forms were unselected to mirror the output of the result list as closely as possible. These random checks did not yield any faulty hits such as nouns, which is why the calculation of a confidence interval did not prove to be practical for the German suffixes. Recall that in case of 200 positives out of a sample of 200 hits, the range the confidence interval provides will maximally reach the amount of tokens found for a type, but gives some statistical leeway in form of a range of positive items in case any negatives could occur. To give an example, the result list provides 314 tokens overall for the various word forms of the lemma *clownesk*. These non-capitalised word forms were checked in Cosmas II in a random sample of 200 tokens and 200 positives (i.e. genuine complex adjectives) were found. That is, given these figures, the calculation of the confidence interval will result in a range of [306.6 … 314.0] positive items in the original set of 314 tokens as shown in figure 14.

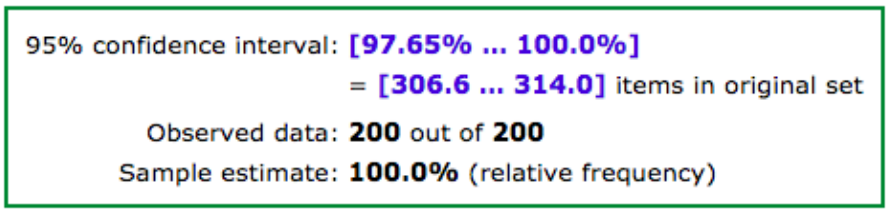

Figure 14. SIGIL Corpus Frequency Wizard output for the calculation of the confidence interval of 'clownesk'

Given the fact that no negatives were found in the random samples of several non-capitalised types of *-isch*, *-lich*, and *-esk*, I refrained from calculating their confidence intervals.

After manually cleaning out the raw data for both corpora, and calculating confidence intervals in COCA for *-ish*, the adjusted data are shown in table 40 below. It shows the frequencies of the three English suffixes for COCA and the three German ones for Cosmas II. The quantitative interpretation of the data will largely be language-specific due to the very different corpus design. Thus, quantitative statements beyond one corpus will have to be treated with caution.

Table 40. Frequencies for the selected subcorpora of COCA and Cosmas II

Suffixes		**Types**	**Tokens**	**Relative frequency (pmw)**	**Type/Token frequency**
COCA (NEWS)	*-ish*	375	[30,539 … 35,070][221]	[267.08 … 306.71]	[0.012 … 0.010]
	-like	796	3,438	30.06	0.231
	-esque	291	961	8.40	0.302
Cosmas II (Tagged-T2)	*-isch*	698	18,552	13.45	0.037
	-lich	521	14,596	10.59	0.035
	-esk	260	1,884	1.37	0.138

What we can see for COCA is that the type-token frequency is the smallest for *-ish* with a range of [0.012 to 0.011], depending on whether the smaller or larger amount of tokens is taken into consideration. Recall that ”the closer the result is to 1 […], the greater the vocabulary variation“ (McEnery and Hardie (2012: 50), which means that the variation vocabulary is greater with the other two suffixes. The difference between *-like* and *-esque* concerning this proportion score is small, with the suffix *-esque* showing the highest amount of lexical variation in the set of the three suffixes as its type-token frequency (also called type-token ratio, or TTR) is closest to 1.

221 The range comes about by calculating the confidence interval for those types which have more than 200 tokens and were not searched manually.

In Cosmas II we can see that it is also -*esk* which stands out concerning the type-token ratio (TTR), while the difference between -*isch* and -*lich* is marginal at best. Even though the number of types is greater with -*isch*, it shows a higher proportion of tokens than -*lich*, which accounts for the slight difference in the result of the ratio. As with its relative in English, in German -*esk* displays the highest amount of vocabulary variation. The figure is smaller than that for COCA, which is accounted for by the smaller size of COCA as compared to Cosmas II.

The relative frequencies of -*esque*/ -*esk* in both corpora are relatively small compared to the other two suffixes respectively. This is accounted for by the each suffix's relatively small number of tokens as compared to the respective corpus sizes. The figures for the German corpus are necessarily smaller because the size of the subcorpus Tagged-T2 is considerably larger (Cosmas II: 1,378,830,000) than for COCA's Newspaper subcorpus (114,341,164).

In COCA, -*like* is the suffix with the highest amount of types overall, in Cosmas II it is -*isch* which features the most types. Among the types and tokens, there is still a considerable number of ethnic adjectives, which will be separated from the non-ethnic ones in the next step. As with the historical corpora in chapter 4, the term *ethnic* is used in a rather wide sense to sort out many of the non-productive types and their tokens. It thus includes terms that refer to a group of people that share a common language or dialect, religion, or are considered members of a particular nation or living in a specific region (recall also the rather broad definition as given by Peoples and Bailey 2010: 389; see section 2.3.1). Since -*ish* and -*isch* are the only suffixes representing ethnicity in the selection of suffixes chosen here, only they will be partitioned into ethnic and non-ethnic adjectives. Consider table 41 below.

Table 41. Quantities for ethnic and non-ethnic hits with English (-ish) and German (-isch) suffixes

Suffixes		**Types**	**Tokens**	**Relative frequency**	**Type-Token frequency**
-*ish*	Ethnic	25	[24,161 … 28,626]	[211.30 … 250.35]	[0.001 … 0.0008]
	Non-ethnic	350	[6,378 … 6,444]	[55.78 … 56.35]	[0.055 … 0.054]
Total		**375**	**[30,539 … 35,070]**	**[267.08 … 306.71]**	
-*isch*	Ethnic	124	5,555	4.028	0.022
	Non-ethnic	574	12,997	9.426	0.044
Total		**698**	**18,552**	**13.45**	

The comparison of ethnic to non-ethnic hits in the two corpora shows that in both, the ethnic adjectives have a lower amount of types as compared to the respective non-ethnic types. This is not true of the amount of tokens, however. Whereas there is a large amount of ethnic tokens for the English suffix and a relatively small number of non-ethnic tokens by comparison, in German the distribution is vice versa. A possible reason for this difference might be found when we look at the most frequently occurring types in COCA. In its NEWS section, the American corpus makes reference to ethnic types which form part of the British Isles proportionately more frequently than other types. Together, the types *British*, *English*, *Irish*, and *Scottish* make up 12,203 tokens alone, when only the lower end of the CI range is taken into consideration (the upper end amounts to 14,857 tokens). This mirrors the strong bilateral relationship that the countries of the British Isles and the United States share.

The relative frequencies of the two corpora reflect the different corpus sizes, and their respective total amounts reflect the figures shown in table 40 above. Lastly, the TTR of *-ish* shows the low amount of ethnic types in comparison to the large amount of tokens. The reason why only 25 ethnic types are left in the final set of results is that the majority of hits corresponds to compounds, not derivatives, thus having been excluded. The high amount of tokens is distributed over most of these 25 types. In contrast, the non-ethnic types with *-ish* have a higher figure for the TTR and therefore greater vocabulary variation. In German, the same difference can be observed between ethnic and non-ethnic hits, with the latter having a slightly greater variation in its vocabulary than the former. The difference between the figures for the ethnic and non-ethnic TTR is higher for *-ish* than for *-isch*, however. Further, the type-token frequency for the individual ethnic and non-ethnic hits in table 41 does not reflect the total amount in table 40 because it refers to a different reference value here. That is, in table 40, the figure of the TTR is realised by dividing all types by all tokens, whereas in table 41, the division of types by tokens is specific to the subtype (ethnic or non-ethnic).

The types of bases the suffixes attach to show great variation. The variability *-ish* exhibits has been abundantly discussed in previous chapters. I will thus only briefly exemplify the results of COCA. Next to the ethnic bases, it frequently attaches to nouns, more specifically common nouns (e.g. *styl-ish*), concrete nouns (e.g. *kittenish*), countable (e.g. *clownish*), compound (e.g. *body-spray-ish*) and proper nouns (e.g. *Meg Ryan-ish*). As we have previously seen, it is very comfortable with adjectives, in particular relative (e.g. *thinnish*), and total absolute adjectives (e.g. *sharpish*). While it occurs with some partial absolute adjectives (e.g. *wettish*, *dirtyish*), these types were not found in the investigated Newspaper sample of COCA. Furthermore, it has

been attested with the non-scalar adjective *dead*, but its only occurrence in the COCA sample actually belongs to a proper name (*deadish* as part of the band name *Grateful Dead*). Colour adjectives such as *purplish* are frequent in the sample. As with the search of the BNCweb in chapter 4, also COCA exhibits numerals to which *-ish* attaches. In particular, it is attested with even (e.g. *60-ish*) and odd numbers (e.g. *45-ish*), ranges (e.g. *48-60ish*) as well as measurements (e.g. *5-feet-6-ish*). These last two occurrences can be seen as being part of the catalyst of developing *-ish* into a free morpheme as discussed in chapter 5 and have been classified to the transitional group 2. Abbreviations occur with only three types in COCA, i.e. *NBC-ish*, *CIA-ish* and *ESPN-ish*, with the latter two being hapaxes. Phrases (e.g. *feel-goodish*) and verbal bases (e.g. *snappish*) are extremely rare in the Newspaper sample of COCA.

The suffix *-like* by comparison preferably attaches to nouns of various kinds, including mainly concrete and countable nouns (e.g. *horselike*, *cavelike*), less commonly uncountable nouns (e.g. *lavalike*) or abstract ones (e.g. *wilderness-like*). Furthermore, it is used with compound nouns (e.g. *teabag-like*) and proper nouns (e.g. *Hitchcock-like*). Different to *-ish* it is less frequent with adjectival bases, but occurs with simplex adjectives (e.g. *short-like*) and derived adjectives (e.g. *baptismal-like*). The suffix occurs with acronyms (e.g. NASA-like) and other abbreviations a few times (e.g. *3D-like*) It is not attested with verbal or phrasal bases in the sample.

The last suffix to be compared in COCA, originally Romance-based suffix *-esque*, is predominantly attached to proper names (e.g. *Reaganesque*), but also occurs with countable concrete nouns (e.g. *pizza-esque*) and very few abstract nouns (e.g. *dangeresque*) and noun compounds (e.g. *chicken-soup-esque*). When it occurs with adjectives, it mainly refers to ethnicities (e.g. *French-esque*), other adjectival bases are rare (e.g. *industrialesque*). Numerals and phrases are rare, each making up only two types (e.g. *1970s-esque*, *atwateresque*). Abbreviations exist in small numbers as well (e.g. *MTV-esque*), but verbal bases do not occur in the sample.

Coming now to the results of Cosmas II, the German counterpart *-isch* is most frequently attached to various types of nouns. Among them are simplex concrete and countable nouns such as *tierisch* 'animal' or *vulkanisch* 'volcanic', the derivation with *-isch* may lead to Umlaut in the base form (e.g. *händisch* 'manual(ly), by hand', from *Hand* 'hand'). More frequently used, however, are already complex nouns like *verbrecherisch* 'criminal' (from the agentive noun *Verbrech-er* 'criminal$_N$'). It also frequently attaches to compound bases, e.g. *bildhauerisch* 'sculptural' (from *Bildhauer* 'sculptor') and *krankengymnastisch* 'physiotherapeutic' (from *Krankengymnastik* 'physiotherapy'). As can be seen, it occurs both with native and non-native suffixes, just as its English cognate, although it seems more likely to occur with non-native

bases, a fact also Motsch pointed to (2004: 198). It is also very common with bases that end in the suffix *-ist* (e.g. *extremistisch* 'extremist' or *egoistisch* 'selfish'). In proper nouns that occur as bases for *-isch* are mainly ethnic (e.g. *tibetisch* 'Tibetan'). In contrast to COCA, adjectives occur rarely as bases for *-isch*, an example is *linkisch* 'awkward, clumsy', which etymologically stems from attributively used *linke* 'left' (or *linker*, *linkes*, depending on word form, cf. Duden Online entry *linkisch*, Adj.). The numerous types of bases seen with *-ish*, including numeral, phrasal, and verbal bases, do not occur with the German cognate.

Coming now to German *-lich*, the corpus reveals an affinity for nominal bases as well. Like *-isch*, the suffix attaches to simplex and complex bases (e.g. *weiblich* 'female, feminine', *mittelalterlich* 'medieval'). It also causes Umlaut in some of the bases it attaches to, e.g. with *väterlich* 'fatherly' (from *Vater* 'father'). The suffix is more natural with native or nativised bases and does not frequently occur with still recognisable non-native bases (an example might be *hospizlich* 'palliative', with the noun having been Germanised from earlier *Hospitium*, according to Duden Online, entry 'Hospiz'). Also similar to *-isch*, it attaches to compounds (e.g. *wissenschaftlich* 'scientific, academic', from *Wissenschaft* 'science', and the more complex *naturwissenschaftlich* 'natural scientific' from *Naturwissenschaft* 'natural science'). Adjectival bases are more common with *-lich* (e.g. *kränklich* 'sickly') and the suffix naturally forms colour adjectives (e.g. *rötlich* 'reddish'), an interesting fact that will be taken up again in section 7.5.2.2. Contrary to *-isch*, verbal bases form the basis for derivations with *-lich* and do so quite frequently (e.g. *verträglich* 'agreeable'). Like *-isch* above, the suffix *-lich* does not occur with numerals or phrasal bases.

Finally, the non-native suffix *-esk* also prefers proper names as bases, just like its counterpart in COCA. Proper names may occur with or without given names (e.g. *fritzteufelesk* 'Fritz Teufel-esque', *gainsbourgesk*), but they are generally written without a hyphen, with a few exceptions (e.g. *dalí-esk*). This practice can easily lead to parsing difficulties as in *vangaallesk* 'Van Gaal-esque'. The full proper name may be truncated to accommodate the vowel-initial suffix more easily, e.g. *michelangelesk* 'Michelangelo-esque', *fellinesk* 'Fellini-esque', although the latter also occurs twice with the final vowel: *felliniesk*. Common nouns also form the basis for derivations with *-esk*, frequently and contrary to the other two suffixes these nouns are non-native (e.g. *chansonesk*, *partyesk*, *animalesk*). Unlike *-isch* and *-lich*, this suffix is rather uncomfortable with compounds, it occurs attached to a compound only rarely (e.g. *gummibärchenesk* 'gummi bear-esque'). The suffix is quite unproductive with adjectives, numerals and verbs. In the output of the corpus search only one type *banalesk* 'mundane-esque' is attested with one token. Similarly, one numeral occurs with *-esk*, also as a hapax (*fiftyesk*). It is not found with verbal bases. Likewise,

only one derivation was found that is negatively prefixed with a decidedly native negative particle: *nichtzitronesk* 'non-lemonesque'. Since there is no corresponding positive form *zitronesk* 'lemonesque', this form has been retained in the set of results. Such forms seem to owe their existence to the artistic playfulness found in some newspaper sections. Therefore, such forms might also have to be excluded from the final set of types (and hapaxes) if we follow Lüdeling et al.'s guidelines which differentiate word-formation from creativity and which perhaps place such a form in the latter category (cf. 2000: 59).

Let us now move on to the least frequently occurring types. Table 42 below shows the number of hapaxes found in the corpus search for all six suffixes, together with their calculated productivity in the narrow sense. Forms counted here still include compounded derivatives and those prefixed with *pseudo*-, among others.

Table 42. Hapaxes in the corpora COCA and Cosmas II and their productivity in the narrow sense

Suffix		**Hapaxes**	**Productivity in the narrow sense**
COCA	*-ish*	189	P= [0.006 … 0.005]
	-like	83	P= 0.024
	-esque	234	P= 0.243
Cosmas II	*-isch*	207	P= 0.011
	-lich	170	P= 0.012
	-esk	167	P= 0.089

When the measure of the productivity in the narrow sense (i.e. $P = n_1^{aff} / N^{aff}$) is applied to the suffixes's hapaxes, we can see that productivity seems lowest for *-ish*. This has mainly to do with the large amount of ethnic quantities that are among the overall amount of tokens. When these are teased apart as done in Plag for two types of the *-ful* suffix (dubbed *-ful* 'measure' and *-ful* 'property', reflecting the different meanings (cf. 2003: 57)), the distribution changes. Hence the next step will be to scrutinise the differences when ethnic and non-ethnic quantities are considered separately. The figure for *-like* is relatively small. This may have to do with the manual cut-off point of 1,000 types that was utilised to ensure comparability. The raw results in the output include many variants with and without hyphenated spelling, which clog the result list of the suffixes. As I have mentioned above, the result list for *-like* continued to show over 2,500 hits in total (before manual correction). A measure which may give a more telling result in this case would have to include all possible hapaxes that are compared to the overall number of

tokens. Of course, investigating a different sub-corpus might also have a different effect on these frequencies. Concerning *-esque*, the relatively high amount of hapaxes (234) compared to a small quantity of overall tokens (961) results in the highest productivity among the three suffixes investigated in COCA.

In the German corpus, *-esk* is also the suffix with the highest productivity due to its large amount of hapaxes (167) and relatively few tokens by comparison (1,884), whereas *-isch* and *-lich* do not differ significantly. Again, the result may differ when the ethnic quantities are taken out of the equation. This is what is depicted in the following table 43.

Table 43. Productivity for ethnic and non-ethnic -ish and -isch

Suffix		**Hapaxes**	**Total**	**Productivity in the narrow sense**
-ish	Ethnic	4	189	P= [0.00016 … 0.00013]
	Non-ethnic	185		P= [0.0290 … 0.0287]
-isch	Ethnic	30	207	P= 0.0054
	Non-ethnic	177		P= 0.0136

Following Plag (2003: 57), who employs Baayen's (1993) measure of the 'productivity in the narrow sense', we consider the ethnic *-ish*/*-isch* and the non-ethnic *-ish*/*-isch* separately. To illuminate the calculation, the $hapaxes_{ethnic}$ are divided by the total amount of tokens with that affix, which in the case of $-ish_{ethnic}$ is the previously calculated CI-range of [24,161 … 28,626]. To achieve P, the number of hapaxes is calculated with the minimum and maximum amounts and we arrive at a productivity of the narrow sense of [0.00016 … 0.00013] for the ethnic *-ish* suffix. Recall that a high value of P indicates a productive morphological process (cf. Plag 2003: 57), thus ethnic *-ish* cannot be considered productive, as was shown previously in chapter 4. By contrast, non-ethnic *-ish* exhibits the highest value of P with a range of [0.0290 … 0.0287], i.e. P ≈ 0.03. In this set, the suffix can therefore be seen as productive.

The picture the German suffixes provide is as expected and mirrors the English results. The amount of ethnic hapaxes is slightly larger than for *-ish*, due to a greater number of derived ethnic terms in German with a more regional specificity. For example, the region of *Niederbayern* 'Lower Bavaria' is derived into an adjective by *-isch*, in English it is *-ian*: *Lower Bavarian*.

The number of hapaxes for German non-ethnic *-isch* is only marginally smaller than that for its English counterpart. Nevertheless, the calculated *P*-value remains lower than that for *-ish*,

possibly due to the larger amount of non-ethnic tokens: The German suffix counts 12,997 non-ethnic tokens, for *-ish* the number of tokens is reduced to a quantity only about half of that size. To sum these quantities up, the calculation of productivity results in a higher *P*-value for both English and German non-ethnic adjectives, with *-ish* taking the lead, i.e. showing the highest *P*-value of this set and thus counting as most productive. The ethnic terms show only a low degree of productivity in both languages. Considering table 42, the non-native suffix *-esque*/ *-esk* remains the most productive in the selected set of suffixes, largely due to its ability to form derivatives from basically any proper name. Non-ethnic *-ish* is also highly productive, confirming the assertions made in the literature, whereas the ethnic *-ish*/ *-isch* can safely be assumed to be unproductive. There is only a marginal difference between non-ethnic *-isch* and *-lich* concerning their *P*-values (*-isch*: 0.0136 vs *-lich*: 0.012). Following Motsch (2004), when the productivity of various semantic types are considered separately (as done here with *-ish*/*-isch* concerning (non-)ethnicity), the degree of productivity may change accordingly. The suffix *-like* is located in the middle of the scale of productivity, perhaps in part due to the selectional choices made here concerning the maximum amount of tokens investigated. Let us now have a look at some of the lexemes that count as hapaxes in COCA in table 44.

Table 44. Examples of hapaxes in COCA

***-ish*$_{\text{non-ethnic}}$**	***-like***	***-esque***
Asian-ish	*room-like*	*Appleseed-esque*
CIA-ish	*R.V.-like*	*Bonoesque*
cook-bookish	*Sauerkraut-like*	*crunchy-granola-esque*
feel-goodish	*Seashell-like*	*hell-esque*
frisbee-ish	*teeth-like*	*1918-esque*
Total: 185	**Total: 83**	**Total: 234**

The suffixes *-ish* and *-esque* both do not completely avoid hiatus (i.e. vowels occur in syllables adjacent to each other without an intervening consonant) as is shown with *CIA-ish* and *Bonoesque* / *crunchy-granola-esque*. In some cases the syllable boundaries are marked by a hyphen, which results in a better readability as well as a faster recognition of the word, but both suffixes also occur without it (as for example, *Bonoesque* shows). The suffix *-like* prefers the addition of a hyphen to words that end in the same consonant with which the suffix begins. Only a few instances were found that disobey this preference, e.g. *jewellike* (3 tokens) or *snaillike* (2 tokens) as compared to their hyphenated counterparts (*jewel-like*, 24 tokens, *snail-like*, 8 tokens).

The type *Asian-ish* is of special interest as *-ish* is not used to derive an ethnic type here, but instead it adds a sense of equivalence to the base, which is common for regularly occurring noun-derivatives ending in *-ish* (like *boyish*). The suffix tacks on to a complex base *Asia* + *-(i)-an*, resulting in the sense 'of or belonging to Asia', a sense that *-ish* used to add when it formed the ethnic derivatives in Old English. This development shows two related things: First, the productivity of *-ish* to form ethnic types is highly limited and second, the more productive comparative sense of *-ish* is being used in new domains. In COCA, *-ish* occurs in this use with ethnic terms with overall three types: *Asian-ish* (1 token), *French-ish* (2 tokens), and *Italian-ish* (1 token). A quick search in the larger corpus *iWeb* reveals that these hits are not singular occurrences: *Asian-ish* occurs 9 times (and three times without an intervening hyphen), *Bulgarian-ish* with 8 tokens, further types are *Scottish-ish* (4 tokens) *Canadian-ish* (2 tokens), *French-ish* (21 tokens), *Israelite-ish* (1 token), *Italian-ish* (18 tokens, *Italianish* occurs with 5 tokens) and *Russian-ish* (2 tokens). Since this seems to be a relatively recent development, the unhyphenated occurrences are much fewer. Interestingly, in Old English *-ish* formed the ethnic types *Israelite* (*israelitisc*, cf. also its German cognate *israelitisch*) and *French* (*francisc,* the term *Frankish* is used only to refer to the ancient Franks, cf. OEDweb entry 'French'). While the former type has occurred with the French-based suffix *-ite* since Middle English (cf. Ciszek 2012), the latter has become contracted to a point that its complex nature is not recognisable any longer. With the more productive similative sense of the *-ish* suffix, these complex ethnic terms are made available again for forming new derivatives. Consider examples (372) to (375) below:

(372) … Pijiu Belly couldn't be more dissimilar to Noodle, a decent-enough spot with a broad menu designed to satisfy a hankering for **Asian-ish** food. (COCA, NEWS: Atlanta Journal Constitution, 2015)

(373) In addition to the strudel, Albona's menu includes a Spanish flan […] and a **French-ish** chocolate custard... (COCA, NEWS: San Francisco Chronicle, 1996)

(374) Their spartan speech is sharp and challenging, and I hear an accent that's somewhat **Russian-ish** or German-ish. (iWeb, http://www.penguinteen.com/accents-of-the-zodiac/)

(375) They are Jewish Israelites, not **Israelite-ish** Israelites. (iWeb, http://asis.com/~stag/studytul.html)

The first two results from COCA show that the new uses of *-ish* on previously formed ethnic types refers mainly to food, both in the sense of similarity. In example (374) *-ish* also expresses similarity to the base, with the author additionally expressing uncertainty as to the ultimate categorisation of the accent by providing the hedge *somewhat* and offering another accent that is seen as similar in its characteristics ('sharp and challenging'). The *-ish* suffix used here may thus be seen as bridging the gap between the comparative and the approximative senses. Example

(375) also goes a step further in that it compares two types of Israelites and adds a sense of approximation, common to the approximative *-ish*. The types shown here are therefore not included in the list of ethnic types because *-ish* does not form an ethnic type here, but instead are part of the non-ethnic types for the reasons given above. For comparison, a few of the German hapaxes are given with their citation form in table 45 below.

Table 45. Examples of hapaxes in Cosmas II

***-isch*$_{\text{non-ethnic}}$**	***-lich***	***-esk***
büroisch 'office-like'	*begehrlich* 'covetous'	*goetheesk* 'Goethe-esque'
cäsarisch 'Caesarian'	*dicklich* 'chubby'	*gossenhumoresk* 'toilet-humouresque'
friedhofsgärtnerisch 'cemetary gardener-like'	*neurowissenschaftlich* 'neuroscientific'	*fiftyesk* 'fifty-esque'
geniesserisch 'appreciative'	*schwärzlich* 'blackish'	*michelangelesk* 'Michelangelo-esque'
gerichtsmedizinisch 'forensic'	*versicherungsrechtlich* 'pertaining to insurance law'	*vangaalesk* 'van Gaal-esque'
Total: 177	**Total: 170**	**Total: 167**

German's affinity to forming compounds is immediately noticeable from this short extract of hapaxes in Cosmas II. The suffix *-isch* is added to noun-noun compounds such as *Friedhofsgärtner* 'cemetary gardener' and *Gerichtsmedizin* 'forensics', *-lich* attaches to the compound *Versicherungsrecht* 'insurance law'. The status of the Greek form *neuro-* in *Neurowissenschaft* 'neuroscience' is not unanimously agreed upon with the OED terming it a 'combining form' and the German dictionary Duden classifying it as a prefix. The fact that *-isch* frequently forms derivatives based on non-native bases, while *-lich* tries to avoid them is exemplified in the list of hapaxes given in appendix D.

Both suffixes also make use of simplexes which can occur as hapaxes in the corpus (*büroisch* and *dicklich*, respectively). Whereas *dicklich* is listed in the dictionaries Duden and DWDS *büroisch* is only mentioned with its automatically generated derivation in the DWDS, but with the disclaimer that it is not contained in any of their lexical sources for contemporary German (see DWDS, *büroisch*). This hapax is also one of the few derivatives with *-isch* that show hiatus. The suffix *-esk* finally appears with (*goetheesk*, *fiftyesk*) and without hiatus (*michelangelesk*) and when it does, it does not necessarily require a hyphen. In fact, hyphenated forms are rather uncommon with *-esk*, which in some cases lead to a significant decrease in readability, as the type *vangaalesk* illustrates. The attested negated form *unvangaalesk* makes this point even more

pronounced, however, the form has been sorted out due to the existence of the positive. The suffix is comfortable, but not very frequent with compounds and bases of an English origin. As with *-esque*, it predominantly attaches to proper names of well-known public figures.

Merely listing hapaxes and calculating their productivity does not yet give us a reliable indication of whether they may in fact represent newly coined words. I mentioned in section 4.2.2 above that Baayen and Renouf (1996) as well as Plag (2003) have additionally checked their listedness in representative dictionaries, stating that non-listedness provides a good indication of having encountered a real neologism (cf. Plag 2003: 55). I will apply this approach to the non-ethnic suffixes also and will use the OED for the English suffixes and Duden as well as the DWDS for the three German ones. The ethnic derivatives are excluded here because they represent instances of opaque and lexicalised word-formation processes. The number of hapaxes for the six suffixes and the numerical status of their listedness is given in table 46 below.

Table 46. Listedness of hapaxes for the six suffixes

Suffix	**Number of hapaxes**	**Listedness**		
			N	**%**
-ish$_{\text{non-ethnic}}$	185	Listed: Unlisted:	53 132	28.65 71.35
-like	83	Listed: Unlisted:	17 66	20.48 79.52
-esque	234	Listed: Unlisted:	23 211	9.83 90.17
-isch$_{\text{non-ethnic}}$	177	Listed: Unlisted:	106 71	59.89 40.11
-lich	170	Listed: Unlisted:	99 71	58.24 41.76
-esk	167	Listed: Unlisted:	2 165	1.2 98.8

Table 46 lists whether the individual hapaxes are attested in well-known dictionaries or whether they can be counted as true neologisms. For the English suffixes I have again drawn on the OEDweb dictionary. In the case of the German suffixes I have continued the practice to look words up in both, the Duden and the DWDS. It may well occur that a hapax is listed in one dictionary but not in the other and this is a fact that should generally be borne in mind when two or more dictionaries are compared and their entries matched. No two dictionaries will have exactly the same list of entries. Thus, only in case where neither of the two dictionaries listed a

hapax have I grouped them in the set of unlisted items. If instead a hapax is listed in one or both of the dictionaries, I have counted it as listed. The table shows that the potential to encounter a real neologism is greatest with the suffix *-esque*/ *-esk*. The hapaxes of both suffixes are unlisted in over ninety per cent of the cases. The amount of non-listedness is also relatively high for *-ish* and *-like* with the latter reaching almost eighty per cent. Thus, as I have mentioned above, a larger sample of types will probably show even more conclusively that *-like* is indeed a productive suffix and the limitation to 1,000 overall types does not fully reveal this potential. Lastly, the generally very frequent suffixes *-isch*$_{\text{non-ethnic}}$ and *-lich* show that more than half of their hapaxes are in fact already listed. This fact emphasises again the difference between frequency and productivity, illustrating that a high frequency does not translate to a high productivity. Some of the types listed as hapaxes are in fact frequently occurring outside of the corpus, a fact we have already pointed to with respect to the historical corpora in chapter 4. This is true for all six suffixes: *-ish* (e.g. *tallish*, *dryish*), *-like* (e.g. *riverlike*), *-esque* (e.g. *gigantesque*, *humoresque*), *-isch* (e.g. *nummerisch* 'numeric'), *-lich* (e.g. *schwärzlich* 'blackish', *sprachwissenschaftlich* 'linguistic', etc.), and to a smaller extent also *-esk* (*gigantesk* 'gigantesque'). This finding highlights the fact that hapaxes are defined with respect to the corpus they occur in and which makes a subsequent examination of their listedness necessary.

To sum up, the quantitative analysis of the six suffixes has shown that caution and a considerable amount of post-processing has to be undertaken in order for the results to be meaningful. While subjective decisions cannot entirely be avoided, they should be kept to a minimum. Likewise, different corpus designs need to be catered to, however, in general the aim is to stay consistent across corpora as much as possible.

The results have shown that non-ethnic *-ish* can still be considered a productive suffix, but its productivity is surpassed by the Romance-based *-esque* and its German counterpart *-esk*. The highly frequent suffixes *-isch* and *-lich* are taken to be rather unproductive, however, a more fine-grained distinction into semantic types might reveal some avenues where the suffix's productivity shows individual differences. As the diachronic analysis in chapter 4 showed, the ethnic variant of *-ish* has ceased to be productive very early on. Finally, the suffix *-like* indicates a respectable degree of productivity, especially concerning its many unlisted forms and a corpus analysis which aims at a more comprehensive analysis of all hapaxes will probably shed more light on this matter. For reasons of comparability, the limitation of types might not have revealed the suffix's true potential.

7.5 Qualitative Analyses

Following the quantitative analysis of both the three suffixes in the English and German language, I will now analyse primarily their semantic behaviour as it presents itself in the data as well as their context of application. To this effect I will first shed some light on the semantic niches the suffixes occupy within English and within German, respectively, and as a next step I will discuss suffix pairs across languages in section 7.5.2. In doing so, the analysis also attempts to give an account as to what extent the suffixes can be considered rivals. In this section I will only discuss the non-ethnic component of *-ish* and *-isch*. Since the space is limited I will only be able to highlight specific similarities or differences exemplarily. Finally in section 7.5.3, I will extend the lexical-semantic analysis of Lieber (2004) and apply the feature [+/-SA] identified in section 4.9 cross-linguistically. We will see that its application is felicitous and the feature adequately conveys the semantics of other 'similative' suffixes of both, English and German.

7.5.1 Comparison within languages

7.5.1.1 Comparison of English suffixes

From table 35 above we can deduce that the major contribution of all three suffixes in English is to introduce the meaning of comparison to what is denoted by the nominal base, which Bauer et al. (2013) term 'similative' meaning. Additionally, the basic sense of affiliation or relation is prevalent with *-ish* and *-esque* and if we assume that this sense is prior to that of comparison, we most likely have to add it to the senses given for *-like* as well. As is shown, only *-ish* denotes the meaning of gradation or approximation and it does so chiefly with adjectives. While *-like* can attach to adjectives as well, it only rarely does. It seems then that together with the pejorative meaning prevalent with denominal derivatives this is a niche *-ish* has carved out in the semantic space the suffixes occupy and it is these properties which chiefly distinguish *-ish* from the other two suffixes. The semantic difference between *-like* and *-esque* is of a more marginal kind: Both denote a similarity to the characteristics denoted by their bases, but in the former case, these are predominantly common nouns and in the latter case they chiefly are proper names, which characterises more of a morphological difference rather than a primarily semantic one. A further distinction has been noted in the literature, which is that *-like* is most neutral in connotation (cf. Dixon 2014) and thus may be functioning as the default for deriving adjectives with a similative meaning. Having individual preferences is not tantamount to showing no overlap. In fact, as has been mentioned above, *-ish* also derives adjectives without a derogatory meaning, further *-like* appears appended to proper names in a few cases, and *-esque* is attested with common nouns as

well.

In order to scrutinise these preliminary remarks and arrive at a more definitive verdict concerning the distribution and semantics of the suffixes let us now have a look at the data. In a number of cases two (or all three) suffixes attach to the same base. For *-ish* and *-like* this is the case in 58 instances, *-like* and *-esque* share 43 bases and *-ish* and *-esque* overlap in 19 cases concerning their base forms. All three append to the same base in six instances and it is to these that we will turn next. Let us have a look at the base form *brown*, with which it becomes immediately apparent that it refers to different entities in all three cases:

(376) They come out a **brownish** color. (COCA, NEWS: Washington Post, 2015)

(377) The James **Brown-like** instrumental […] turned gold overnight. (COCA, NEWS: Houston Chronicle, 1999)

(378) I would like to send out this thank you to whomever decorated the two little Charlie **Brownesque** evergreen trees on Crossover Drive in Golden Gate Park. (COCA, NEWS: San Francisco Chronicle, 1999)

In the great majority of the 41 tokens with *brownish*, the derivative refers to the colour, which none of the other two suffixes does. Both *-like* and *-esque* refer unanimously to proper names in these cases, albeit to different individuals who accidentally share the same last name. They are much more infrequent in this function with three tokens for *-like* and only one for *-esque*. There is one token for *brownish* which is of special interest as it also denotes an individual:

(379) It seems that Charlie Schulz – in his shy, Charlie **Brownish** way – delivered those valentines after all. (COCA, NEWS: Atlanta, 2000)

In this example the *-ish* derivative denotes a behavioural property of the referent, whereas the corresponding example in (378) with *-esque* refers to the outer appearance. Thus, both suffixes denote a similarity to the base, but with respect to different properties.

Another example where the three suffixes append to the same base is *bond*$_{N}$. It will be shown below that all three can refer to the proper name *James Bond*, but one suffix is able to pick out a sense related to the singular common noun *bond*.

(380) If he had a license to do anything, what would he do? 'Uh,' Brosnan says in his charming English accent as he adjusts the collar of his navy blue **Bondish** suit, … (COCA, NEWS: Chicago Sun, 1995)

(381) James Bond 007: A License to Thrill motion simulator ride that puts you in **Bond-like** danger. (COCA, NEWS: Chicago Sun, 1998)

(382) In some cases, they used tiny, James **Bond-esque** button-hole cameras. (COCA, NEWS: Washington Post, 2004)

(383) And the trend toward securitization (packaging new loans for resale as **bond-like** investments) allowed companies to generate still more fees... (COCA, NEWS: CSMonitor, 2008)

Examples (380) and (381) show that even though the suffix does not attach to the full name *James Bond* it becomes apparent that the fictional character is the referent by considering the wider context. In (380), the actor's name Pierce Brosnan gives away the connection and the capitalised *Bondish* indicates that *Bond* indeed refers to his screen alter ego, denoting a comparison between the clothing style of the actor and the fictional character.

Example (381) occurs in the context of attractions in an amusement park, playing on the similarity of the sensation visitors feel when choosing this particular ride and the actual danger the fictional character constantly finds himself in. The dramatic effect evoked by this kind of advertisement is purposeful in attracting many potential visitors to the theme park and this ride in particular. The noun *danger* is framed positively by the derivative *Bond-like* in that it a) assures potential visitors of experiencing a thrilling sensation of the ride, and b) another link is implicitly established by implying that while the ride is exciting, it will not put individuals in actual life-threatening danger, just like the dangerous situations the fictional character finds himself in are successfully overcome in each movie. Thus, in this case the notion *Bond-like danger* can be said to only approximate real life-threatening danger, a property that is prevalent with deadjectival *-ish*. It should be pointed out, however, that this is an isolated example and by no means part of the meaning of the majority cases with *-like*.

Example (382) makes a comparison based on the advanced technology seen in James Bond movies and largely concealed gadgets used to fight drug transactions in schools. The semantic contribution *-esque* makes in this case largely overlaps with that of *-like*, which could be substituted without changing the meaning or the connotations of the proposition. In any case, the specific contribution of *-esque* seems to boil down here to an elevated style, which is often credited to this suffix.

The last example (383) refers not to the proper name *Bond*, but to a common noun, particularly in the context of finances. The default character of *-like* and its close relation to the adjective *like* makes it suitable for comparisons in which specific connotational overtones are not required. The meaning of (383) is straightforward: The investments have the characteristics of bonds, a similarity which almost establishes a one-to-one relationship. Note that neither *-ish* nor *-esque* could be used in such a context, without introducing additional overtones.

Let us now move on to individual suffix pairs. In chapter 2, we have discussed that there can be changes of referents depending on the suffix in a derivative, as with *mannish* (referring to a woman) and *man-like* (referring to a male individual or a human being in general) (cf. also

Dixon 2014: 237). Furthermore, when *-ish* and *-like* are directly compared as they attach to the same base, it is frequently the case that the former exhibits pejorative qualities, whereas the latter remains neutral or denotes positive qualities. Having a look at the collocates of *childish* and *childlike*, supports this assertion, albeit not absolutely. The adjective *childlike* frequently co-occurs with nouns of a positive connotation such as *wonder*, *delight*, *innocence*, or *curiosity*. By contrast, *childish* collocates with nouns such as *tantrum*, *petulance* and *pout*, and adjectives such as *immature*, *disrespectful* and *inappropriate*, indicating that the displayed behaviour is out of place and undesirable when done by adults. Even in cases where *childish* does not collocate with intrinsically negatively connotated words, in many other contexts its meaning is no less negative:

(384) I know this is a **childish** *dream* – the secret of life, to know everything there is to know... (COCA, NEWS: Washington Post, 1991)

Using *childish* in this way indicates that the behaviour an individual exhibits is not as expected and not fully mature. Thus, the behaviour is falling short of the standard assumed for and expected of the individual, which is a common thread in derivatives with *-ish*, albeit more common with deadjectival and numerical derivations. We have seen in section 4.9 above that only when there is an alignment of referents and their properties is *childish* used in a neutral way to indicate behavioural characteristics of children. In the following example, *childish* is contrasted with *childlike* and the pejorative character of the former becomes obvious:

(385) The *elderly* are sometimes seen as **childlike**, and to give them **childish** *activities* is seen as offensive to some people (COCA, NEWS: Denver Post, 2002)

Coming now to a comparison between *-ish* and *-esque*, it becomes apparent that many bases are only superficially the same. For instance, both suffixes attach to *tiger*, but in each case *-esque* picks out individuals which happen to share that name (386), whereas *-ish* modifies the common noun (387).

(386) The way he's playing out there, it's almost **Tigeresque** (COCA, NEWS: Associated Press, 2011)

(387) The murdered leader may have been narrow of vision, but he was **tigerish** in defense of his own turf.

In the following examples, the derivatives refer to different parts of an individual, i.e. relating to outer appearances (*-ish*) or referring to a particular way of thinking (*-esque*). While (388) compares an outer appearance based on a few salient features, the basis of comparison for (389) is a certain mindset which is modelled after a movie character's wisdom. It is not inconceivable to exchange the suffixes here without altering the propositional content, but it will impact the stylistic delivery with a high probability.

(388) Oversized ears and large, dark eyes give her a vaguely **Yoda-ish** look. (COCA, NEWS: USA Today, 2005)

(389) Lucas has some **Yoda-esque** thoughts on whatever they do choose: 'Remember that ultimately going for the money is 100% wrong. (COCA, NEWS: USA Today, 2008)

Finally, the suffixes *-like* and *-esque* are compared and apart from morphological and stylistic preferences, the suffixes do not seem to differ significantly. This is shown with proper name bases such as (*Stephen*) *King-like horror stories* (Atlanta, 2002) compared to a physical beating that is described as *King-esque*, probably also referring to the author Stephen King (Chicago Sun, 1993). In a number of cases the referents can be the same such as *humanlike creature* and *humanesque creature*, the difference merely being that derivatives with *-like* occur more frequently (15 tokens, whereas *humanesque* is a hapax) and that they can also refer to a range of different qualities compared to human faculties or particular behavioural properties. This ability of *-like* to cover a range of qualities is attributable to its rather neutral and straightforward semantic behaviour, which can be used for comparisons without additional stylistic overtones.

It appears that the major contribution of *-esque* that distinguishes it from the other two suffixes is that it introduces an academic and elevated style as has been reported in the literature. Morphologically, the suffix is distinguished by its preference for proper names. By comparison, *-ish* and *-like* have more definitive niches, with the former frequently adding a derogatory nuance and also adding a sense of approximation or falling short of a given standard, while comparisons with the latter remain neutral in most cases and frequently denote the close conceptual relationship with the referent. However, in some cases the senses of the two suffixes can overlap, as has been shown with *Bond-like danger* above.

The fact that loans with *-esque* were borrowed into English only in the sixteenth century (cf. Dixon 2014: 237) and derivatives started to appear sometime during that century, may explain why *-esque* has not carved out its separate niche apart from morphological or stylistic preferences. Semantically it does not add more than a chiefly favourable resemblance to what is denoted by the base.

To sum up, we may say that the suffixes *-ish* and *-like* are separate enough to not consider them rivals even though semantic overlaps do occasionally occur. Given that *-esque* has entered the English language much later than native *-ish* and *-like* can help account for its relative semantic similarity especially to *-like*. With the former two suffixes already firmly established, the semantic development of *-esque* in English lags behind with respect to gaining a foothold in particular domains or semantic fields, introducing only a specific stylistic component to a comparison. This stylistic component, however, is absent in the other two suffixes and therefore

warrants its own niche. Thus, the corpus analysis of the three suffixes largely confirms the findings presented in the pertinent literature, but differs in the details, i.e. pertaining to the status of rivalry between the suffixes *-ish*, *-like* and *-esque*.

7.5.1.2 Comparison of German suffixes

It is striking to see that compared to the English suffixes above, the German ones do not occur in doublets and triplets as often. In the set of types derived from the corpus study in section 7.4.3, *-lich* and *-esk* do not share any bases. One of the reasons might be the reluctance of *-lich* to attach to non-native bases, as observed by Motsch (2004: 200). The suffix *-esk* on the other hand derives complex words primarily from non-native bases, e.g. frequently from English (e.g. *animalesk*, *fiftyesk*, *cartoonesk*), and some from Italian (e.g. *aquarellesk*, *novellesk*) and French (e.g. *chansonesk*, *boulevardesk*). German bases that are not proper names are present, but relatively infrequent by comparison (e.g. *torwartesk* 'goalkeeper-esque', *schlaraffenlandesk* 'Cockaigne-esque'), a fact that is also pointed to by Hoppe (2007: 48).

Likewise, a comparison of *-isch* and *-lich* in the result set of the corpus study only reveals a small amount of common bases, all of which are monosyllabic. These include the well-known doublets *weibisch* 'womanish' and *weiblich* 'womanly, feminine', *kindisch* 'childish' and *kindlich* 'childlike', as well as *parteiisch* 'partial, biased' and *parteilich* 'pertaining to a (political) party'. The former two cases exhibit the distinction between negativity-inducing *-isch* and neutral comparative *-lich*, also shown to hold for the corresponding English doublets. Contrary to the English example, the German noun *Weib* 'woman' has developed a negative connotation of its own when it is used in isolation. As part of a derivative, it depends on the suffix, whether its sense is rendered positive (with *weiblich*) or remains negatively connotated (with *weibisch*). In order to illuminate the last pair – *parteiisch* and *parteilich* – it is instructive to do so with a corresponding example.

(390) Herausgekommen ist ein **parteiischer** Film, der Position bezieht und Befürworter des unterirdischen Bahnhofs gar nicht erst zu Wort kommen lässt.
*A **biased** movie has emerged, which takes a stand and does not even give proponents of the subterranean train station a chance to speak.*
(T11/FEB.01770, *Die Tageszeitung*, 12.02.2011)

(391) Unabhängig von einer **parteilichen** Zugehörigkeit und seiner politischen Gesinnung betrachtet ist Mario Candreia ein Mann der Taten
*Independent of an affiliation **to a party** and his political disposition, Mario Candreia is a man of action*
(SOZ10/JUN.01741, *Die Südostschweiz*, 09.06.2010,)

The examples clearly show that although the form of the base is the same, the suffixes attach to different senses of the polysemous noun *Partei*, i.e. *-isch* tacks onto the sense 'side of an opposing group', *-lich* to 'political party'. The resulting adjectival derivative *parteiisch* denotes that only one side of a matter has been taken into account and the person exhibiting this behaviour is considered biased in favour of the side s/he is inclined to take. The negative connotation that this is an undesirable behaviour is underlying the derivative. Contrariwise, the contribution of *-lich* is neutral, indicating only the semantic component of 'affiliation'.

The final suffixal pair, *-isch* and *-esk*, counts nine doublets in total when only non-ethnic adjectives are taken into account. In (392) and (393) below are given two examples of a doublet.

(392) In den **turnerischen** Paradedisziplinen Geräteturnen, Gymnastik und Teamaerobic starten in Rüthi einige Vereine mit Topniveau.
*In the main disciplines **of gymnastics** – apparatus gymnastics, floor exercises and team aerobics – several clubs are starting in Rüthi at top-level.*
(A10/JUN.08132, *St. Galler Tagblatt*, 25.06.2010)

(393) Unter den natürlich die Ausstellung dominierenden Rheinlandschaften, fokussiert auf Burgen, Fluss und terrassierte Weinberghänge, mal realistisch in der Farbgebung, mal expressionistisch-subjektiv und etliche unverkennbar neo-romantisch, fast **turneresk**, fallen die der 1958 in Andernach geborenen Angela Meinhardt auf.
*Among the landscapes of the Rhine, which are naturally dominating the exhibition and which focus on castles, rivers and terraced vine-covered hills, at times exhibiting a realistic colouring, at times being expressionist and subjective and many more which are recognisably neo-Romantic, almost **Turner-esque**, standing out are the ones by Angela Meinhardt, who has been born in 1958 in Andernach.*
(RHZ11/AUG.34200, *Rhein-Zeitung*, 30.08.2011)

Examples (392) and (393) show the same contrast that we have witnessed earlier in the English section. While *-isch* attaches to the common countable noun *Turner* 'gymnast', *-esk* selects the name of an individual as its base (i.e. the name of painter William Turner) and denotes an affiliation to the style of his work. The difference to the English examples is that the latter derivative becomes lowercase. The examples are homonyms and thus, it is misleading here to assume the same base as the input of the derivatives.

The following pair of examples derives from the same base *Militär* 'military', but the resulting meaning of the complex word is different.

(394) Die europäischen Regierungen machen EADS zum Vorwurf, die vereinbarten Konditionen für das neue **militärische** Transportflugzeug bei Weitem nicht einzuhalten.
*The European governments accuse EADS to not nearly comply with the agreed terms for the new **military** transport aircraft.*
(HAZ10/FEB.02028, *Hannoversche Allgemeine*, 13.02.2010)

(395) […] doch bald zeigt sich, dass der Spielort selbst gar nichts Kriegerisches hat, sondern eine leergeräumte, moderne Fabrikhalle ist, die mit ein paar Sandsäcken und Holzpaletten **militaresk** aufgebrezelt wurde.

[…] but soon it becomes apparent that the performance space itself is not martial at all, but is instead a cleared out contemporary factory floor, which has been garnished with a few sandbags and wooden pallets to look ***militaresque***

(NUN11/MAI.00715, *Nürnberger Nachrichten*, 07.05.2011)

It shows that example (394) denotes a relational meaning, indicating that the transport vessel is used for military purposes and therefore includes military equipment. A *militaresque* transport aircraft on the other hand likely denotes a vessel which is only made to *look* like a military one, but does not come with the necessary military appliances to fully function with such a purpose. It is that meaning that is salient in example (395). The adjective *militaresque* occurs in the context of a theater stage which is dressed up in order to evoke associations connected to the military, including sandbags and barbed wire. As such *-esk* functions to indicate a comparison to what is denoted by the base, but the resulting similarity is asymmetric: It simulates a military environment with the help of a few items, but it does not actually function as such, which is a common strategy in theater due to the limited space of a stage. As with its equivalent in English, the German *-esk* predominantly evokes stylistic nuances in the derivatives in which it is used.

To sum up, the analysis of the German suffixes has shown that there is much less semantic overlap between them and they cannot simply be exchanged at will without also changing the meaning of the resulting derivative. More generally, it makes apparent the contribution each suffix adds to a base, indicating that the suffix not only determines the morphological category of the derivative irrespective of the category of the base, but also that it changes the semantics of the base as we have seen for *weibisch* 'womanish' and *weiblich* 'womanly, feminine' for instance. In other cases the suffixes select different senses of a polysemous base, making their contribution non-trivial and distinct. The last examples have shown the two senses of German *-esk* as discussed in Hoppe (2007), i.e. affiliation and similarity. Both cases have shown that the suffixes cannot arbitarily be attached to bases: In the first case the suffixes select different bases which only superficially look the same (common noun *Turner* 'gymnast' and proper name (*William*) *Turner*), in the latter the semantic contribution to the same base differs depending on the suffix added. Overall it seems the German suffixes are much more fixed in their distribution and semantic contribution than the English suffixes, the latter of which exhibit more overlaps with contributions that can differ, but not to such an extent as the German suffixes.

7.5.2 Comparison across languages

The previous sections have shown the individual difference of the suffixes within one of the languages. Here I will concentrate on inter-lingual differences and similarities. To that effect I have singled out all attested doublets, triplets and quadruplets from the results of the corpus analysis and have scrutinised their relations. Table 47 on the following page shows the principal types with one example each.

The total amount of multiple occurrences, which we will term 'multiplets', adapting a term from physics, is a raw number as of yet. In sections 7.5.1.1 and 7.5.1.2 we have observed that some bases are distinct with respect to their morphological classification and meaning, a fact which primarily pertains to derivatives ending in *-esque* / *-esk*. These suffixes prefer to attach to proper names which often happen to have the same superficial form as corresponding common nouns, thus functioning as homonyms. We have also seen that different senses of polysemous base forms attract suffixes to a different extent. In order to show the entire extent of the overlaps, all of those instances have been retained for the time being. It is thus important to note that grouping terms into one of the multiplets above should not be taken as implying that they do not differ morphologically or semantically. Some of them indeed are only related by form. The differences have to be assessed individually, however, and that will be the second step. The table merely shows what kind of material we have as a basis for subsequent analysis.

Table 47. Types of multiples in English and German

Types	**English suffixes**			**German suffixes**			**Total**
	-ish	***-like***	***-esque***	***-isch***	***-lich***	***-esk***	
Quadruplets	*childish*	*child-like*	-	*kindisch*	*kindlich*	-	**5**
Triplets	-	*Kennedy-like*	*Kennedy-esque*	-	-	*kennedy-esk*	**21**
Doublets	*november-ish*	-	-	-	*november-lich*	-	**66**

The subsections will scrutinise three different domains in which the suffixes operate. I have chosen not to discuss the property of connotation separately because its effect on derivatives have been shown throughout this thesis. It is thus more of an underlying aspect associated with the suffixes, rather than a separate 'domain' in which to distinguish suffixal contributions. It will again play a role in the following subsection which analyses the domain of proper names as well as in the last subsection concentrating on animal terms.

7.5.2.1 Insights into the domain 'proper names'

In this section I would like to pick up and discuss a claim made by Dixon (2014: 236) in which he compares *-ish* and *-like* and states that the former is used in comparisons with well-known individuals which are not highly esteemed (e.g. *Putin-ish*), whereas the latter is picked for comparisons with persons who are admired (e.g. *Roosevelt-like*). In what follows it will be shown that it is not that simple and that the status of the individuals denoted by the proper names and collocates with which the derivatives co-occur have a much greater impact in determining the overall meaning. To begin with, let us see with which proper names some of the suffixes occur, depicted in (396) below.

(396) *-ish*: (James) bondish, Caesar-ish, (Peter) Pan-ish, Frankenstein-ish
-like: Christ-like, Beatlelike, (Forrest) Gump-like, Mao-like, Saddam-like
-esque: Kennedyesque, Picasso-esque, (Willy) Wonka-esque, Hitler-esque
-isch: cäsarisch, napoleonisch, wagnerisch
-esk: goetheesk, tolkienesk, donquichotesk, putinesk, stalinesk

The above list shows proper names of both real and fictional, both individuals and group names, as well as both acclaimed personalities and despots. It is easy to counter Dixon's claim by examining only this small set of complex adjectives. It shows that *-like* attaches both to the names of individuals which embody total goodness (*Christ-like*) and those which refer to tyrants (*Mao-like*, *Saddam-like*). On the other hand, *-ish* is not simply found with individuals which are characterised by negative traits (e.g. the fictional character of *Frankenstein*), but also those which are considered more prestigious (e.g. *Peter Pan*, *James Bond*). In fact, in the subsection of NEWS in COCA no hits could be found for *Hitlerish*, but three tokens exist for *Hitler-like*. If we expand the search to a larger corpus such as News on the Web (NOW), we can of course find a few hits for the former (1 token) and 102 tokens for the latter. It is beyond controversy that the individual denoted by this proper name belongs to the set of dictatorial tyrants and thus, following Dixon's reasoning, should not occur with suffixes such as *-like* (and by extension also *-esque*). In order to scrutinise the contribution of the suffixes it is necessary to take the co-occurring collocates and the surrounding context in which the derivatives occur into account. First of all, it is unsurprising that *Hitler-like* co-occurs with nouns such as *villain*, *massacre* and *bombing*. Contrariwise, *Pan-ish* co-occurs with nouns such as *innocence* and *credibility*. Also *-esque* (and *-esk*), whose meaning has been paraphrased by Dixon as 'having the style of, in a *pleasing* manner' (2014: 238, my emphasis) is attached to the names of despots. Therefore, the paraphrase needs to be slightly weakened to denote a more neutral comparison. Hoppe (2007: 24) serves as an example. She paraphrases the first type denoting <similarity> as 'in the style of someone, something' as well as 'in the manner of'. Type two denoting <affiliation> is

paraphrased by 'associated with, typical for'. Whether the style or manner is pleasing is in large part dependent on the individual referred to by the base. After all, the type of base interacts with the suffix as do the collocations of a derivative.

With the exception of *-esk*, the German suffixes in this study do not partake in the formation of derivatives from proper name bases to the same extent. No results were found for *-lich* and only a few for *-isch*. Naturally, a corpus presents a finite window into language use and thus it does not necessarily represent all possible coinages language users have produced. Apart from the three types *cäsarisch*, *napoleonisch* and *wagnerisch*, a subsequent search in COSMAS II additionally revealed the types *goethisch* (two tokens) and *hitlerisch* (one token). However, no corresponding derivatives such as **kennedy-isch*, **dantisch* or **frankensteinisch* could be found. Why is that the case? One possible reason could be a phonological one in that German *-isch* attempts to avoid hiatus, ruling out the first derivative. Furthermore, some coinages might not be easily recognised due to truncation of the base such as the second derivative. At present I have no plausible explanation for why the third derivative has not been coined as it is not semantically infelicitous: It could be used to compare a certain behaviour or physical appearance as described in the novel. Moreover, its non-occurrence is not the result of blocking because the search for potential coinages with the suffixes (or suffixoids) *-artig* and *-ähnlich* (roughly translated as *-like* and *resembling*) has likewise not produced any results. It might simply be the case that the reason why **frankensteinisch* as of yet remains uncoined is linked to Bauer's observation above that there first has to arise the need for filling a lexical gap (cf. 2001: 41). In the present case the derivative remains a potential word, but has not (yet) been turned into an actual word because the speakers of German have not recognised a need for such a word.

To summarise the section it has become apparent that Dixon's claims are not supported by the data and that their relationship is in fact more complex. It is indispensable to also take account of the status of the individuals themselves as well as the suffixes' collocates and the surrounding context in which they occur. Furthermore, in German *-esk* occupies the niche of forming derivatives on the basis of proper names almost exclusively, whereas in English it is shared by all three suffixes. However, it is more of a morphological niche, rather than a semantic one and this raises the question how the term 'rival' is actually defined? To my knowledge, there is no generally accepted definition of the term in the literature and that seems part of the problem with this concept. It has been shown that in German, the suffixes are much more fixed in their distribution, whereas the English ones allow more fluctutation.

7.5.2.2 Insights into the domain 'colour'

Colour bases have been attested since Middle English with *-ish* and include the basic primary colours *red*, *green*, and *blue* (RGB) to which Marchand adds *yellow* (cf. 1969: 306). All of them are attested from an early point in time on. Marchand also mentions the derivatives *whitish*, *blackish*, *brownish*, *greyish* and *purplish*, which have arisen from the late 14th century on (cf. 1969: 306). In German, derivatives with colour bases are formed by adding *-lich*, not *-isch*. According to the DWDS, the German colour derivatives are first attested from the 15th century on, placing them much later than their English counterparts. In German as in English, these complex words denote approximation to the meaning of the respective base form. It seems thus that this sense has developed with *-lich* in German, whereas it does not appear with *-isch*. This emphasises the fact that ”affixes are productive on the basis of particular categories“ (Bauer 2001: 23) and the morphological category of adjectives is not productive with *-isch*.

Comparing the output of the corpus search above it becomes evident that *-ish* attaches to a number of colour bases that are not attested with *-lich*. For instance, no attestation is recorded of **pinklich* 'pinkish' in Cosmas II. One could argue that the formation of **pinklich* is superfluous because *rötlich* 'reddish' already covers that part of the colour spectrum. However, the formation *pinkish* is attested in COCA with 28 tokens in the subsection NEWS and with almost 400 tokens overall. Recall Motsch's (2004: 200) statement that *-lich* avoids foreign bases, which might serve as a plausible explanation for why **pinklich* and also **lilalich* is not attested. Furthermore, the latter example demonstrates a formation of three very similar syllables, which are frequently simplified by the process of haplology. In this case, however, it seems to result in the non-attestation of the word rather than in the reduction of the syllable structure. In any case, which of the syllables would have the potential to be reduced in **lilalich*? In forming colour derivatives with these bases, German resorts to other means than employing the native suffix *-lich*. We find *pink* and *lila* attested in Cosmas II with the suffix (or suffixoid) *-farben* '-coloured' 31 and 14 times respectively. Motsch discusses this element and analyses it as a suffix (cf. 2004: 209). The element does not occur primarily with adjectival colour bases, but instead with common nouns such as *Zimt* 'cinnamon', *Zitrone* 'lemon', *Flieder* 'lilac'. Derivatives of this pattern are considered active and accentuate characteristic colour properties of the referent they are compared to (cf. Motsch 2004: 209). Thus, flowers whose blossoms are described as *fliederfarben* 'lilac$_{ADJ}$' exhibit a resemblance in their coloration to the colour of their namesake *Flieder* 'lilac$_{N}$'.

In English we also find a number of such derivatives with other suffixes than *-ish*. Previously discussed were *-y*, *-like*, and *-esque*. It has been shown in section 7.5.1.1 that the latter two do not denote colours, however, but instead proper names (see *Brown-like*, *Brown-esque* above).

This is also true to some extent for *-y*, which may denote the name of an individual:

(397) **Whitey** Ford can't remember offhand how many championships he won in his 16-year career. (COCA, NEWS: Associated Press, 2011).

The OED, however, records some colour derivatives with *-y*, for example *greeny* 'somewhat green, greenish' and *pinky* 'tinged with or inclining to pink'. The latter derivative is interesting in that it is homonymic: It is frequently attested as a colloquial term for the little finger, i.e. the smallest one and furthest away from the thumb:

(398) Her husband, Thomas, who always bowed to the ladies, his waist like a hinge, and held out his **pinky** finger when he drank tea. (COCA, Fiction: SouthwestRev, 1995)

In other contexts, it appears as an adjective denoting a colour:

(399) The home cook can tell […] when the fish goes from ”translucent to a little pale white, not too **pinky**. That's a technical term,“ he laughs, adding, ”It's hard to explain.“ (COCA, NEWS: The Seattle Times, 2016).

The fish referred to in example (399) is a halibut, whose appearance is defined by two distinctly coloured sides, one dark brown, the other characterised as ranging from off-white to a slightly pink tinge. Compared to the more common *pinkish*, the amount of colour adjectives with *-y* remain infrequent.

One final aspect to be mentioned with respect to doublets in *-ish* and *-like* has been mentioned briefly in Bauer et al. (2013: 312). Derivatives formed by the two suffixes enter into a relationship of meronymy, where *-ish* characterises a part of some item and *-like* denotes the whole as with the colour *amberish* and the substance *amber-like*. Another example is the doublet of *blondish* and *blonde-like*, where the former refers to the colour of hair, the latter to a type of person having hair in that colour. This effect is also shown with metals and their respective colours:

(400) Daniel Zwerdling: It has quite a bit of gold and brown coloring on it.
Jose Vasquez: We call that color **silverish**, sanito. (COCA, Spoken: NPR_ATC, 1995)

(401) 'The Plate' is taken from an undated typescript and refers to the **silver-like** metal plates […] that were used as prostheses to repair severe head wounds during the war. (COCA, ACAD: Poetry, 2011)

To sum up, the basic colours are frequently attested in English and German, but they are derived by different suffixes. Specific colours in German are more likely derived by adding a suffix which adds the corresponding sense of 'colour' (i.e. *-farben* '-coloured') to its nominal base, whereas the range of English derivatives with *-ish* is slightly broader. Other suffixes than *-ish* do not frequently attach to colour bases, but instead pick out homonyms. The suffix that does form

derivatives based on colour adjectives remains rather infrequent in such formations. Bauer et al. contend that only individual doublets like *amberish* and *amberlike* referenced above display different meanings, but more generally the suffixes show ”no intrinsic semantic differences“ (2013: 312). I postpone the evaluation of this perspective until after the next section, which sheds light on the domain of animal terms with respect to the suffixes used.

7.5.2.3 Insights into the domain 'animalia'

This section will not only look at the dispersion of the six suffixes across animal bases, it will in addition illuminate a connection of an English suffix to a German one that has not been considered so far in the course of this study. The reason for this addition lies in the relative scarcity of 'zoonyms'[222] with the chosen German suffixes as we will see.

First of all, both English and German *-esque* / *-esk* are unproductive with respect to animal bases, the former including two types which are homonyms upon closer inspection (*Tiger-esque*, *Python-esque*, referring to Tiger Woods and Monty Python, respectively), the latter exhibiting one coinage in Cosmas II (*elefanteske Töne* 'elephant-esque sounds, referring to the sound of a plastic horn).

Turning to the remaining English suffixes, the count of 19 animal bases with *-ish* and 52 with *-like* in the selected result set of the NEWS section of COCA appears to be a suitable basis for comparison. However, only 9 types overlap, among them *sluggish* and *sluglike*. The pair provides a good starting point for investigating one group of derivatives that distinguishes itself in terms of a much discussed opposition, that is that of negative and neutral or positive connotations. The polysemous type *sluggish* for instance co-occurs with nouns indicating slow development especially in the field of economy, e.g. *market*, *industry*, or *economy* itself, but also concrete things that move at a slow pace, e.g. *cars*, *computer*, or *engine*. The slowness of development is perceived as an undesirable circumstance as shown in (402):

(402) Sales of the most capable headsets have been **sluggish** by most estimates, held back by high costs, a lack of must-have content and the complexity and awkwardness of the products. (COCA, NEWS: Seattle Times, 2017)

The author of example (402) contrasts the principally high functionality (*most capable*) of the headsets with a number of factors that are perceived to be the cause of their current state as shelf warmers, including price policy and lack of desirable features. The derivative does not only co-occur with inanimate things. Malkiel (1977: 361) additionally provides the paraphrase 'lacking in energy, lazy' that could apply to individuals as well.

222 The term has been used in Malkiel (1977).

In contrast, the search for *sluglike* does not produce many collocates and those that are found include characteristics akin to the animal, e.g. *appearance*, *texture* as well as *body*. Collocates can provide information about the contexts of the word they collocate with, yet when a search results in only a few hits, the explanatory power is diminished. It could also be pure chance. Thus, for the remainder of the zoonyms with *-ish* and *-like*, the contexts of individual types are investigated with respect to their connotation. Consider the examples below:

(403) Whether Williams succeeds in taking an alternative route to the throne will be a test of his strong-mindedness. The **mulish** streak, observers say, comes from his mother, … (COCA, NEWS: USA Today, 2003)

(404) Crichton was careful to give some of his sexist dialogue to women, to create a humane female boss as well as the fanged one, to introduce both **swinish** and sympathetic men. (COCA, NEWS: Washington Post, 1994)

(405) One thing that people respond to and like about boys is they crash around, knock into each other. They have these **puppyish** qualities that are sort of endearing in a way. […] The danger for boys is someone will miss a social cue. One minute they are playfully roughhousing and some line is crossed and someone really hits back with intent to hurt. (COCA, NEWS: Chicago Sun, 2006)

(406) A normal workday would begin around 3 or 4 in the afternoon and last until first light. This **owlish** existence allowed him to work free of common interruptions. (COCA, NEWS: NYTimes, 1993)

The examples (403) to (406) describe some of the common patterns of *-ish* derivatives. In examples (403) and (404) a salient behavioural quality identified in the respective animal is associated with human behaviour. A mule is known for its obstinacy and likewise Prince William is described as being tenacious in pursuing his own way. However, the connotation does not have to be downright negative as with *swinish*. Examples (405) and (406) highlight aspects of the meaning of *-ish* derivatives that are sometimes simply subsumed under a heading like 'negative connotation'. The *puppyish* behaviour attributed to boys in example (405) can be observed frequently in the animal realm: Puppies (and other young animals such as tiger or lion cubs, etc.) of a litter are shown to exhibit a playfulness with each other that looks rough from a human point of view, but is a normal part of their socialisation. Thus, they spar and wrestle with each other and learn to establish dominance, all of which proved vital characteristics of animals in the wilderness and which have remained a behavioural trait of domestic dogs. Transferred to the human world, children may also exhibit behaviour *similar* to an animal litter, behaviour which is perceived as innocent and harmless, if not entirely appropriate or desirable (*endearing*, reinforced by the hedges *sort of* and *in a way*). However, different to behaviour reflecting a typical transition of an animal litter into adulthood, children's harmless playfulness may quickly

turn into violent behaviour towards others with the *intention* to hurt someone (*some line is crossed*).

Lastly, the derivative *owlish* in (406) highlights a comparison with human behaviour that is perceived to be out of the socially accepted norm to some extent. In other words, the behaviour does not conform to the normal standards of behaviour, but instead it diverges from it in some way. While it does not evoke connotations of downright negativity, it compares and evaluates a type of behaviour unfavourably with respect to behavioural patterns of the majority (cf. also *bookish*).

Thus, the three aspects of negative connotativity, i.e. depreciation, inappropriateness (often accompanied by minimisation), and divergence from some established norm, are frequently found with *-ish* derivatives. By comparison, *-like* derivatives are used to compare lesser known species to more prototypical versions (e.g. *gull-like* (408)) as well as to establish a resemblance to some salient aspect or property typical of the animal (cat-like movement (407), and mantis-like posture (409)). Probably the most salient property of a praying mantis is its raised posture. Physical appearance is one major aspect employed in comparison. Other common types of comparison include behavioural properties or a combination of both.

(407) He worked with **cat-like** movements, reaching gingerly through belts and pulleys, unclogging vents and chutes, moving levers, or checking the grain sacks. (COCA, NEWS: Christian Science Monitor, 1991)

(408) On Norway's Svalbard Islands, **gull-like** birds called northern fulmars feed by snatching prey from the water's surface. (COCA, NEWS: Los Angeles Times, 2017)

(409) Now tiptoeing on a foot, now pirouetting with hands raised **mantis-like**, the freckled priest […] imitates the signature postures of the animal warriors of the story. (COCA, NEWS: Christian Science Monitor, 2009)

The second group of interest contains derivatives whose point of departure is the largely figurative use of one of the suffixed doublets. This group is formed by the derivatives *bearish*, *bullish*, *hawkish* and *dovish* as well as their counterparts with *-like*. In context it becomes evident that the first two types with *-ish* are complementary to each other and their domain of application is the finance sector. They co-occur with nouns such as *market*, *investors* or *analysts*, describing a type of behaviour that at first sight seems rather remote from the realm of animalia. Therefore, to assess to what extent these terms allow an inference to the respective animal, a quick search on the internet was conducted. Most of the results revealed that investors who speculate on rising stock prices are described as *bullish*, whereas those who speculate that the prices are falling are described as *bearish*. This does not yet give any indication on the precise connection to the animals in question and the meaning of the terms remains opaque as of yet. However, one result

illuminated the connection with respect to the attack behaviour of the animals to which the derivatives make reference: Bulls lower their horns and raise them to attack, whereas bears attack with raising their paws to strike downwards. Essentially, the attack behaviour of the animals is transferred to human behaviour at the stock market. By contrast, the results for *bearlike* unanimously denote primarily physical properties of the animal as is shown in examples (410) and (411):

(410) Mr Smith, with his bulbous face and **bearlike** 6-foot-6 frame, … (COCA, NEWS: NYTimes, 2002)

(411) Ted Tellian doesn't fit the mold of the gruff, **bear-like** high school football coach. (COCA, NEWS: SanFranChron, 2000)

Similarly, the derivatives *hawkish* and *dovish* are antonyms with respect to their application in the context of politics. Consider examples (412) and (413) below.

(412) … last month he acknowledged that, despite his **hawkish** stance on defense, he was a conscientious objector during the Vietnam War. (COCA, NEWS: Washington Post, 1990)

(413) Mr. Weizman made his name as one of Israel's most celebrated fighting men, yet he worked to transform himself into a **dovish** politician. (COCA, NEWS: New York Times, 2005)

Example (412) is embedded in a newspaper article that carries the designating title 'Battle Lines Drawn as Candidates Gear Up'. The quote stems from Roy Dyson, a member of the Democratic Party in the U.S. and his stance towards the relation of domestic and foreign policy. Even though he advocates for protecting his 'own' territory (cf. *hawkish stance on defense*), he does not necessarily partake in military operations abroad as he is a conscientious objector. The example highlights a parallel to the animal's territorial behaviour because a hawk does not belong to the category of migratory birds, instead it remains in its territory and protects it. Hence, the adjective *hawkish* denotes institutions, individuals and behavioural patterns in the area of politics, which entail frequently aggressive overtones. On the other hand, the adjective *dovish* in example (413) denotes the personality of an individual who attempts to negotiate, rather than resolve conflicts with military means.

Outside of the text type of NEWS, a number of examples illustrate the sense of resemblance to an outer quality such as the shape of someone's nose:

(414) The tall man had a **hawkish** nose and sad eyes, and fingers so long they dangled (COCA, Fiction: Azizah, 2009)

Thus, *-ish* attaches to different senses of the polysemous noun *hawk*. By comparison, the adjective *hawk-like* only refers to outer appearances (415), specific behaviour (416), or points

out similarities to other types of birds, which are then applied to inanimate objects resembling their movement (417).

(415) His features are narrow, bony, almost **hawk-like**. (COCA, NEWS: SanFranChron, 2000)

(416) … watches me with **hawk-like** brilliance (COCA, NEWS: CS Monitor, 1990)

(417) … they noticed that these objects flew in a way similar to a **hawk-like** bird called a kite. (COCA, NEWS: CS Monitor, 2002)

The examples of this second group provide a suitable baseline for comparing their content to the German derivatives. We have seen above that *-esk* occurs only once with an animal base in the sample of Cosmas II. As it turns out, none of the German suffixes under consideration are particularly apt in forming derivatives based on animals. The suffix *-lich* does not enter this domain at all and *-isch* returns no hits in the result list, but upon manual checking of the corpus, a few well-known types appear, e.g. *schweinisch* 'swinish', *hündisch* 'doggish', and *wölfisch* 'wolfish'. Not surprising, the great majority of their tokens exhibit a negative connotation. The meagre result raises the question how corresponding derivatives are productively formed in German? A partial answer is provided by re-examining the English examples: Here only *-like* indicates productivity with animal bases, conveying a sense of resemblance to the base. The customary sense provided by *-like* is mirrored in and frequently found with German *-artig*, best translated as *-like*. Malkiel (1977: 343) names *-artig* as one of the German equivalents of *-like*. Similarly to *-like* the literature disputes about its morphological status in that some consider it a suffix (e.g. Fleischer and Barz 2012: 61, 300), others a suffixoid (e.g. Simmler 1998, Tellenbach 1985). To illustrate, Schmidt (1987: 92) denies suffixes to possess any meaning of their own, consequently he assumes a different segmentation of complex adjectives. Thus, derivatives such as *habichtartig* 'hawk-like' would exhibit the word-formational pattern: $habicht_{N}$ + art_{N} + $-ig_{suffix}$, resulting in the compound $Habichtart_{N}$ 'type of hawk' that is transposed into an adjective by adding the suffix *-ig*. Cosmas II does not return any results for the search of *Habichtart* and the dictionary Duden does neither[223]. In the DWDS the term is also not recorded in their lexicographic source material. Such a compound is not entirely inconceivable given a suitable context (see example (418)), yet the lexicographic sources presently indicate otherwise.

(418) Diese **Habichtart** ist besonders schön.
*This **type of hawk** is especially beautiful.*

The semantic contribution of *-artig* is tantamount to that of *-like* in that it highlights different

223 The noun $Habichtartige_{N}$ 'family of Accipitridae' exists, to which the hawk belongs in the ornithological scientific classification.

types of properties referring to behaviour, form or function of the base, which is frequently a noun (cf. Motsch 2004: 207). Fleischer and Barz (2012: 62, 304) and Motsch (2004: 207) concur in viewing *-artig* as productive due to its relative lack of restrictions. To illustrate the use of *-artig* with an example, let us retain the adjective *habichtartig*. Consider the following example:

(419) Das Publikum wird bereits im Laufe des Frühjahrs die Jungvögel zu sehen bekommen, zusammen mit den anderen Greifvögeln. Auf der Burg Maus sind es aktuell fünf Europäische Seeadler, […] und der Neuzugang Clemens-August, ein in Nordamerika heimischer Harrishawk, ein **habichtartiger** Vogel.
The audience will catch a glimpse of the fledglings and the other accipitrids already in the course of spring. At castle Maus there are presently five European white-tailed eagles, […] and the new addition of Clemens-August, a Harris's hawk, ***[...]*** *which is native to North America.*
(RHZ10/MAR.15134, *Rhein-Zeitung*, 30.03.2010)

The supplementation of *ein habichtartiger Vogel* 'a hawk-like bird' in example (419) offers the opportunity to locate the English designation of the bird for the predominantly German-speaking readership. Hawks and Harris's hawks belong to the same family, which makes it plausible for a journalist to compare the non-native bird to a well-known similar native bird.

To sum up, this section has shown clearly that the suffixes in question each gravitate to a semantic centre, which only partially overlaps with any of the other suffixes. It has been shown that *-like* and *-artig* are most productive concerning the formation of zoonyms, possibly due to their default semantic contribution of highlighting and comparing individual properties of the animal to the referent of the derivative. A second area of operation is their ability to compare unknown or lesser known types of animals to the more prototypical of the family. By comparison, formations with *-ish* are less active with animals *per se*, indicating undesirable qualities identified in the animals and attributed to individuals or functioning only in the figurative sense. The connection to the animals in question is replicable, but not as straightforward. The attribution of negative properties is also identifiable in the few hits of the German equivalent *-isch*, but so far no types have been identified that employ the figurative sense. The remainder of the suffixes is not productive with animal bases, it can thus be assumed that they do not operate in this domain.

This section has hopefully provided some of the most compelling evidence to not simply view these adjective-forming suffixes as competitive rivals which only occasionally display distinct meanings. It is certainly true that there is overlap, but there is also enough reason adopt the reverse point of view, namely that they operate in a distinct set of domains, which occasionally overlap, with some suffixes being more prone to overlap than others. The next section will apply the framework by Lieber (2004) to the German and English suffixes and will especially show the

aptness of the feature [+/-SA] introduced in section 4.9 above, which will lend further support to the view that the suffixes show subtle differences which do not qualify them as rivals.

7.5.3 Analysis of the 'similative' suffixes in Lieber's (2004) LSF model

After having qualitatively analysed each of the three corresponding English and German suffixes descriptively, this chapter seeks to identify the semantic contribution of the suffixes by applying Lieber's Lexical-Semantic Framework (2004, and others) introduced in section 4.9 above. The analysis presented in this section represents merely a first approximation and is not intended to be exhaustive. Without doubt, a comprehensive analysis will reveal further subtleties in the meaning of these suffixes. The basic senses identified for *-ish* diachronically consist of 1) a simple relational meaning, termed 'association' here, 2) a comparative meaning of equivalence, 3) a comparative meaning of resemblance, and 4) a sense of approximation. The first was identified for ethnic adjectives and the initial non-ethnic sense of *ceorlisc* 'churlish' in early Old English, which later has developed into the comparative meaning of 2). The comparative sense has been shown to convey two related types, as has become evident with *cildisc* 'childish'. Finally, initially with adjectives only, *-ish* has developed the sense in 4), which has been shown to have spread on to other morphological categories as well. These senses comprehensively capture the polysemy that is present in today's formations with the suffix and they have been analysed to come about via different settings of the feature [+/-symmetric association] in connection with different types of bases.

In order to identify differences and similarities between the derivatives, we will continue to mainly use apparent doublets for comparison, starting with *-ish* and *-like*. I will not show the complete skeletons in each case, but restrict myself to identifying the value of the feature [+/-SA] in most examples. It is this feature which is under investigation here and the purpose of this section is to show that it can not only be applied to other English 'similative' (or 'similitudinal' to use Beard's (1995: 220) term) suffixes, but also find application cross-linguistically. Likewise, I will put an emphasis on adjectival and nominal bases (to which proper names can be counted as well) for two reasons. First, all suffixes attach to nominal bases of various types and second, it is adjectival bases which show a striking divergence of suffixes in English and German. Other morphological categories are illustrated as needed. The basic senses identified in the literature and the qualitative-descriptive analysis in sections 7.5.1 and 7.5.2 for all six suffixes are displayed in table 48 below. The table is of course an oversimplification and the intricacies of the interaction of base and suffix as well as the co-occurring collocates and the context are not fully

depicted here.

Table 48. Summary of semantic contribution of the six suffixes

Suffix	**Sense**			**Connotation**		
-ish	Relational 'affiliation'	Similative 'comparison'	Approximative 'gradation'	Negative	Neutral	-
-like	-	Similative 'comparison'	-	-	Neutral	Positive
-esque	Relational 'affiliation'	Similative 'comparison'	-	-	Neutral	Positive
-isch	Relational 'affiliation'	Similative 'comparison'	-	Negative	Neutral	-
-lich	Relational 'affiliation'	Similative 'comparison'	Approximative 'gradation'	-	Neutral	Positive
-esk	Relational 'affiliation'	Similative 'comparison'	-	-	Neutral	Positive

In section 4.9, the semantic development of the type *childish* has been traced and I have said that the feature associated with *childish* can be set to both values, [+SA] and [-SA], depending on the referents and their properties that are being compared. Hence, if *childish* refers to children and picks out salient qualities associated with children, the corresponding comparison is one of equivalence and thus [+SA]. If the derivative pertains to adults who display a behaviour not befitting the maturity that is being expected of them, the comparison becomes one of mere resemblance and the salient properties being picked out are compared negatively to the referent of the derivative. Both of these basic senses have been checked with the OED, which provided the following two senses for *childish*:

(420) a. OE *childish*: 'Of, like, or appropriate to a child or to childhood; childlike'
b. c1405 *childish*: 'With reference to a person who is no longer a child: not befitting maturity; puerile, foolish, silly'

Hence, the values set for the features – [+SA] for (420a.), [-SA] for (420b.) – mirror the paraphrases. Let us now have a look at the paraphrases for *-like* (421), which is defined as a suffix in the OED:

(421) a. (*a*1450) *-like* (with nouns): 'Forming adjectives with the sense 'similar to or of the nature of –', 'characteristic of or befitting –'
b. (1488) *-like* (with adjectives): 'Forming adjectives with the sense 'resembling, or characteristic of, a person who or thing which is –; having the appearance of being –'

With both of these paraphrases we note that they occur much later than the suffix *-ish*, which has been present in the English language since early Old English. The use of *-like* with adjectives originally was prevalent in Scottish, as the OED informs, and now it is considered colloquial (cf. OEDweb, entry *-like*, suffix, sense 2.a.). In the corpus analysis above (see section 7.4.3), we have noted that *-like* occurs rather infrequently with adjectives in COCA, and we will therefore concentrate on the denominal senses. However, given the paraphrase in (421b.), the feature [-SA] indicating resemblance suggests itself. The OED gives as an example 'grim-like smile' (cf. Wilson 1789, in OED entry *-like*, suffix), which describes a similarity to a certain facial expression. It would thus differ from the deadjectival sense identified for *-ish* adjectives.

Returning to denominal forms, the paraphrase for *childlike*, the derivative of which is given as part of the paraphrase for *childish* (see (420a.)), is shown in (422) below[224].

(422) 1577 *childlike*: 'Esp. of a quality, action, physical attribute, etc.: like that of a child; characteristic of a child'

We can note two things in this paraphrase. First, the derivative with the suffix *-like* appears much later than the first attestation of *childish*, which occurred already in Old English. Second, the paraphrase emphasises the salient properties that are being compared, rather than mentioning potential referents. The paraphrase gives *childlike* as a neutral form and the examples below show the various types of contexts in which it may occur:

(423) She is very strong but also very innocent and **childlike** in many ways. (COCA: NEWS, USA Today 2002)

(424) She seems... not childish, but **childlike**. The type that would like comfort food like pudding. (COCA: NEWS, USA Today 1999)

(425) Shy yet confident, mature yet **childlike**, precise yet open to ambiguity, Shymalan aims high. (COCA: NEWS, CSMonitor 2004)

The examples all put forward a different aspect of the referent, who is an adult in every case. The adjectives *childlike* and *innocent* are put on a par in (423), *childlike* is contrasted with *childish* in (424), and *mature* with *childlike* in (425). Hence, the qualities that characterise the second sense o f *childish* (i.e. such as immaturity when it refers exclusively to adults) are not evoked in *childlike*, but rather other salient properties of children that are compared favourably to the adult referent in each case. Thus, the sense given is one of resemblance [-SA], but the properties that are picked out for comparison are considered endearing. As with *-ish* in 4.9, *-like* also receives two argument slots to denote 'x is compared to y'. The proposed skeleton is given in (426):

224 Dictionary entries are not entirely free from circularity. Compare the definitions given for *childish* (420a.) and *childlike* (422).

(426) *childlike*

[-dynamic, -scalar, -SA ([$_i$], [ ],	[+material, +B, -CI, +animate ([R$_i$])])]
-like	*child*

Similarly suited for direct comparison are the forms *womanish – womanlike*, *mannish – manlike*. Recall that Dixon (2014: 237) contrasted derivatives like *manly* and *mannish*, saying that the former pertains to men, the latter to women (see section 2.3.2). Is this distribution similar with respect to *-like* and *-ish*? Let us dig a little deeper and consider what the OED has to say about *mannish*:

(427) a. eOE: 'Of, relating to, or characteristic of the human species; human. Now *archaic*.'
b. *a*1425: 'Of a woman, a woman's attributes, etc.: resembling (those of) a man, masculine'
c. 1530: 'Of, relating to, or characteristic of a grown man, as opposed to a child; adult, mature'

The first (427a.) and last (427c.) clearly show relational senses of the derivative, resulting in a symmetric association and hence [+SA]. Later examples that are given for the sense depicted in paraphrase (427c.) shift towards a comparative nuance of the type 'equivalence': ”Tom was different because he was *mannish* and independent.“ (cf. OED, 1984, J. Phillips *Machine Dreams* 10). This shows that there is a strong connection between these two senses. The sense in paraphrase (427b.) picks out qualities typically associated with men but pertains to female referents, hence an asymmetric association [-SA]. If we now compare these paraphrases with the following for *manlike*, we see that there is overlap to some degree:

(428) a. c1480: 'Having the (good or bad) qualities or characteristics associated with men as distinguished from women; befitting a man'
b. 1605: 'Of a woman: having masculine qualities; mannish'
c. 1590: 'Resembling a human being; anthropoid'

(428a.) focusses on salient properties that are typically being recognised in male referents, but are often attributed to women in the contexts given in the OED. That is, depending on the properties and referents, the comparison can be one of equivalence [+SA] or resemblance [-SA], illustrated in (429a.) and (429b.), respectively. The sense given in (428b.) is the equivalent of the sense (427b.) for *mannish* above. Lastly, sense (428c.) is different from the corresponding sense for *mannish* 'human' (see 427a.) in that it focusses on a resemblance, not simply a relation. The senses for *-like* in the latter two cases are thus all [-SA].

(429) a. [+SA]: […] & among men may be **manlike** ciuilitie.
(OED; 1561, T. Norton tr. J. Calvin *Inst. Christian Relig*. IV. xx. f. 161.)

b. [-SA]: Elizabeth.. Digressing from her Sex, with **Man-like** gouernment […]
(OED; M. Drayton *Poly-olbion* xvii. 264)

In the paraphrases for *mouse-like* and *homelike*, we can observe that the meaning of resemblance is not only present in bases denoting human agents, but also in animal bases (430) or inanimate bases (431), in which case the corresponding value of the feature [+/-SA] is likewise set to a negative value. The lexical-semantic entry for the nominal bases *child* and *mouse* has the feature [+animate] in either case but is distinguished with respect to the body. The body contains additional information beyond the underspecified skeletal features, in the case of *mouse* it includes information such as <animal>, <mammal>, <rodent>, etc.

(430) 1652 *mouse-like*: 'Resembling or characteristic of a mouse'

(431) 1632 *homelike*: 'Resembling, suggestive of, or characteristic of a home; homely'

Thus, derivatives with *-like* show a sense of resemblance in almost all cases and examples focus on salient properties found in the base noun, which are then compared to a number of different referents. The properties used as the basis for comparison are oftentimes considered either appropriate to the referent or else desirable, while those used in *-ish* derivatives frequently denote objectionable or unfitting qualities. Which specific properties are compared in a given context is part of the body of the base nouns with which the suffixes are associated. The relational and approximative senses are absent in *-like* derivatives.

Let us now move on to the suffix *-esque*, which chiefly derives adjectives from proper names. To illustrate the senses present in *-esque*, we will first concentrate on an attested derivative in the OED. The dictionary gives 'resembling the style partaking of the characteristics of' as the paraphrase for *-esque*, but in this case it does not back it up with examples from the literature. As we will see, the sense of resemblance is prevalent with *-esque*, but it is not the exclusive sense. Consider the paraphrase given for *Kafkaesque* in (432) below:

(432) 1947 *Kafkaesque*: 'Of or relating to the writings of Franz Kafka; resembling the state of affairs or a state of mind described by Kafka'

In section 7.2.6 above we noted that for the German variant of *-esk* Hoppe found two principal senses, which she labelled 'structural type I: Similarity', and 'structural type II: Affiliation' (2007: 24). She further noted that structural type I 'Similarity' is the predominant semantic type in German (2007: 45). In English, we can see these two semantic types at work as well, as shown in the paraphrase in (432), which gives the sense of relation (Hoppe's type II) and one of resemblance (Hoppe's type I). That is, depending on the type of association with the base, the value of the corresponding feature changes: [+SA] with the purely relational sense, [-SA] with the comparative sense of resemblance. Which of these two principal types is prevalent in

English? Let us have a look at the following paraphrases for proper name formations:

(433) 1868 *Dickensesque*: 'Resembling the writings or style of Charles Dickens'

(434) 1921 *Chaplinesque*: 'Resembling or characteristic of the comedy or style of the English-born film actor and producer Charles Spencer ('Charlie') Chaplin'

(435) 1925 *Caravaggiesque*: 'Of, resembling, or characteristic of the Italian painter Michelangelo Merisi Caravaggio, or his works'

(436) 1943 *Stalinesque*: Of, pertaining to, or characteristic of Joseph Stalin, his policies, activities, etc.'

The first two (433) and (434) clearly denote the sense of resemblance (Hoppe's type I). The latter two (435), (436), may denote either of the two senses, albeit the sense of resemblance is predominant here also. In the OED, which gives four examples for the type *Caravaggiesque*, only one denotes the relational sense as depicted in (437). The type does not occur in COCA. Conversely, *Stalinesque* occurs twice in the OED with examples and shows either type of meaning, the relational meaning is given in (438) below. In COCA, which contains two examples for this type, only the meaning of resemblance is featured (see example 439).

(437) A **Caravaggiesque** Madonna. (1936 *Burlington Mag*. Mar. 132/1)

(438) Stalin rebuilt the city [*sc*. Minsk] in **Stalinesque** style: a grandiose central avenue with a trade union palace. (1979 Times 14 Nov. 12/4)

(439) Under cover of the U.N. deadline for Iraq to withdraw from Kuwait, Mikhail Gorbachev is using his new **Stalinesque** power to perform a Stalinist act […] (COCA: NEWS, New York Times, 1991)

What about other types of bases with *-esque*? We have mentioned in section 7.4.3 above that *-esque* may also attach to common nouns, albeit less frequently than to proper names, and very infrequently to numerals. For illustration, let us have a look at examples (440) and (441) which show *-esque* suffixed to the nominal compound *chicken-soup* in the former and attached to the year of *1918* in the latter:

(440) I happen to love Gummere's take, a brothy, **chicken-soup-esque** dish topped with Bantam & Biddy's signature crispy cheddar biscuits. (COCA: NEWS, Atlanta 2013)

(441) In some cases, the flu has claimed otherwise healthy people with no apparent risk of severe disease. Perl calls some cases **1918-esque**, referring to the dreaded Spanish flu that killed an estimate 675,000 people in the USA. (COCA: NEWS, USA Today, 2009)

In (440), *chicken-soup-esque* denotes a comparison to a dish, which is similar but not equivalent to a certain type of soup. It contains some salient properties of what is usually considered an ordinary chicken soup, but the dish has been modified for the context of gastronomy,

representing the chef's interpretation of said dish. The type thus denotes a resemblance to a given object and the featural value is correspondingly set to [-SA]. The year 1918 in example (441) is used to compare a health situation from the past with one of the present. The numeral, a cardinal number, thus stands in for events that took place in 1918 which are compared to a similar situation in 2009 (specifically, the 2009 flu pandemic involving the H1N1 influenza virus). The comparison is asymmetric in that it denotes a resemblance of properties, and hence carries the feature [-SA].

To sum up the preliminary investigation of the English 'similative' suffixes, we can now say that *-like* and *-esque* carry the same types of features as *-ish*, albeit to different degrees. Since the study remained purely synchronic and I have focussed only on a small variety of cases, a thorough diachronic analysis might reveal a more nuanced application of these features. So far, *-like* has been predominantly represented with the meaning of resemblance [-SA], which it also possibly shows with adjectival bases (see above). The suffix *-esque* has been shown with a relational and the comparative meaning of resemblance, thus corroborating Hoppe's (2007) analysis for the English variant of the suffix as well. The corresponding featural values are [+SA] for the former case and [-SA] for the latter.

Let us now turn to German and investigate the meanings present with the suffixes *-isch*, *-lich*, and *-esk*. Again, it is important to stress that the present undertaking is a purely synchronic endeavour, which might obscure subtle meaning shifts that have occurred in earlier periods, but which are not recognisable in the present-day formations any longer. Only a diachronic analysis can shed light on this question. We will begin with *-isch*, which is attested with ethnic and non-ethnic bases like its English equivalent. Interestingly, both German dictionaries used as a reference here – the DWDS and Duden – give only one sense for the suffix *-isch* (the same paraphrase is used in either dictionary, the translation is mine):

(442) *-isch*: 'in formations with nouns, it denotes the affiliation to them'

Thus, only a relational sense is attributed to *-isch*, however, Motsch (2004: 309) distributes the various senses differently and lists under the heading of 'relations to objects (denominal adjectives)' both the senses of affiliation and comparison. His list of senses is much more fine-grained than I am able to show here and he gives a separate sense for types of locations (e.g. *Mecklenburgische Seen* 'Mecklenburg Lakes', cf. p. 310), which are subsumed under the wide sense of 'ethnic' here. As I have stated above, 'ethnic' is used as a shorthand term to include all types of ethnic, regional, etc. affiliations which are distinguished from the productive types I have termed non-ethnic and I have no objections against other terms. Since a comparison between two objects can be considered a type of relation, this could be a reason for why the

dictionaries chose to omit the comparative sense. However, I am emphasising the distinction between a pure relation and types of comparison and thus I will largely follow Motsch's definitions for the suffixes here.

Motsch (2004: 197) gives *französischer Edelmann* 'French aristocrat' as an example for a type of relation that he terms 'zusätzliche Klassenzugehörigkeit' (additional class membership). Among these are ethnic and non-ethnic base forms, but we will first concentrate on the former. As with the English ethnic examples, the German derivatives denote a simple relation between the denotation of the derivative and the nominal head of the expression[225]. A French aristocrat is an aristocrat who belongs to the nation of France. Motsch (2004: 195) terms this relation [UND (N)](x) (i.e. [AND (N)] (x)) and gives the following definition:

(443) [UND (N)](x): 'die Eigenschaften eines Nominalkonzepts N sind zugleich Eigenschaften von x'
[AND (N)](x): 'the properties of a nominal concept N are likewise properties of x'

We have seen this definition play out with ethnic derivatives in English as well as with the early sense of *churlish* which denoted a freeman of the lowest rank. The relational sense for ethnic adjectives with *-isch* correspondingly receives the feature [+SA], denoting a symmetric relationship. For instance, Duden gives the following paraphrase for the adjective *englisch* 'English', which closely mirrors that for *English*:

(444) *englisch*: 'die Engländer betreffend, England betreffend, aus England stammend, zu England gehörend'
English: pertaining to the English people, regarding England, from England, belonging to England

As stated above, another type of relation that pertains to certain locations and is defined by Motsch as [ORT VON (N)](x) (i.e. [LOCATION OF (N)](x)) includes many ethnic terms (e.g. *englische Stoffe* 'English fabrics', *Pariser Beschlüsse* 'Parisian resolutions', *israelische Apfelsinen* 'oranges from Israel', cf. Motsch 2004: 231). Given the examples we would also suggest the feature [+SA] to denote a relational sense in these cases.

Let us now move to non-ethnic formations. A first observation is that the relational sense is much more prevalent in German derivatives with this suffix than in English. Examples abound and include for example *schulisch* (445), and *medizinisch* (446). The definitions from both dictionaries unfortunately do not include the (approximate) date of first attestations as did the OED, and they can thus be considered to convey the semantic status quo of the present-day. Below are given the paraphrases from the DWDS:

225 Motsch (2004: 197) uses the terms 'Basiswort' for the derivative *französisch* and 'Bezugswort' for the referent of the derivative *Edelmann*.

(445) *schulisch*: 'die Schule betreffend, angehend'
educational: Pertaining to school, concerning school'

(446) *medizinisch*: 'die Heilkunde betreffend, zur Heilkunde gehörig'
medical: regarding medicine, belonging to medicine'

The senses given here are characteristic of relational adjectives and as such they receive the positive value of the feature [+/-SA]. Let us now compare apparent doublets of German with *-isch* and *-lich* that are formally analogous to the English pairs. In Motsch (2004: 200) the comparative use of [WIE (N)](x) (i.e. [LIKE (N)](x)) is a subtype of denominal adjectives which denote relations to objects (like the sense of 'additional class membership', see above) and is defined as follows:

(447) [WIE (N)](x): 'die prominenten Eigenschaften eines Nominalkonzepts N sind Eigenschaften von x'
[LIKE (N)](x): 'the salient properties of a nominal concept N are properties of x'

The definition emphasises the relation of salient properties between two individuals and the semantic pattern [LIKE (N)](x) denotes a type of comparison. In section 4.9, I have classified comparisons as principally being able to take two forms, equivalence and resemblance, and *childish* was shown to have both types. In (present-day) German, *kindisch* 'childish' is used only with respect to inappropriate behaviour of adults and denotes a resemblance to salient behavioural properties identified in children [-SA].

(448) *Duden*: 'sich in unangemessener, für einen Erwachsenen unpassender Weise wie ein Kind benehmend; töricht, albern, unreif'
Duden: behaving like a child in a way inappropriate to adults; foolish, silly, immature

(449) *DWDS*: 'wie ein albernes, törichtes Kind'
DWDS: like a silly, foolish child

The neutral sense of English *childish* 'of, like, or appropriate to a child or to childhood; childlike' is entirely absent from these definitions. The question is now whether a) the sense has been present during earlier periods, but has become obsolete or b) whether the senses in German are distributed differently with respect to suffixes. As I have stated above, the first part of the question cannot be answered here and has to remain for future research. Fleischer and Barz (2012: 315f.), however, note, with reference to Maurer and Stroh (1959[2]), that the meaning of negatively connotated base words (e.g. in *sklavisch* 'slavish', *diebisch* 'thievish', etc.) has influenced other word formations with *-isch* such as *kindisch* 'childish', *weibisch* 'womanish' etc.,

to take on a pejorative meaning since the 18th century[226]. This statement supports the view that the German variant of *-isch* has also had a more neutral meaning in earlier periods, like its English counterpart. As concerns the second part of the question above, the direct comparison with *-lich* can shed further light on this matter. In each of the dictionaries, *-lich* is characterised with respect to nominal, verbal, and adjectival bases as well as negated forms and nouns denoting time designations. In the following we will concentrate on denominal and deadjectival derivatives with *-lich*. The paraphrases as found in both dictionaries are given below (my translation):

(450) a. *-lich*: 'In formations with nouns, it denotes the affiliation to them'
b. *-lich*: 'In formations with adjectives, it expresses an attenuation or differentiation'

Interestingly, the dictionaries record only the relational sense for denominal *-lich*, while the suffix is characterised in Motsch (2004: 309) with respect to both, a relational and a comparative sense. From the corpus examples, of which only a few are discussed below for reasons of space, it appears that the comparative sense is less frequently used. However, only an exhaustive analysis can shed further light on this matter. Motsch characterises both types as only weakly active (cf. p. 309 for the semantic patterns 'additional class membership' and 'comparison'). Consider the paraphrases for *kindlich* 'childlike' in the two dictionaries in (451) and (452) below.

(451) *Duden*: 'in Art, Wesen, Ausdruck, Aussehen einem Kind gemäß, entsprechend zu ihm passend, ihm zugehörend'
Duden: in the manner of, of the nature of, in expression like, in appearance like a child, befitting or appropriate to a child

(452) *DWDS*: 'in der Art eines Kindes, einem Kinde entsprechend'
DWDS: in the manner of a child, appropriate to a child

These paraphrases of German *-lich* do not explicitly make a distinction between properties that are appropriate to children and adults which inappropriately display children's properties (as seen with English *-ish*). For this reason, let us have a look at some corpus examples from DeReKo:

(453) Ich hüpfe immer wie ein Häschen wenn ich glücklich bin – ich werde dann ein bisschen **kindlich**.
*I always hop like a bunny when I am happy – I am becoming a little **childlike** then.*
(A10/JAN.01299, *St. Galler Tagblatt*, 08.01.2010)

226 In particular, Kainz (1959[2]: 231) notes that until the first decade of the 19th century, *kindisch* almost uniformly appeared with the meaning of *kindlich* 'childlike' and could be used in this sense.

(454) ”Dialekt ist für den **kindlichen** Spracherwerb förderlich, ein Erfolgsfaktor in der Pisa-Studie“, bringt es Prof. Dr. Konrad Köstlin auf den Punkt.

*Prof. Dr. Konrad Köstlin is putting it in a nutshell: ”Dialect is beneficial to language acquisition **of children** and a factor of success in the PISA survey“.*

(NON12/APR.12681, *Niederösterreichische Nachrichten*, 19.04.2012)

(455) Die großzügigen Wiesen lassen außerdem viel Platz für **kindliche** Kreativität, deswegen können auch die Eltern hin und wieder eine Auszeit nehmen, während die Kinder in ihrer unmittelbaren Nähe in der Natur spielen können.

*Furthermore, the lavish meadows offer much space for **children's** creativity, which is why the parents are able to take some time off every now and again, whereas their children are able to play in close proximity in nature*.

(NON12/MAI.08468, *Niederösterreichische Nachrichten*, 10.05.2012)

Only (453) shows a genuine comparative example of *-lich*: The extended context from the corpus reveals that the referent is an adult, Katy Perry, who displays some behaviour that is usually attributed to children. While the connotation is not negative here and most appropriately translated with the neutral *-like*, the type of association is [-SA], due to the mismatch of properties and referents. (454) and (455), however, do not seem to show a comparative sense at all; instead *kindlich* refers to certain properties possessed by children. Example (454) refers to children's type of language acquisition (as compared to second language acquisition, for example) and (455) denotes the type of creativity children have. As such, these derivatives are relational adjectives, or possessional adjectives to use the terminology in Beard (1995: 220). Notice that the translations for (454) and (455) make use of means to express the possessive: the possessive *of*-phrase in the former and genitive *'s* in the latter. If these were substituted by *childlike*, which is employed in example (453), the meaning correspondingly changes and does not seem to denote the same referents any longer. Given that these forms express a relation, the appropriate feature is [+SA] in these cases.

To corroborate these assumptions, let us briefly have a look at the pair *weibisch – weiblich*. In the DWDS, the former is defined as *unmännlich* 'effeminate' and is used only in reference to a man, whereas the latter receives a number of paraphrases which denote affiliation or possession: 'dem gebärenden Geschlecht angehörend; zu einer Frau gehörend' (i.e. 'belonging to the sex that can bear offspring, belonging to a woman'), but also 'wie es einer Frau gemäß ist' (i.e. 'conforming to a woman'). Again, the form *weibisch* receives the feature [-SA] to denote a resemblance, while *weiblich* is relational and thus [+SA]. Of course, individual derivatives might receive a different interpretation in context, but the basic meanings conform to the meanings identified for *-ish* in 4.9 (see figure 8).

Above we have noted that in German it is the suffix *-lich* which productively forms deadjectival

adjectives and thus is found with a range of colour bases and other adjectives. We will briefly consider two formatives in what follows, *grünlich* 'greenish' and *rundlich* 'roundish'. Motsch characterises these derivatives as predicates of gradation and he assumes the following semantic pattern of suffixes that fall into this class (2004: 280):

(456) [GRAD (A)](x): 'die Eigenschaft A in dem von GRAD ausgedrückten Maß ist eine Eigenschaft von x'
[GRAD (A)](x): 'the property A in the degree expressed in GRAD is a property of x'

For *-lich* in particular he emphasises that the modifying predicate (the derivative) expresses a lower degree of a property than what is expressed in the base (2004: 282). It is a small deviation away from the maximal point of the underlying scale. Below are the paraphrases for the colour adjective *grünlich*:

(457) *Duden*: 'sich im Farbton dem Grün nähernd; ins Grüne spielend'
Duden: in hue: approximating green; tinged with green

(458) *DWDS*: 'ins Grüne spielend'
DWDS: tinged with green

The paraphrases are analogous to deadjectival derivatives with English *-ish* in that both denote an approximation to the property expressed in the base. As such, both denote a degree of the property that is lower than the standard denoted by the base adjective. The base and the derivative are located on different points on the underlying scale and the derivative is close to the scale's maximal point, but does not quite reach it. In other words, the association the derivative has with the property denoted by the base is asymmetric and hence it receives the feature [-SA]. Let us now see this play out with an adjective which does not denote colour. The dictionaries' paraphrases for *rundlich* 'roundish' are given in (459) and (460) below:

(459) *Duden*: 'annähernd rund, mit einer Rundung versehen; ein wenig dick, füllig, mollig'
Duden: nearly round, rounded; somewhat round, corpulent, chubby

(460) *DWDS*: 'mollig, etwas dick; annähernd rund'
DWDS: chubby, somewhat thick; nearly round

The senses given above denote an approximation too, but they also attenuate, as the additional hedges *somewhat* and *nearly* in the paraphrases indicate. The adjective *rundlich* is used to denote objects which have a roughly circular shape (or which are distinguished from angular shapes) and it may also be applied to persons to describe their bodily shape or other features of appearance. In the latter case, the attenuating sense is prevalent. An example illustrating the first sense is given in (461), and (462) shows the latter sense.

(461) Sein Werk 'Untitled (Chocolate Mountains)' zeigt zwei knapp drei Meter hohe **rundliche** Objekte mit einem Durchmesser von etwa 1,5 Meter, die komplett mit weißer Schokolade überzogen sind.

*His work 'Untitled (Chocolate Mountains)' shows two **roundish** objects which are nearly three metres high and are 1.5 metres in diameter, and which are completely covered with white chocolate.*

(U10/APR.02193, *Süddeutsche Zeitung*, 16.04.2010)

(462) Sein blaues Hemd spannt am Bauch, und wenn sein **rundliches** Gesicht etwas ausstrahlt, dann Zufriedenheit.

His blue shirt is tight at the belly and if his roundish face exudes anything, it is contentment.

(Z13/APR.00416, *Die Zeit*, 25.04.2013)

Not all meanings *-lich* adds can be modelled with the feature [+/-SA], however. In formations with verbal bases (e.g. *bestechlich* 'bribable', *entbehrlich* 'expendable'), it finds no application. Instead, the modal operator for possibility (e.g. ◇) can be felicitously used, which Lieber (2016b: 148) introduced into her framework to account for the difference between, e.g. *protected* and *protectable*[227].

Let us now turn our attention to the last suffix in German, *-esk*. As noted above, it carries two types of meaning according to Hoppe (2007), similarity and affiliation. We should thus expect the same semantic skeletal types as we have identified with the English variant of this suffix, i.e. [-SA] for the former and [+SA] with respect to the latter. The dictionaries DWDS and Duden define the suffix as follows (my translation):

(463) *-esk*: 'expresses in formations with nouns (frequently names) that the described person or thing is comparable with somebody, something, or is similar to that; in the style of somebody, something'

The quantitative corpus analysis has confirmed that most *-esk* formations take types of nouns (common or proper) as bases. Other morphological categories are extremely rare which is why we will concentrate on nouns in the following. As I have previously mentioned, Motsch (2004) does not discuss *-esk*, hence we will continue with examples, starting with proper names, e.g. *kafkaesk* 'Kafkaesque', *chaplinesk* 'Chaplin-esque', *wagneresk* 'Wagner-esque', and *putinesk* 'Putin-esque'. The two dictionaries do not list many of the formations, including the latter two,

227 As Lieber expounds, the operator is added to the skeleton, rather than the body, because the function is required in the simplex lexicon as well, e.g. for modal auxiliaries like *can*, or *may*. It is unclear to me why she states "[a]dded to the affixal skeleton ◇ will signal the addition of *deontic* modality" (2016b: 148, emphasis added), since clearly something that is protectable *can* be protected, but there is no obligation to do so. Transferred to *-lich*, something that is deemed *entbehrlich* 'expendable' *can* be spared or dispensed with. This brief digression shows that her system works well cross-linguistically and the features engage with each other to bring about the rich ecoysystem of meanings found in language. Furthermore, it shows again that the suffixes are not simply rivals, but have carved out their own niches which remain (largely) unaffected by the semantic domains of the other suffixes.

and give only the sense of similarity in defining the derivatives *kafkaesk* and *chaplinesk* as in (464) and (465), respectively (cf. Duden):

(464) *kafkaesk*: 'in der Art der Schilderungen Kafkas; auf unergründliche Weise bedrohlich'
Kafka-esque: 'in the manner of Kafka's narratives; menacing in a mysterious way'

(465) *chaplinesk* : 'in der Art einer Chaplinade, in der Art Chaplins gehalten'
Chaplin-esque: 'in the manner of a Chaplinesque scene, kept in the manner of Chaplin'

The examples exemplifying the types appear to show a distinctive preference for the semantic type of similarity (resemblance in my terminology), rather than affiliation (i.e. relation or association), even more so than for the English examples. Hoppe (2007: 46) gives the following examples for her structural type II (affiliation, relation):

(466) a. kafkaeskes Werk: Werk Kafkas
Kafkaesque work: *Work of Kafka*

b. raffaelesker Borgobrand: Raffaels "Borgobrand"
Raffaelesque Fire in the Borgo: *Raffael's painting 'Fire in the Borgo'*

c. perlingeresker Überschwang: der (typische) Überschwang Sissi Perlingers
Perlinger-esque exuberance: *the (typical) exuberance of Sissi Perlinger*

The examples highlight the possessive nature of these formatives (cf. Beard 1995: 220); it is precisely the specific painting created by the Italian artist Raffael that is referred to by (466b.). It is likewise a particular behavioural property of the German actress and entertainer Sissi Perlinger that is the subject of (466c.). These cases would thus receive the feature [+SA]. However, only example (467) below shows this sense, the others emphasise some type of similarity to the person denoted by the proper name:

(467) Unter dem aufwühlenden Eindruck der Krim-Annektierung und anderer **putinesker** Unverfrorenheiten werden viele Scharfmacher die Frage bejahen.
*Under the upsetting impression of the Cremean annexation and other types of **Putin-esque** impertinence, many of the any agitators will affirm the question*
(U14/MAR.02968, *Süddeutsche Zeitung*, 20.03.2014)

(468) Der miserable, oft **kafkaeske** Kundendienst hält mit dieser Entwicklung nicht mit und treibt die Abonnenten auf die Palme.
*The wretched, frequently **Kafka-esque** customer service does not keep up with this development and drives the subscribers up the wall.*
(A11/APR.09170, *St. Galler Tagblatt*, 29.04.2011)

(469) Da muss Weis sein Orchester nicht mehr anspornen, da ist plötzlich die Lust am Musizieren da, […], eine Lust, die auch Howard Shores leicht **wagneresken** Soundtrack zu Peter Jacksons ”Herr der Ringe“-Filmtrilogie zum schwelgerischen Genuss macht.

Weis does not have to motivate his orchestra any longer, suddenly the interest in playing music is present, […], an interest which makes Howard Shore's slightly ***Wagner-esque*** *soundtrack to Peter Jackson's 'Lord of the Rings' film trilogy to a sumptuous pleasure*.

(RHZ11/JUN.24332, *Rhein-Zeitung*, 24.06.2011)

For proper names we can thus identify both types of feature, [+SA] for relational or possessional adjectives and [-SA] for the comparative sense of resemblance. I will now briefly turn to common nouns which serve as a base for *-esk*. Numerically, there are less types overall in the corpus and they occur with relatively few tokesn. They likewise appear to be coined predominantly with a sense of resemblance as becomes evident in the examples below. (470) illustrates a simple common noun, (471) a nominal compound, both of which are not recorded in the two dictionaries:

(470) Die **schlagereske** Melodie und der Chorgesang sind simpel gehalten.

The ***pop song-esque*** *melody and the choral singing are kept simple*.

(T10/MAR.01950, *Die tageszeitung*, 13.03.2010)

(471) Auf der Piste unterscheiden sich die beiden Gruppen dadurch, dass Softboarder irgendwie plump und **gummibärchenesk** wirken, während Hardboarder höchst elegant die extreme Schräglage zelebrieren.

The two groups differ from each other on the piste in that softboarders appear somehow ungainly and ***gummi bear-esque****, while hardboarder celebrate the extreme slope in a highly elegant manner*.

(Z10/DEZ.04933, *Die Zeit*, 30.12.2010)

Both examples denote a comparison, (470) a resemblance to a type of music, (471) a similarity to the consistency and shape of (mostly) gelatinous fruit gum. Thus, both occur with the feature [-SA]. Hoppe (2007: 46f.) also gives examples for a purely relational sense such as *konditoreske Spezialitäten* 'confectioneresque specialties', which she paraphrases as *Konditorspezialitäten* 'specialties of a confectionery', denoting the possessive relation and hence [+SA].

Since there is only a single type (a hapax) of a deadjectival *-esk* formation, there is no possibility of generalisation. The type *banalesk* 'mundane-esque' is used as shown in (472) below.

(472) Die Welt als **banaleske** Großveranstaltung; kein Eintritt, kein Voting, weder Ranking noch Competition, keine Erwartung, kein Versagen; nichts zu gewinnen, nichts zu verlieren, […]

The world as a ***mundane-esque*** *major event; no admission, no voting, neither ranking nor competition, no expectation, no failure; nothing to win, nothing to lose, […]*

(NON10/JUN.19898, *Niederösterreichische Nachrichten*, 24.06.2010)

The world is likened to a major event, which is described as mundane or trite. The deadjectival adjective seems to contribute nothing more than expressing a simple relation here, hence the featural value [+SA] is suggested for this particular type.

We are now in a position to summarise the basic semantic contributions of the six suffixes. The senses are given in table 49 below and contain the ones discussed here and in section 4.9. The display of *-ish* is reduced here to include the most common morphological categories.

Table 49. Summary of basic senses of the six English and German suffixes

Suffix	**Base category**	**Examples**	**Meanings**	**Skeletal Features**
-ish	N_ethnic N_non-ethnic	*English* *churlish*[1] (OE)	Association	[+SA]
	N_non-ethnic	 *childish*[1] *childish*[2], *churlish*[2]	Comparative: > Equivalence > Resemblance	 [+SA] [-SA]
	ADJ	*greenish*	Approximation	[-SA]
	Num	*tenish*	Approximation	[-SA]
-like	N_non-ethnic	*childlike*, *manlike*, *mouse-like*	Comparative: > Resemblance	 [-SA]
	(A)	OED: *grim-like*	Comparative: > Resemblance	 [-SA]
-esque	Proper N	*Kafkaesque*[1], *Stalinesque;* *Kafkaesque*[2], *Chaplin-esque*	Association; Comparative: > Resemblance	[+SA] [-SA]
	N_non-ethnic	*chicken-soup-esque*	Comparative: > Resemblance	 [-SA]
	Num	*1918-esque*	Comparative: > Resemblance	 [-SA]
-isch	N_ethnic	*französisch*	Association	[+SA]
	N_non-ethnic	*schulisch;* (*kindisch*[1], earlier) *kindisch*[2]	Association; Comparative: > Equivalence > Resemblance	[+SA] [+SA] [-SA]
-lich	N_non-ethnic	*kindlich*[1], *weiblich;* *kindlich*[2]	Association; Comparative: > Resemblance	[+SA] [-SA]
	ADJ	*grünlich*, *rundlich*	Approximation	[-SA]

Suffix	Base category	Examples	Meanings	Skeletal Features
	V	*bestechlich*, *entbehrlich*	Modality > Possibility	◇
-esk	Proper N	*kafkaesk*[1], *putinesk;* *kafkaesk*[2], *wagneresk*	Association; Comparative: > Resemblance	[+SA] [-SA]
	N_non-ethnic	(*konditoresk*); *schlageresk*, *gummibärchenesk*	Association Comparative: > Resemblance	[+SA] [-SA]
	(ADJ)	*banalesk*	Association	[+SA]

To sum up, table 49 confirms the findings from the literature and corpus analysis depicted in table 48 above. In particular, it shows that *-ish* occurs with the three basic senses of a) association (=relational; [+SA]), b) comparison (=similative; [+SA] and [-SA]), and c) approximation (=approximative; [-SA]), with comparison occurring with two subtypes, equivalence and resemblance. The features identified in section 4.9 for *-ish* were shown to be felicitously applicable to both English and German similative suffixes. The suffix *-like* occurs only with the sense of resemblance, a type of comparison. The table shows that it attaches with this sense to adjectives as well, but since the focus was on nouns and the deadjectival formatives were only discussed in brief, I have enclosed this type in brackets, marking it as a tentative suggestion. For *-esque* it was shown that Hoppe's two principal semantic types of association and resemblance could be corroborated for English as well. The senses have been shown to be able to occur in either of the derivatives, indicating the types' polysemy (e.g. *Kafkaesque*). The semantic type of resemblance predominates in these formation.

For German, we were able to show that almost the same types of semantic types occur, accompanied by the same basic types of features. The distribution of the senses and, correspondingly, the features has been shown to differ from the English suffixes mainly with respect to *-isch* and *-lich*. Unlike *-ish*, the German cognate *-isch* is rather restricted in its ability to take different morphological categories as bases and likewise it shows a smaller range of senses. If the analysis is broadened to include a diachronic viewpoint, we are likely be able to show that the comparative sense of equivalence [+SA] had been present in German denominal adjectives with *-isch* too. Given that the analysis was synchronically oriented, this sense has been marked with round brackets as potential. Similarly, different to *-like*, the German suffix *-lich*

shows a more varied range of both, morphological categories it attaches to and semantic types. It features almost all senses that have been recognised for *-ish*, with the exception of the comparative sense of equivalence. However, it is additionally attested with the modal sense of possibility when it occurs with verbs. In these cases, the feature [+/-SA] is not required, instead the suffix's skeleton is marked by a modal operator of possibility. Lastly, the German variant *-esk* occurs with the same types of senses as its English equivalent when it attaches to proper names. With common nouns it is similarly attested with a comparative sense of the type [-SA], the relational sense is enclosed in brackets because the few denominal examples in the corpus did not show it. Likewise, this sense might be present in common nouns with *-esque*, but the number of types and tokens was similarly sparse.

7.6 Conclusion

The initial question motivating this chapter was to what extent the suffixes *-ish*, *-like*, *-esque* and *-isch*, *-lich*, *-esk* can be considered rivals, which senses they show and in how far their meanings overlap. From the point of view of Bauer, Lieber and Plag (2013), the English suffixes share a similative meaning evident in the overlaps of doublets, but only occasionally do they display different meanings. My aim was to show that the perspective should be adjusted to view the suffix's contribution from the point of view of a semantic core or niche, which is different for each suffix. This niche is smaller or larger depending on the semantic trajectory of an individual suffix and it should be conceived of as dynamic. Thus to use Malkiel's (1977) term, a 'semantic center of gravity' may change and develop, growing closer to a neighbouring suffix or diverging from it. I have attempted to view their contribution through the lense of synchrony to scrutinise their unique contribution and to what extent they overlap.

Some of the key findings include that the German suffixes are distinct to a point where they cannot be considered rivals, since some suffixes only apply to different senses of polysemous words, whose meaning would correspondingly change if the suffix was swapped. Furthermore, not all suffixes are active in every domain, for instance approximation is only denoted by *-lich* with colour bases and other adjectival bases, but not by any of the other investigated suffixes. The analysis of animal bases has shown that neither of the three suffixes under consideration is particularly apt to form such derivatives, but instead this domain is occupied by *-artig*, which adds a very general sense of 'resemblance'. By comparison, the English suffixes exhibit more overlap, especially in the domain of proper names. Their semantic contribution is that of similarity to the base, but *-ish* predominantly adds a negative connotation to it and co-occurs

with bases considered pejorative, whereas the other two remain neutral or change the derivative to denote a positive sense. It has been shown, however, that the base and the collocates with which a derivative occurs also play a significant role in determining its overall meaning. Nevertheless, the difference in meaning is smallest with *-like* and *-esque*, boiling down mainly to a difference in style. However, as the lexical-semantic analysis in section 7.5.3 has also distinctly shown, *-esque* is able to occur with a relational sense, while *-like* does not. Lastly, only *-ish* is used productively with the sense of approximation.

The lexical-semantic analysis of *-ish* has been applied cross-linguistically to a) show subtle differences in meaning between the English similative suffixes as indicated by the skeletal contribution and b) to extend the analysis to corresponding German suffixes. The analysis has shown that the skeletal feature defined for *-ish* is justified for analysing the meaning contribution of *-like* and *-esque* as well as *-isch*, *-lich* and *-esk*. The application of the feature in section 7.5.3 emphasises subtle intrinsic differences of the suffixes, but also their similarities, for instance in showing that they all contribute a comparative sense (some only the type resemblance [-SA], others have the potential to contribute [+SA] for indicating equivalence as well). The justification of the comparative sense of equivalence may be disputed and deemed a type of simple relation instead. After all, the skeletal features are characterised as underdefined. However, I believe I have shown that retaining the feature [+SA] to denote a type of comparison is of value to distinguish specific comparative senses which cannot be considered a simple relation. This argument proves especially important when we want to trace the historical development of such suffixes, as exemplified in chapter 4 with *-ish*. The transition from a simple relation to a simple comparison (i.e. equivalence) and then developing further comparative senses that border on approaching certain qualities (i.e. resemblance) and finally culminating in a sense of approximation neatly illustrate the gradient nature of the development of suffixes over time, resulting in present-day polysemy. Leaving these nuances solely to underspecification obscures the subtle meaning differences present in the suffixes, which consequently leads to the risk of identifying them as simple rivals.

Finally, a desideratum for future research consists in an exhaustive diachronic and synchronic analysis of all adjective-forming suffixes (and those which are considered suffixoids or compound elements), including *-y* and *-oid* for English, and perhaps *-artig*, *-mäßig* and *-haft* for German, among others. Such an analysis is likely to be able to show whether adjectival suffixes can also be conceived of forming a derivational ecosystem as described by Lieber (2016b) for nominalisations. A diachronic analysis of their respective trajectories would illuminate their individual 'habitats' (to use Lieber's term in this context) and the resulting present areas of

overlap and polysemy. The properties of table 49 as well as the remarks on the specific areas of application of individual suffixes in the descriptive qualitative analysis in sections 7.5.1 and 7.5.2 above indicate that the suffixes do not compete over the same territory in all instances, but instead imply various niches. Lieber (2004, 2016b) has shown that there are often subtle meaning differences and investigating a larger group of derivatives can shed more light on their distribution. The suffixes should only be considered rivals if there is a domain infringement that leads to one variant to be consequently ousted. Then there is also competition. If, however, they coexist, their meanings may subsequently change and diverge to form their own separate and more distinct niches. A synchronic perspective can only show a temporary snapshot of the present state of being and distinct subtle effects might go unnoticed. Such an exhaustive analysis is as of yet still a desideratum and the development of a derivational ecosystem for the 'similative' adjectival suffixes will be left to future research.

Finally, we have seen that German -*isch* has not developed the sense present in approximative -*ish* in English. Over time, -*ish* has found new areas of application that have changed and shaped its meaning. We have seen that it has developed from a relational meaning to denoting similarity and approximation. In doing so, it has come to increase the share of morphological categories it can attach to, including phrasal and numeral bases. By comparison -*isch* is not productive with adjectives and does not indicate any development into providing the kind of meaning seen in deadjectival -*ish* formations. Furthermore, it also does not attach to numerals or phrasal bases. Because of these reasons, a subsequent development to a free morpheme ?*Isch* is currently inconceivable.

8 Conclusions

The present dissertation has explored three aspects of the morpheme *-ish* / *Ish*, consisting of a) the historical morphological and semantic development of the suffix, b) its progression towards an independent morpheme, and c) its quantitative and qualitative comparison to other English and corresponding German suffixes. For all three aspects I have drawn on corpus data to shed light on changes in frequency and productivity as well as to provide authentic language data.

I have assumed that suffixes have meaning and that words derived by them are polysemous. In order to analyse the semantic contribution of the Germanic suffix *-ish*, Lieber's (2004) lexical-semantic model was chosen as it allows to investigate elements of word-formation formally and cross-linguistically, involving both simplex and complex words and being comprehensively applicable to morphological categories. These properties set her model apart from other work on lexical semantics, which focusses mainly on only a few morphological categories and has largely investigated simplex words. Likewise, formal semantics has produced many valuable insights into the nature of adjectival meaning and the vagueness and imprecision they induce, but so far it has neglected matters of word-formation. While Lieber's framework proved suitable for my endeavour as a whole, it has had only little to say about adjectives and suffixes that derive them, both in terms of different meanings individual suffixes contribute and with respect to semantic distinctions of (cross-linguistic) sets of similar adjective-forming suffixes. I have closed these gaps by providing a diachronic lexical-semantic analysis of the development of adjectives with *-ish* in which I have introduced a new feature [+/-symmetric association], which complements Lieber's featural system. I have shown that it can explain the semantic progression of *-ish* with respect to different bases and the different featural settings can account for the subtle meaning differences that result from that. The various senses *-ish* developed over the course of time result in the polysemy found in formations with the present-day suffix.

The latest development of the English morpheme *-ish* is its transition to a free morpheme *Ish*. By analysing corpus examples I have identified a gradual path of development via several stages that has resulted in the final detachment of the morpheme and its ability to modify entire propositions. As a free morpheme it has been shown that it continues some of the meaning of the suffix, but it does so in conveying a more general sense of imprecision and non-committedness on the part of the speaker.

Previous work on the development of the free morpheme has had contradicting assumptions about its developmental path. On the one hand, it has been analysed as having come about via

(rapid) grammaticalisation (Duncan 2015), on the other hand it was said to have degrammaticalised (Norde 2009, 2010, Pierce 2014). In order to resolve this issue, I have analysed the properties of *Ish* and have compared them to characteristics common to discourse markers which are often assumed to have emerged via grammaticalisation. Broad conceptions of discourse markers have identified a function of speaker tentativeness reflecting reduced commitment, which makes a comparison to *Ish* natural. It has been found, however, that the characteristics of discourse markers are not widely agreed upon and further, many of them are incompatible with the properties identified for *Ish*, especially with respect to semantics. *Ish* contributes meaning to the proposition, thereby altering it, while the common conception of discourse markers denies such a propositional contribution. As such, characterising *Ish* as a discourse marker has been deemed problematic. Further, the emergence of discourse markers via grammaticalisation makes it necessary to adopt a broad conception of grammar which includes discourse-pragmatic phenomena. Several properties of discourse markers make them incompatible with the traditional view of grammaticalisation as put forward by Lehmann (1995, 2015[3][1982], and others), especially their structural expansion (Traugott 2010a, and others). However, while some overlap between core grammatical elements and discourse-pragmatic phenomena is not conceived of as impossible, I proposed to retain the distinction and reject the broad notion of grammar on the grounds that it abstracts away from the differences of these elements. Instead, the notion of pragmaticalisation might be considered more suitable given a concise delineation of its parameters. However, pragmaticalisation has been found to not be applicable to *Ish* either as at present it presupposes a target domain chiefly situated in pragmatics and the analysis of the properties of *Ish* has shown that it has semantic consequences and cannot simply be described solely as a pragmatic element.

Instead, the analysis of the properties of *Ish* has given support to conceive of its development as congruent with degrammaticalisation as claimed by Norde (2009, and others). In particular, if the conception of some of the parameters is slightly revised (e.g. resemanticisation, flexibilisation), it felicitously describes the changes that characterise the development of *Ish*.

Furthermore, the analysis of the properties of *Ish* has pointed it to a set of elements which are related to discourse markers, but which are distinguished from them mainly in terms of their semantics. As such, my conception of hedges includes a semantic and pragmatic dimension and as such differs from those that attribute only pragmatic functions such as politeness to them. *Ish* has been shown to have a core profile of mainly denoting imprecision and modifying the proposition but also reducing speaker commitment. I have proposed a classification of hedges and discourse markers which does not presuppose a hierarchical constellation in which the

former is considered to be a subgroup of the latter. Here, discourse markers are considered to have predominantly textual functions in ensuring cohesion, while hedges mainly convey imprecision (propositional hedges) and a weakened speaker commitment (speech act hedges).

Lastly, I have sought to extend the analysis of the English suffix *-ish* to incorporate other English suffixes (*-like* and *-esque*) which are frequently discussed as rivals. The motivation for the set of suffixes has been their discussion in Bauer et al. (2013). These in turn were compared to their respective German cognates (*-isch*, *-lich*, and *-esk*) in a comparative synchronic corpus analysis concerning both quantitative and qualitative aspects. The qualitative analysis has descriptively shed light on the distribution of suffixes with respect to different domains. I have further comparatively applied the lexical-semantic feature [+/-symmetric association] identified for *-ish* and I found that it can felicitously describe the semantic contribution of both English and German suffixes. Further, the results show that despite some overlap, each suffix displays subtle meaning differences which differentiates it from the others in the cohort and cross-linguistically (e.g. German *-isch* never developed the sense of approximation identified for *-ish*, instead *-lich* shows this sense). As such, the claim of rivals in competition cannot be upheld but needs to be modified. Different constellations of features of which [+/-symmetric association] forms an integral part, suggest otherwise.

The first aspect concerning the suffix *-ish* suggests a similar future diachronic treatment of other English adjective-forming suffixes to identify similarities and differences to the trajectory of *-ish*. For instance, an analysis of *-like* in the historical annotated corpora suggests itself here. Concerning the second aspect of the free morpheme *Ish*, further research with a different data set than the one used here can help to shed further light on its gradual development, especially data in which orthography is less controversial. Finally, an extension of the synchronic comparative lexical-semantic analysis with a cohort of other adjective-forming formatives such as *-y*, *-oid* for English, and *-ig* (e.g. *milchig* 'milky'), *-haft* (e.g. *heldenhaft* 'heroic'), *-artig* (e.g. *affenartig* 'apelike'), and *-mäßig* (e.g. *Sherlock-Holmes-mäßig* 'Holmesian') for German could identify whether the proposed skeletal feature is equally applicable to a wide range of different suffixes, akin to Lieber's derivational ecosystem (2016b), thereby lending further support to the cross-linguistic nature of the features.

9 Bibliography

Aijmer, Karin. 1984. 'Sort of' and 'Kind of' in English Conversation. *Studia Linguistica* 38(2). 118–128.

Aijmer, Karin. 1997. *I think*: An English Modal Particle. *Modality in Germanic Languages. Historical and Comparative Perspective*, 1–47. Berlin, New York: De Gruyter.

Aijmer, Karin. 2002. *English discourse particles. Evidence from a corpus*. Amsterdam: John Benjamins.

Aijmer, Karin. 2007. The meaning and functions of the Swedish discourse marker *alltså* - Evidence from translation corpora. *Catalan Journal of Linguistics* 6. 31–59.

Amodio, Mark C. 2014. *The Anglo-Saxon Literature Handbook*. Hoboken, NJ: Wiley-Blackwell.

Andersen, Gisle. 2001. *Pragmatic Markers and Sociolinguistic Variation. A Relevance-Theoretic Approach to the Language of Adolescents*. Amsterdam & Philadelphia: John Benjamins.

Andersen, Henning. 2001. Actualization and the (uni)directionality. In Henning Andersen (ed.), *Actualization: Linguistic Change in Progress*, 225–248. Amsterdam: John Benjamins.

Andersen, Henning. 2006. Grammation, regrammation and degrammation. Tense loss in Russian. *Diachronica* 23(2). 231–258.

Andersen, Henning. 2008. Grammaticalization in a speaker-oriented theory of change. In Thórhallur Eythórsson (ed.), *Grammatical Change and Linguistic Theory: The Rosendal Papers*, 11–44. Amsterdam: John Benjamins.

Anderson, Curt. 2013a. Inherent and coerced gradability across categories: manipulating pragmatic halos with sorta. In Anca Chereches & Todd Snider (eds.), *Semantics and Linguistic Theory (SALT) 23*, 81–96. Ithaca, NY: CLC Publications.

Anderson, Curt. 2013b. Hedging verbs and nouns using an alternative semantics. *Proceedings of ConSOLE XXI* 1–20.

Anshen, Frank & Mark Aronoff. 1988. Producing morphologically complex words. *Linguistics* 26. 641–655.

Anttila, Raimo. 1989. *Historical and Comparative Linguistics*. Vol. 6. Amsterdam: John Benjamins.

Arndt-Lappe, Sabine. 2014. Analogy in suffix rivalry: the case of English *-ity* and *-ness*. *English Language and Linguistics* 18(3). 497–548.

Aronoff, Mark. 1976. *Word formation in generative grammar*. Cambridge, Mass.: MIT Press.

Aronoff, Mark. 1983. Potential words, actual words, productivity and frequency. In Shirô Hattori & Kazuko Inoue (eds.), *Proceedings of the 13th International Congress of Linguists*, 163–171. Tokyo: Permanent International Committee on Linguistics.

Aronoff, Mark & Sungeun Cho. 2001. The Semantics of *-ship* Suffixation. *Linguistic Inquiry* 32(1). 167–173.

Aronoff, Mark & Kirsten Anne Fudeman. 2011. *What is Morphology?* 2nd ed. Malden, MA: Wiley-Blackwell.

Asher, Nicholas. 2011. *Lexical Meaning in Context: A Web of Words*. Cambridge: Cambridge University Press.

Asher, Nicholas & James Pustejovsky. 2006. A type composition logic for generative lexicon. *Journal of Cognitive Science* 6. 1–38.

Asher, Nicholas & James Pustejovsky. 2013. A Type Composition Logic for Generative Lexicon. In James Pustejovsky, Pierrette Bouillon, Hitoshi Isahara, Kyoko Kanzaki & Chungmin Lee (eds.), *Advances in Generative Lexicon Theory*, 39–66. Dordrecht: Springer.

Askedal, John Ole. 2008. "Degrammaticalization" versus typology. In Thórhallur Eythórsson

(ed.), *Grammatical Change and Linguistic Theory: The Rosendal Papers*, 45–77. Amsterdam & Philadelphia: John Benjamins.

Auer, Peter. 1996. The pre-front field position in spoken German and its relevance as a grammaticalization position. *Pragmatics* 6(3). 295–322.

Auer, Peter & Susanne Günthner. 2005. Die Entstehung von Diskursmarkern im Deutschen - ein Fall von Grammatikalisierung? In Torsten Leuschner, Tanja Mortelmans & Sarah de Groodt (eds.), *Grammatikalisierung im Deutschen*, 335–362. Berlin: De Gruyter.

Austin, John L. 1962. *How To Do Things With Words*. Oxford: Clarendon Press.

Baayen, Harald. 1992. Quantitative aspects of morphological productivity. In Geert Booij & Jaap Van Marle (eds.), *Yearbook of morphology 1991*, 109–149. Dordrecht: Kluwer.

Baayen, Harald. 1993. On frequency, transparency and productivity. In Geert Booij & Jaap Van Marle (eds.), *Yearbook of morphology 1992*, 181–208. Dordrecht: Kluwer.

Baayen, Harald. 2005. Morphological productivity. In Reinhard Köhler, Gabriel Altmann & Rajmund G. Piotrowski (eds.), *Quantitative Linguistics: An international Handbook*, 243–255. Berlin ; New York: De Gruyter.

Baayen, Harald. 2009. Corpus linguistics in morphology: morphological productivity. In Anke Lüdeling & Merja Kytö (eds.), *Corpus Linguistics: An international Handbook*, 899–919. Berlin: De Gruyter.

Baayen, Harald & Rochelle Lieber. 1991. Productivity and English derivation: a corpus-based study. *Linguistics* 29. 801–843.

Baayen, Harald & Antoinette Renouf. 1996. Chronicling The Times: Productive Lexical Innovations in an English Newspaper. *Language* 72. 69–96.

Bach, Kent. 1999. The Myth of Conventional Implicature. *Linguistics and Philosophy* 22(4). 327–366.

Ballmer, Thomas T. & Manfred Pinkal. 1983. Introduction. In Thomas T. Ballmer & Manfred Pinkal (eds.), *Approaching Vagueness*, 1–10. Amsterdam: Elsevier Science Publishers.

Barcan, Ruth C. 1946. A Functional Calculus of First Order Based on Strict Implication. *The Journal of Symbolic Logic* 11(1). 1–16.

Barker, Chris. 1998. Episodic -ee in English: A thematic role constraint on new word formation. *Language* 74(4). 695–727.

Barsalou, Laurence W. 1992. Frames, concepts, and conceptual fields. In Adrienne Lehrer & Eva F. Kittay (eds.), *Frames, fields, and contrasts: new essays in semantic and lexical organization*, 21–74. Hillsdale, N.J: L. Erlbaum Associates.

Barth-Weingarten, Dagmar & Elizabeth Couper-Kuhlen. 2002. On the development of final though: A case of grammaticalization? In Ilse Wischer & Gabriele Diewald (eds.), *New Reflections on Grammaticalization*, vol. 49, 345–361. Amsterdam: John Benjamins.

Bauer, Laurie. 1983. *English Word-Formation*. Cambridge: Cambridge University Press.

Bauer, Laurie. 1988. *Introducing linguistic morphology*. Edingburgh: Edinburgh University Press.

Bauer, Laurie. 2001. *Morphological Productivity*. Cambridge: Cambridge University Press.

Bauer, Laurie. 2005. Productivity: Theories. In Pavol Štekauer & Rochelle Lieber (eds.), *Handbook of Word-Formation*, 315–334. Dordrecht: Springer.

Bauer, Laurie, Rochelle Lieber & Ingo Plag. 2013. *The Oxford Reference Guide to English Morphology*. First Edition. Oxford, United Kingdom: Oxford University Press.

Baugh, Albert C. & Thomas Cable. 2002. *A History of the English Language*. 5th edn. London: Routledge.

Beard, Robert. 1976. Once more on the analysis of -ed adjectives. *Journal of Linguistics* 12. 155–157.

Beard, Robert. 1995. *Lexeme-Morpheme Base Morphology: A General Theory of Inflection and*

Word Formation. Albany: State University of New York.
Benveniste, Emile. 1971[1958]. Subjectivity in language. *Problems in General Linguistics* 223–230.
Berlin, Brent & Paul Kay. 1969. *Basic Color Terms. Their Universality and Evolution*. Berkeley: University of Los Angeles Press.
Beths, Frank. 1999. The history of *dare* and the status of unidirectionality. *Linguistics* 37. 1069–1110.
Biber, Douglas, Stig Johansson, Geoffrey Leech, Susan Conrad & Edward Finegan. 1999. *Longman Grammar of Spoken and Written English*. Essex: Pearson Education Limited.
Bierwisch, Manfred. 1983a. Semantische und konzeptuelle Repräsentation lexikalischer Einheiten. In Rudolf Ružička & Wolfgang Motsch (eds.), *Untersuchungen zur Semantik*, 61–99. Berlin: Akademie Verlag.
Bierwisch, Manfred. 1983b. Formal and lexical semantics. *Linguistische Studien* 114. 56–79.
Bierwisch, Manfred. 1989a. Event nominalizations: Proposals and problems. In Wolfgang Motsch (ed.), *Wortstruktur und Satzstruktur*, 1–73. Berlin: Akademie Verlag.
Bierwisch, Manfred. 1989b. The semantics of gradation. In Manfred Bierwisch & Ewald Lang (eds.), *Dimensional adjectives*, 71–262. Berlin: Springer.
Bierwisch, Manfred. 2004. BECOME and its Presuppositions. Humboldt-Universität, Berlin, ms.
Bierwisch, Manfred. 2007. Semantic Form as Interface. In Andreas Späth (ed.), *Interfaces and Interface Conditions*, 1–32. Berlin: De Gruyter.
Bilmes, Jack. 1988. The concept of preference in conversation analysis. *Language in Society* 17(2). 161–181.
Blakemore, Diane. 1987. *Semantic Constraints on Relevance*. Oxford: Blackwell.
Blakemore, Diane. 2002. *Relevance and linguistic meaning. The semantics and pragmatics of discourse markers*. Cambridge: Cambridge University Press.
Blevins, Juliette. 2001[1995]. The Syllable in Phonological Theory. In Charles W. Kreidler (ed.), *Phonology: Critical Concepts, Volume 3*, 75–113. London: Routledge.
Bloomfield, Leonard. 1933. *Language*. New York: Rinehart & Winston.
Boas, Hans C. 2017. Computational Resources: FrameNet and Construction. In Barbara Dancygier (ed.), *The Cambridge Handbook of Cognitive Linguistics*, 549–573. Cambridge: Cambridge University Press.
Bochnak, Ryan & Eva Csipak. 2014. A new metalinguistic degree morpheme. *Semantics and Linguistic Theory* 24. 432.
Boersma, Paul & David Weenink. 2019. *Praat: doing phonetics by computer*. [computer programme]. Version 6.1.08. Retrieved from http://praat.org/
Bohnemeyer, Jürgen. 2003. NSM without the Strong Lexicalization Hypothesis. *Theoretical Linguistics* 29. 211–222.
Bolinger, Dwight L. 1948. On Defining the Morpheme. *Word* 4(1). 18–23.
Bolinger, Dwight L. 1972. *Degree Words*. The Hague; Paris: Mouton.
Bongetta, Davide. 2003. The development of the English suffix "-dom." *Linguistica e filologia* 17. 57–92.
Booij, Geert. 1985. Coordination Reduction in Complex Words: a Case for Prosodic Phonology. In Harry van der Hulst & Norval Smith (eds.), *Advances in Nonlinear Phonology*, 143–159. Dordrecht: Foris.
Booij, Geert. 1987. Lexical phonology and the organisation of the morphological component. In Edmund Gussmann (ed.), *Rules and the Lexicon*, 43–65. Lublin: Katolicki Uniwersytet Lubelski.
Booij, Geert. 2002. *The Morphology of Dutch*. Oxford: Oxford University Press.
Booij, Geert. 2010. *Construction Morphology*. Oxford: Oxford University Press.

Booij, Geert. 2012. *The grammar of words: an introduction to linguistic morphology*. 3rd ed. Oxford: Oxford University Press.

Booij, Geert. 2015. Word-formation in construction grammar. In Peter O. Müller, Ingeborg Ohnheiser, Susan Olsen & Franz Rainer (eds.), *Word-Formation*, vol. 1. Berlin, München, Boston: De Gruyter.

Booij, Geert & Matthias Hüning. 2014. Affixoids and constructional idioms. In Ronny Boogaart, Timothy Colleman & Gijsbert Rutten (eds.), *Extending the Scope of Construction Grammar*, 77–105. Berlin, Boston: De Gruyter.

Booij, Geert, Christian Lehmann, Joachim Mugdan, Stavros Skopeteas & Wolfgang Kesselheim (eds.). 2004. *Morphologie: Ein internationales Handbuch zur Flexion und Wortbildung*. Vol. 2. 2 vols. Berlin; New York: De Gruyter.

Bosworth, Joseph, Thomas Northcote Toller, Sean Christ & Ondřej Tichý. 2010. *Bosworth-Toller Anglo-Saxon Dictionary*. Prague: Faculty of Arts, Charles University. Available at: http://www.bosworthtoller.com/.

Bréal, Michel. 1964[1900]. *Semantics: Studies in the Science of Meaning*. New York: Dover.

Brinton, Laurel J. 1996. *Pragmatic Markers in English, Grammaticalization and Discourse Functions*. Reprint 2010. Berlin, Boston: De Gruyter Mouton.

Brinton, Laurel J.. 2007. The development of *I mean*: Implications for the study of historical pragmatics. In Susan M. Fitzmaurice & Irma Taavitsainen (eds.), *Methods in Historical Pragmatics*, 37–77. Berlin: De Gruyter.

Brinton, Laurel J. & Leslie K. Arnovick. 2011. *The English language: a linguistic history*. 2nd edn. Don Mills, Ontario: Oxford University Press.

Brinton, Laurel & Elizabeth Closs Traugott. 2005. *Lexicalization and Language Change*. Cambridge: Cambridge University Press.

Brown, Gillian. 1977. *Listening to spoken English*. London: Longman.

Brown, Gillian & George Yule. 1983. *Discourse Analysis*. Cambridge: Cambridge University Press.

Brown, Penelope & Stephen C. Levinson. 1978. Universals in Language Usage: Politeness Phenomena. In Esther N. Goody (ed.), *Questions and Politeness*, 56–310. Cambridge: Cambridge University Press.

Brown, Penelope & Stephen C. Levinson. 1987. *Politeness. Some universals in language usage*. Cambridge: Cambridge University Press.

Bühler, Karl. 1934. *Sprachtheorie*. Jena: Fischer.

Burnett, Heather. 2017. *Gradability in natural language: logical and grammatical foundations*. Oxford: Oxford University Press.

Bussmann, Hadumod. 1996. *Routledge Dictionary of Language and Linguistics*. 1st edition. London; New York: Routledge.

Butterfill, Stephen A. & Ian A. Apperly. 2013. How to Construct a Minimal Theory of Mind: How to Construct a Minimal Theory of Mind. *Mind & Language* 28(5). 606–637.

Bybee, Joan. 1986. On the nature of grammatical categories: a diachronic perspective. In Soonja Choi (ed.), *Proceedings of the Second Eastern States Conference on Linguistics*, 17–34. Buffalo, NY: The State University of New York.

Bybee, Joan. 2003. Mechanisms of Change in Grammaticization: The Role of Frequency. In Brian D. Joseph & Richard D. Janda (eds.), *The Handbook of Historical Linguistics*, 602–623. Oxford: Blackwell.

Bybee, Joan, Revere Perkins & William Pagliuca. 1994. *The Evolution of Grammar. Tense, Aspect, and Modality in the Languages of the World*. Chicago, IL: University of Chicago Press.

Caffi, Claudia. 1999. On mitigation. *Journal of Pragmatics* 31. 881–909.

Caffi, Claudia. 2007. *Mitigation*. Bingley: Emerald Group Publishing.

Cahill, Lynne. 2019. *Discovering Phonetics and Phonology*. London: Red Globe Press.
Carnap, Rudolf. 1952. Meaning postulates. *Philosophical Studies* 3(5). 65–73.
Carstairs-McCarthy, Andrew. 1992. *Current Morphology*. London; New York: Routledge.
Carstairs-McCarthy, Andrew. 2002. *An Introduction to English Morphology: Words and Their Structure*. Edinburgh: Edinburgh University Press.
Channell, Joanna. 1980. More on Approximations: A Reply to Wachtel. *Journal of Pragmatics* 4. 461–476.
Channell, Joanna. 1985. Vagueness as a conversational strategy. *Nottingham Linguistic Circular* 14. 3–24.
Channell, Joanna. 1990. Precise and Vague Quantities in Writing on Economics. In Walter Nash (ed.), *The Writing Scholar. Studies in Academic Discourse*, 95–117. London: Sage.
Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.
Chomsky, Noam. 1970. Remarks on Nominalization. In Roderick A. Jacobs & Peter S. Rosenbaum (eds.), *Readings in English Transformational Grammar*, 184–221. Waltham, Mass.: Ginn and Company.
Chomsky, Noam. 1984. *Modular Approaches to the Study of the Mind*. San Diego: San Diego State University Press.
Ciszek, Ewa. 2005. The development of *-schip(e)* in Early Middle English. In Marcin Krygier & Liliana Sikorska (eds.), *Naked Wordes in English*, 27–46. Frankfurt am Main: Lang.
Ciszek, Ewa. 2006. LME -ship(e). *Studia Anglica Posnaniensia* 42. 179–187.
Ciszek, Ewa. 2012. The Middle English suffix *-ish*: Reasons for decline in productivity. *Studia Anglica Posnaniensia* 47(2–3). 27–39.
Ciszek, Ewa. 2013. The suffix *-ish*: Its semantic development and productivity in Middle English. In Laura Wright & Richard Dance (eds.), *The Use and Development of Middle English. Proceedings of the Sixth International Conference on Middle English, Cambridge 2008*, 129–143. Frankfurt am Main: Peter Lang.
Claridge, Claudia. 2008. Historical Corpora. In Anke Lüdeling & Merja Kytö (eds.). Berlin: De Gruyter.
Claridge, Claudia & Leslie Arnovick. 2010. Pragmaticalisation and Discursisation. In Andreas Jucker & Irma Taavitsainen (eds.), *Historical Pragmatics*, 165–192. Berlin: De Gruyter.
Clemen, Gudrun. 1997. The Concept of Hedging: Origins, Approaches and Definitions. In Raija Markkanen & Hartmut Schröder (eds.), *Hedging and Discourse: Approaches to the Analysis of a Pragmatic Phenomenon in Academic Texts*, 235–248. Berlin ; New York: De Gruyter.
Clemen, Gudrun. 1998. *Hecken in deutschen und englischen Texten der Wirtschafts-kommunikation. Eine kontrastive Analyse*. Siegen: Universität Siegen.
Clifton, Charles & Fernanda Ferreira. 1989. Ambiguity in context. *Language and Cognitive Processes* 4(3–4). 77–103.
Cobreros, Pablo, Paul Egré, David Ripley & Robert van Rooij. 2012. Tolerant, Classical, Strict. *Journal of Philosophical Logic* 41(2). 347–385.
Corbin, Danielle. 1987. *Morphologie dérivationelle et structuration du lexique*. Tübingen: Niemeyer.
COSMAS II *(Corpus Search, Management and Analysis System)*. 1991. Mannheim: Institut für Deutsche Sprache. Available at https://www.ids-mannheim.de/cosmas2/.
Couper-Kuhlen, Elizabeth & Dagmar Barth-Weingarten. 2011. A system for transcribing talk-in-interaction: GAT2 translated and adapted for English. *Gesprächsforschung - Online-Zeitschrift zur verbalen Interaktion* 12. 1–51.
Cresswell, Max J. 1977. The semantics of degree. In Barbara Partee (ed.), *Montague Grammar*, 261–292. New York: Academic Press.

Cruse, D. Alan. 1986. *Lexical Semantics*. Cambridge: Cambridge University Press.
Cruse, D. Alan. 2000. *Meaning in Language. An Introduction to Semantics and Pragmatics*. Oxford: Oxford University Press.
Crystal, David. 2003a. *A Dictionary of Linguistics & Phonetics*. 5th edition. Malden, MA: Blackwell.
Crystal, David. 2003b. *The Cambridge encyclopedia of the English language*. 2nd edition. Cambridge, U.K. ; New York: Cambridge University Press.
Crystal, David. 2004. *Language and the internet*. Cambridge: Cambridge University Press.
Crystal, David. 2011. *Internet Linguistics: A Student Guide*. London; New York: Routledge.
Crystal, David. 2012. *Spell it out: the singular story of English spelling*. London: Profile books.
Cutler, Anne. 1980. Productivity in word formation. In Jody Kreiman & Almerindo E. Ojeda (eds.), *Papers from the 16th regional meeting of the Chicago Linguistic Society*, 45–51.
Cutler, Anne. 1981. Degrees of Transparency in Word Formation. *The Canadian Journal of Linguistics* 26(1). 73–77.
Cuyckens, Hubert. 1984. Towards a non-unified theory of word meaning. In David Testen, Veena Mishra & Joseph Drogo (eds.), *Papers from the twentieth regional meeting of the Chicago Linguistic Society*, 71–80. Chicago: Chicago Linguistic Society.
Dalton-Puffer, Christiane. 1996. *The French Influence on Middle English Morphology: a Corpus-Based Study of Derivation*. Berlin ; New York: Mouton de Gruyter.
Davies, Mark. 2008-. *The Corpus of Contemporary American English (COCA): 560 million words, 1990-present*. Available online at https://www.english-corpora.org/coca/.
Davies, Mark. 2013a. *Corpus of Global Web-Based English: 1.9 billion words from speakers in 20 countries*. Available online at https://www.english-corpora.org/glowbe/.
Davies, Mark. 2013b. *Corpus of News on the Web (NOW): 3+ billion words from 20 countries, updated every day*. Available online at https://www.english-corpora.org/now/.
Davies, Mark. 2015. Introducing the 1.9 Billion Word Global Web-Based English Corpus (GloWbE). *21st Century Text* (online).
Davies. Mark. 2018-. *The 14 Billion Word iWeb Corpus*. Available online at https://www.english-corpora.org/iweb/.
Degand, Liesbeth & Jacqueline Evers-Vermeul. 2015. Grammaticalization or pragmaticalization of discourse markers? *Journal of Historical Pragmatics* 16(1). 59–85.
Dehé, Nicole & Katerina Stathi. 2016. Grammaticalization and Prosody: The Case of English *Sort/Kind/Type of* Constructions. *Language* 92(4). 911–947.
Denison, David. 2002. History of the *sort of* construction family. ICCG2, Helsinki, ms.
Dér, Csilla Ilona. 2010. On the Status of Discourse Markers. *Acta linguistica Hungarica* 57(1). 3–28.
Detges, Ulrich & Richard Waltereit. 2016. Grammaticalization and pragmaticalization. In Christoph Gabriel & Susann Fischer (eds.), *Manual of Grammatical Interfaces in Romance*, 635–658. Berlin: De Gruyter.
Dewald, Anika. 2012. *Versetzungsstrukturen im Deutschen. Zu ihrer Syntax, Prosodie und Diskursfunktion*. Cologne: University of Cologne.
Diewald, Gabriele. 2006. Hecken und Heckenausdrücke. Versuch einer Neudefinition. In Emilia Calaresu, Cristina Guardiano & Klaus Hölker (eds.), *Italienisch und Deutsch als Wissenschaftssprachen. Bestandsaufnahmen, Analysen, Perspektiven*, 295–315. Berlin: Hopf.
Diewald, Gabriele. 2011a. Grammaticalization and Pragmaticalization. In Heiko Narrog & Bernd Heine (eds.), *The Oxford Handbook of Grammaticalization*, 450–461. Oxford: Oxford University Press.
Diewald, Gabriele. 2011b. Pragmaticalization (Defined) as Grammaticalization of Discourse

Functions. *Linguistics* 49(2). 365–390.
Dixon, Robert M. W. 2014. *Making New Words: Morphological Derivation in English*. First edition. Oxford: Oxford University Press.
Dowty, David R. 1979. *Word Meaning and Montague Grammar. The Semantics of Verbs and Times in Generative Semantics and in Montague's PTQ*. Dordrecht: Reidel.
Doyle, Aidan. 2002. Yesterday's affixes as today's clitics. A case-study in degrammaticalization. In Ilse Wischer & Gabriele Diewald (eds.), *New Reflections of Grammaticalization*, 67–81. Amsterdam: John Benjamins.
Duncan, Daniel. 2015. *Ish*: Rapid grammaticalization in apparent time. NYU Syntax Brown Bag.
Duncan, Daniel. 2016. A Freezing approach to the *ish*-construction in English. *Penn Working Papers in Linguistics* 22(1). 101–108.
Durkheim, Émile. 1915[1912]. *The elementary forms of the religious life*. Translated by Joseph W. Swain. London: Allen & Unwin.
Eastlake, Charles Lock. 1840[1810]. *Goethe's Theory of Colours; Translated from the German*. London: John Murray.
Eckardt, Regine. 2003. Meaning change in conceptual Montague semantics. In Regine Eckardt, Klaus von Heusinger & Christoph Schwarze (eds.), *Words in Time: Diachronic Semantics from Different Points of View*, 225–247. Berlin: De Gruyter.
Egbert, Maria. 2009. *Der Reparatur-Mechanismus in deutschen Gesprächen*. Mannheim: Verlag für Gesprächsforschung.
Eichinger, Ludwig M. 1982. *Syntaktische Transposition und semantische Derivation*. Tübingen: Niemeyer.
Elsen, Hilke. 2009. Affixoide: Nur was benannt wird, kann auch verstanden werden. *Deutsche Sprache* 37. 316–333.
Emonds, Joseph E. 1970. *Root and structure-preserving transformations*. Massachusetts: Massachusetts Institute of Technology. PhD dissertation.
Emonds, Joseph E. 1976. *A transformational approach to English syntax: Root, structure preserving, and local transformations*. New York: Academic Press.
Engelberg, Stefan. 2011. Lexical decomposition: Foundational issues. In Claudia Maienborn, Klaus von Heusinger & Paul Portner (eds.), *Semantics: an international handbook of natural language meaning*, vol. 1, 124–144. Berlin, New York: De Gruyter.
Erman, Britt. 1987. *Pragmatic expressions in English: A study of "you know", "you see" and "I mean" in face-to-face conversation*. Stockholm: Almqvist & Wiksell.
Erman, Britt. 2001. Pragmatic markers revisited with a focus on *you know* in adult and adolescent talk. *Journal of Pragmatics* 33. 1337–1359.
Erman, Britt & Ulla-Britt Kotsinas. 1993. Pragmaticalization: The Case of *ba*' and *you know*. *Studier i Modern Språkvetenskap* 10. 76–93.
Esfandiari Baiat, Ghazaleh, Matt Coler, Marissa Pullen, Sineenat Tienkouw & Laszlo Hunyadi. 2013. Multimodal Analysis of "'well'" as a Discourse Marker in Conversation: A Pilot Study. *CogInfoCom 2013*, 283–288. Budapest.
Evert, Stefan. 2016. *The IMS Open Corpus Workbench (CWB). CQP Query Language Tutorial*. http://cwb.sourceforge.net/.
Féry, Caroline & Ruben van de Vijver. 2003. Overview. In Caroline Féry & Ruben van de Vijver (eds.), *The Syllable in Optimality Theory*, 3–19. Cambridge: Cambridge University Press.
Fetzer, Anita. 2010. Hedges in Context: Form and Function of *Sort of* and *Kind of*. In Gunther Kaltenböck, Wiltrud Mihatsch & Stefan Schneider (eds.), *New Approaches to Hedging*, 49–71. Bingley: Emerald Group Publishing.
Fiehler, Reinhard. 2015. Grammatikschreibung für gesprochene Sprache. *Sprachtheorie und germanistische Linguistik* 25(1). 3–20.

Fillmore, Charles. 1968. The case for case. In Emmon Bach & Robert Harms (eds.), *Universals in Linguistic Theory*, 1–88. New York: Holt, Rhinehart & Winston.
Fillmore, Charles. 1975. An alternative to checklist theories of meaning. In Cathy Cogen, Henry Thompson & James Wright (eds.), *Proceedings of the First Annual Meeting of the Berkeley Linguistics Society*, 123–131. Berkeley: Berkeley Linguistics Society.
Fillmore, Charles. 1977a. The case for case reopened. In Peter Cole & Jerrold M. Sadock (eds.), *Grammatical Relations*, 59–81. New York: Academic Press.
Fillmore, Charles. 1977b. Scenes-and-frames semantics. In Antonio Zampolli (ed.), *Linguistic Structures Processing*, 55–81. Amsterdam: North-Holland.
Fillmore, Charles. 1982. Frame Semantics. In The Linguistic Society of Korea (ed.), *Linguistics in the Morning Calm. Selected Papers from SICOL-1981*, 111–137. Seoul: Hanshin Publishing.
Fillmore, Charles. 2008. Border Conflicts: FrameNet Meets Construction Grammar. In Elisenda Bernal & Janet DeCesaris (eds.), *Proceedings of the XIII EURALEX International Congress*, 49–68. Barcelona: Universitat Pompeu Fabra.
Fillmore, Charles & B.T. Sue Atkins. 1992. Toward a frame-based lexicon: the semantics of risk and its neighbors. In Adrienne Lehrer & Eva F. Kittay (eds.), *Frames, Fields, and Contrasts: New Essays in Semantics and Lexical Organization*, 75–102. Hillsdale, N.J: Erlbaum.
Fillmore, Charles, Paul Kay & Mary Catherine O'Connor. 1988. Regularity and Idomaticity in Grammatical Constructions: The Case of Let Alone. *Language* 64(3). 501–538.
Fischer, Kerstin. 2000. *From Cognitive Semantics to Lexical Pragmatics. The Functional Polysemy of Discourse Particles*. Berlin ; New York: De Gruyter.
Fischer, Kerstin. 2010. Beyond the sentence: Constructions, frames and spoken interaction. *Constructions and Frames* 2(2). 185–207.
Fischer, Olga. 2007. *Morphosyntactic Change: Functional and Formal Perspectives*. Oxford: Oxford University Press.
Fisiak, Jacek. 1965. *Morphemic structure of Chaucer's English*. Alabama: University of Alabama Press.
Fleischer, Wolfgang & Irmhild Barz. 2012. *Wortbildung in der deutschen Gegenwartssprache*. Berlin: De Gruyter.
Fodor, Jerry A. 1975. *The Language of Thought*. Cambridge, Mass.: Harvard University Press.
Fodor, Jerry A. *The Modularity of Mind*. Cambridge, Mass.: MIT Press.
Fodor, Jerry A. 1998. *Concepts: Where cognitive science went wrong*. Oxford: Clarendon Press.
Fodor, Jerry A., Merrill F. Garrett, Edward C.T. Walker & Cornelia H. Parkes. Against definitions. *Cognition* 8. 263–367.
Foolen, Ad. 1996. Pragmatic Particles. In Jef Verschueren, Jan-Ola Östman, Jan Blommaert & Chris Bulcaen (eds.), *Handbook of Pragmatics*, 1–24. Amsterdam & Philadelphia: John Benjamins.
Fraassen, Bas van. 1968. Presupposition, implication, and self-reference. *The Journal of Philosophy* 65(5). 136–152.
Frank-Job, Barbara. 2006. A Dynamic-Interactional Approach to Discourse Markers. In Kerstin Fischer (ed.), *Approaches to Discourse Particles*, 395–413. Amsterdam: Elsevier.
Fraser, Bruce. 1975. Hedged Performatives. In Peter Cole & Jerry L. Morgan (eds.), *Syntax and Semantics, Vol. 3*, 187–210. New York, London: Academic Press.
Fraser, Bruce. 1980. Conversational mitigation. *Journal of Pragmatics* 4. 341–350.
Fraser, Bruce. 1988. Types of English Discourse Markers. *Acta Linguistica Hungarica* 38(1–4). 19–33.
Fraser, Bruce. 1990. An Approach to Discourse Markers. *Journal of Pragmatics* 14. 383–395.

Fraser, Bruce. 1996. Pragmatic Markers. *Pragmatics* 6(2). 167–190.
Fraser, Bruce. 1999. What are Discourse Markers? *Journal of Pragmatics* 31(7). 931–952.
Fraser, Bruce. 2006. On the Universality of Discourse Markers. In Karin Aijmer & Anne-Marie Simon-Vandenbergen (eds.), *Pragmatic markers in contrast*, 73–92. Amsterdam: Elsevier.
Fraser, Bruce. 2009. An Account of Discourse Markers. *International Review of Pragmatics* 1. 293–320.
Fraser, Bruce. 2010. Pragmatic Competence: The Case of Hedging. In Gunther Kaltenböck, Wiltrud Mihatsch & Stefan Schneider (eds.), *New Approaches to Hedging*, 15–34. Bingley: Emerald Group Publishing.
Fraser, Bruce. 2015. The combining of Discourse Markers - A beginning. *Journal of Pragmatics* 86. 48–53.
Frauenfelder, Ulrich Hans & Robert Schreuder. 1992. Constraining psycholinguistic models of morphological processing and representation. *Yearbook of morphology 1991*, 165–183. Dordrecht: Springer.
Freeborn, Dennis. 2006. *From Old English to standard English: a coursebook in language variation across time*. 3rd edition. Houndmills, Basingstoke, Hampshire ; New York: Palgrave Macmillan.
Frege, Gottlob. 1892. Über Sinn und Bedeutung. *Zeitschrift für Philosophie und philosophische Kritik* (100). 25–50.
Frege, Gottlob. 1903. *Grundgesetze der Arithmetik*. Vol. 2. Jena: Hermann Pohle.
Frege, Gottlob. 1960[1903]. *Translations from the Philosophical Writings of Gottlob Frege*. (Ed.) Peter Geach & Max Black. Oxford: Basil Blackwell.
Gazdar, Gerald. 1979. A solution to the projection problem. In Choon-Kyu Oh & David A. Dinneen (eds.), *Syntax and semantics*, vol. Vol. II, 57–90. New York: Academic Press.
Geeraerts, Dirk. 1999. Hundred years of lexical semantics. In Mário Vilela & Fátima Silva (eds.), *Atas do 1° Encontro internacional de linguística cognitiva*, 123–154. Porto: Faculdade de Letras da Universidade do Porto.
Geeraerts, Dirk. 2006[1989]. Prospects and problems of prototype theory. In Dirk Geeraerts (ed.), *Cognitive Linguistics: Basic Readings*, 141–165.
Geeraerts, Dirk. 2010. *Theories of lexical semantics*. Oxford ; New York: Oxford University Press.
Geeraerts, Dirk. 2017. Lexical Semantics. (Ed.) Mark Aronoff. *Oxford Research Encyclopedia of Linguistics*. [Online publication] Oxford University Press..
Gelderen, Elly van. 2006. *A History of the English Language*. Amsterdam: John Benjamins.
Giacalone Ramat, Anna. 1998. Testing the boundaries of grammaticalization. In Anna Giacalone Ramat & Paul Hopper (eds.), *The Limits of Grammaticalization*, 107–127. Amsterdam: John Benjamins.
Giacalone Ramat, Anna & Caterina Mauri. 2010. Dalla continuità temporale al contrasto: La grammaticalizzazione di tuttavia come connettivo avversativo. *Atti del X Congresso della Società Internazionale di Linguistica e Filologia (SILFI)*, 449–470. Florence: Franco Cesati.
Gibbs Jr., Raymond W. 2008. Metaphor and thought: The state of the art. In Raymond W. Gibbs Jr. (ed.), *The Cambridge Handbook of Metaphor and Thought*, 3–13. Cambridge: Cambridge University Press.
Givón, Talmy. 1971. Historical syntax and synchronic morphology: an archaeologist's field trip. *Chicago Linguistic Society* 7(1). 394–415.
Givón, Talmy. 1979. *On Understanding Grammar*. New York: Academic Press.
Givón, Talmy. 1991. The evolution of dependent clause morpho-syntax in Biblical Hebrew. In Elizabeth Closs Traugott & Bernd Heine (eds.), *Approaches to Grammaticalization. Vol. II*, 257–310. Amsterdam ; Philadelphia: John Benjamins.

Glynn, Dylan. 2004. Constructions at the crossroads: the place of construction grammar between field and frame. *Annual Review of Cognitive Linguistics* 2. 197–233.

Goddard, Cliff. 2012. Semantic primes, semantic molecules, semantic templates: Key concepts in the NSM approach to lexical typology. *Linguistics* 50(3). 711–743.

Goffman, Erving. 2005[1967]. *Interaction Ritual: Essays in Face-to-Face Behavior*. New Brunswick: Transaction Publishers.

Goldberg, Adele E. 1995. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: Chicago University Press.

Greenberg, Joseph. 1991. The last stages of grammatical elements: Contractive and expansive desemanticization. In Elizabeth Closs Traugott & Bernd Heine (eds.), *Approaches to Grammaticalization I*, 301–314. Amsterdam; Philadelphia: John Benjamins.

Greenberg, Yael & Moria Ronen. 2012. Three Approximators which are *almost* / *more or less* / *be-gadol* the same. In Evan Cohen (ed.), *Proceedings of IATL 28.* 51–70.

Greenfield, Stanley B. 1986. *A New Critical History of Old English Literature*. New York; London: NY University Press.

Grice, H. Paul. 1957. Meaning. *The Philosophical Review* 66(3). 377–388.

Grice, H. Paul. 1975. Logic and conversation. In Peter Cole & Jerry L. Morgan (eds.), *Syntax and Semantics, Vol. 3*, 43–58. New York: Academic Press.

Grice, H. Paul. 1989. *Studies in the way of words*. Cambridge: Harvard University Press.

Gries, Stefan Th. 2006. Corpus-based methods and cognitive semantics: the many senses of *to run*. In Stefan Th. Gries & Anatol Stefanowitsch (eds.), *Corpora in Cognitive Linguistics: Corpus-Based Approaches to Syntax and Lexis*, 57–99. Berlin: Mouton de Gruyter.

Gries, Stefan Th. & Caroline V. David. 2007. This is *kind of/sort of* interesting: variation in hedging in English. In Päivi Pahta, Irma Taavitsainen, Terttu Nevalainen & Jukka Tyrkkoö (eds.), *Towards multimedia in corpus linguistics*. Helsinki: University of Helsinki.

Günthner, Susanne & Katrin Mutz. 2004. Grammaticalization vs. Pragmaticalization? The Development of Pragmatic Markers in German and Italian. In Walter Bisang, Nikolaus Himmelmann & Björn Wiemer (eds.), *What Makes Grammaticalization? A Look from Its Fringes and Its Components*, 77–107. Berlin: De Gruyter.

Hacken, Pius ten. 2017. Compounding in Morphology. In Mark Aronoff (ed.), *Oxford Research Encyclopedia of Linguistics* [Online Publication]. Oxford: Oxford University Press.

Halle, Morris & Alec Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In Kenneth L. Hale & Samuel J. Keyser (eds.), *The View from Building 20*, 111–176. Cambridge, MA: MIT Press.

Halsall, Paul. 1998. *Medieval Sourcebook: The Anglo-Saxon Dooms*. New York: Fordham University.

Harley, Heidi & Rolf Noyer. 1999. Distributed Morphology. *Glot International* 4(4). 3–9.

Harris, Tabea. 2020. Vagueness, context-sensitivity and scale structure of four types of adjectives with the suffix *-ish*. In Remus Gergel & Jonathan Watkins (eds.), *Quantification and scales in change*, 67-84. Berlin: Language Science Press.

Haspelmath, Martin. 1989. From purposive to infinitive - A universal path of grammaticization. *Folia Linguistica Historica* X(1–2). 287–310.

Haspelmath, Martin. 1999. Why is grammaticalization irreversible? *Linguistics* 37(6). 1043–1068.

Haspelmath, Martin. 2002. *Understanding Morphology*. London: Arnold.

Haspelmath, Martin. 2004. On directionality in language change with particular reference to grammaticalization. In Olga Fischer, Muriel Norde & Harry Perridon (eds.), *Up and down the cline - the nature of grammaticalization*, 17–44. Amsterdam ; Philadelphia: John Benjamins.

Hay, Jennifer. 2002. From Speech Perception to Morphology: Affix Ordering Revisited.

Language 78(3). 527–555.
Hay, Jennifer. 2003. *Causes and Consequences of Word Structure*. New York; London: Routledge.
Hay, Jennifer & Harald Baayen. 2002. Parsing and productivity. In Geert Booij & Jaap Van Marle (eds.), *Yearbook of morphology 2001*, 203–235. Dordrecht: Springer.
Hecht, Max. 1888. *Die griechische Bedeutungslehre: eine Aufgabe der klassischen Philologie*. Leipzig: Teubner.
Hegedüs, Irén. 2014. Affix doublets and affix rivalry in the history of English. *Argumentum* 10. 312–324.
Hegedüs, Irén. 2017. *Mechanisms of Doublet Formation: Investigating the (mor)phonology - lexicology interface in the history of English*. Pécs: Institute of English Studies at the University of Pécs.
Heine, Bernd. 2003a. On degrammaticalization. In Barry Blake, Kate Burridge & John Taylor (eds.), *Historical Linguistics 2001. Selected papers from the 15th International Conference on Historical Linguistics, Melbourne, 13-17 August 2001*, 163–179. Amsterdam, Philadelphia: John Benjamins.
Heine, Bernd. 2003b. Grammaticalization. In Brian D. Joseph & Richard D. Janda (eds.), *The Handbook of Historical Linguistics*, 575–601. Oxford: Blackwell.
Heine, Bernd. 2013. On Discourse Markers: Grammaticalization, Pragmaticalization, or Something Else? *Linguistics* 51(6). 1205–1247.
Heine, Bernd, Ulrike Claudi & Friederike Hünnemeyer. 1991. *Grammaticalization*. Chicago: University of Chicago Press.
Heine, Bernd & Mechthild Reh. 1984. *Grammatical Categories in African Languages*. Hamburg: Helmut Buske.
Heritage, John. 1984. *Garfinkel and ethnomethodology*. Cambridge: Polity Press.
Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16. 547–594.
Himmelmann, Nikolaus. 2004. Lexicalization and Grammaticization: Opposite or Orthogonal? In Walter Bisang, Nikolaus Himmelmann & Björn Wiemer (eds.), *What Makes Grammaticalization? A Look from Its Fringes and Its Components*, 21–42. Berlin: De Gruyter.
Hjelmslev, Louis. 1961. *Prolegomena to a Theory of Language*. Madison: University of Wisconsin Press.
Hockett, Charles F. 1947. Problems of morphemic analysis. *Language* 23. 321–343.
Hoffmann, Maria E. 1987. *Negatio Contrarii. A Study of Latin Litotes*. Assen: Van Gorcum.
Hoffmann, Sebastian, Stefan Evert, Nicholas Smith, David Lee & Ylva Berglund Prytz. 2008. *Corpus linguistics with BNCweb: a practical guide*. Frankfurt am Main: Peter Lang.
Hogg, Richard M. & David Denison (eds.). 2006. *A history of the English language*. Cambridge, UK ; New York: Cambridge University Press.
Hölker, Klaus. 1990. Partikelforschung / Particules et modalité. In Günter Holtus, Michael Metzeltin & Christian Schmitt (eds.), *Lexikon der Romanistischen Linguistik (LRL)*, vol. V, 77–88. Tübingen: Max Niemeyer.
Holmes, Janet. 1984. Modifying Illocutionary Force. *Journal of Pragmatics* 8. 345–365.
Holmes, Janet. 1986. Functions of *you know* in women's and men's speech. *Language in Society* 15. 1–22.
Holmes, Janet. 1993. New Zealand women are good to talk to: An analysis of politeness strategies in interaction. *Journal of Pragmatics* 20. 91–116.
Hoppe, Gabriele. 2007. *Weitere Beobachtungen zum Lehnsuffix -esk*. Vol. Teil 1. Mannheim: Institut für Deutsche Sprache.
Hopper, Paul J. 1991. On Some Principles of Grammaticization. In Elizabeth Closs Traugott &

Bernd Heine (eds.), *Approaches to Grammaticalization, Volume 1, Focus on Theoretical and Methodological Issues*, 17–35. Amsterdam: John Benjamins.
Hopper, Paul J. & Elizabeth Closs Traugott. 2003[1993]. *Grammaticalization*. 2nd edition. Cambridge: Cambridge University Press.
Hough, Carole. 2013. Wergild. (Ed.) Michael Lapidge, John Blair, Simon Keynes & Donald Scragg. *The Wiley Blackwell Encyclopedia of Anglo-Saxon England*. Chichester: Wiley-Blackwell.
House, Juliane & Gabriele Kasper. 1981. Politeness Markers in English and German. In Florian Coulmas (ed.), *Conversational Routine*, 157–185. The Hague: Mouton.
Hoye, Leo Francis. 2020. Adverbs. In Carol A. Chapelle (ed.), *The Concise Encyclopedia of Applied Linguistics*, 1–7. Hoboken: Wiley Blackwell.
Hübler, Axel. 1983. *Understatements and Hedges in English*. Amsterdam: John Benjamins.
Huddleston, Rodney D. 1976. *An Introduction to English Transformational Syntax*. Harlow: Longman.
Huddleston, Rodney & Geoffrey K. Pullum. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
Hudson, Grover. 2002. *Essential Introductory Linguistics*. Malden, MA: Blackwell.
Hughes, George E. & Max J. Cresswell. 2012[1996]. *A New Introduction to Modal Logic*. London; New York: Routledge.
Hyde, Dominic. 2011. The Sorites Paradox. In Giuseppina Ronzitti (ed.), *Vagueness: A Guide*, 1–17. Dordrecht: Springer Netherlands.
Hyde, Dominic & Diana Raffman. 1997. Sorites Paradox. In Edward N. Zalta. (ed.), *The Stanford Encyclopedia of Philosophy*. [Online Publication].
Hyland, Ken. 1998a. *Hedging in Scientific Research Articles*. Amsterdam: John Benjamins.
Hyland, Ken. 1998b. Boosting, hedging and the negotiation of academic knowledge. *Text* 18(3). 349–382.
IDS, Datenbank für Gesprochenes Deutsch (DGD), FOLK. Retrieved from http://dgd.ids-mannheim.de.
Isitt, David. 1983. *Crazic, menty, and idiotal: An Inquiry into the Use of Suffixes -al, -ic, -ly, and -y in Modern English*. Göteborg, Sweden: Acta Universitatis Gothoburgensis.
Jackendoff, Ray. 1978. An argument about the composition of conceptual structure. *Proceedings of the 1978 workshop on Theoretical issues in natural language processing*, 162–166. Urbana-Champaign, Illinois: Association for Computational Linguistics.
Jackendoff, Ray. 1983. *Semantics and Cognition*. Cambridge (Mass.), London: MIT Press.
Jackendoff, Ray. 1987. The status of thematic relations in linguistic theory. *Linguistic Inquiry* 18. 369–411.
Jackendoff, Ray. 1990. *Semantic Structures*. Cambridge (Mass.), London: MIT Press.
Jackendoff, Ray. 1991. Parts and boundaries. *Cognition* 41. 9–43.
Jackendoff, Ray. 2002. *Foundations of Language: Brain, Meaning, Grammar, Evolution*. Oxford: Oxford University Press.
Jackendoff, Ray. 2007a. A Parallel Architecture Perspective on Language Processing. *Brain Research* 1146. 2–22.
Jackendoff, Ray. 2007b. Conceptual semantics and natural semantic metalanguage theory have different goals. *Intercultural Pragmatics* 4(3). 411–418.
Jackendoff, Ray. 2009. Compounding in the Parallel Architecture and Conceptual Semantics. In Rochelle Lieber & Pavol Štekauer (eds.), *Handbook of Compounding*, 105–128. Oxford: Oxford University Press.
Jackendoff, Ray. 2010a. *Meaning and the lexicon: the parallel architecture, 1975-2010*. Oxford ; New York: Oxford University Press.

Jackendoff, Ray. 2010b. The Parallel Architecture and its Place in Cognitive Science. In Bernd Heine & Heiko Narrog (eds.), *Oxford Handbook of Linguistic Analysis*, 593–614. Oxford: Oxford University Press.

Janda, Richard D. 2001. Beyond "pathways" and "unidirectionality": on the discontinuity of language transmission and the counterability of grammaticalization. *Language Sciences* 23. 265–340.

Jespersen, Otto. 1925. *Die Sprache. Ihre Natur, Entwicklung und Entstehung*. Heidelberg: Winter.

Jespersen, Otto. 1961[1942]. *A Modern English Grammar on Historical Principles. Part VI: Morphology*. London ; Copenhagen: George Allen & Unwin Ltd, Ejnar Munksgaard.

Jespersen, Otto. 1966[1917]. *Negation in English and Other Languages*. København: Ejnar Munksgaard.

Johanson, Lars. 2002. Contact-induced change in a code-copying framework. In Mari C. Jones & Edith Esch (eds.), *Language Change. The Interplay of Internal, External and Extra-Linguistic Factors*, 285–313. Berlin: De Gruyter.

Jucker, Andreas. 1993. The discourse marker *well*: A relevance-theoretical account. *Journal of Pragmatics* 19. 435–452.

Jucker, Andreas H. 1997. The discourse marker *well* in the history of English. *English Language and Linguistics* 1(1). 91–110.

Jucker, Andreas H. & Yael Ziv (eds.). 1998. *Discourse markers: descriptions and theory*. Amsterdam: John Benjamins.

Jucker, Andreas & Irma Taavitsainen. 2013. *English Historical Pragmatics*. Edinburgh: Edinburgh University Press.

Kachru, Braj B. 1992. World Englishes: approaches, issues and resources. *Language Teaching* 25(1). 1–14.

Kainz, Friedrich. 1959. Klassik und Romantik. In Friedrich Maurer & Friedrich Stroh (eds.), *Deutsche Wortgeschichte*, vol. 2, 223–408. 2nd edn. Berlin: De Gruyter.

Kalbertodt, Janina, Beatrice Primus & Petra B. Schumacher. 2015. Punctuation, Prosody, and Discourse: Afterthought Vs. Right Dislocation. *Frontiers in Psychology* 6. 1–12.

Kaltenböck, Gunther, Bernd Heine & Tania Kuteva. 2011. On Thetical Grammar. *Studies in Language* 35(4). 848–893.

Kaltenböck, Gunther, Wiltrud Mihatsch & Stefan Schneider. 2010. Introduction. In Gunther Kaltenböck, Wiltrud Mihatsch & Stefan Schneider (eds.), *New Approaches to Hedging*, 1–13. Bingley: Emerald Group Publishing.

Kamp, Hans. 1975. Two theories about adjectives. In Edward L Keenan (ed.), *Formal Semantics of Natural Language*, 123–155. Cambridge: Cambridge University Press.

Kamp, Hans. 1981. The paradox of the heap. In Uwe Mönnich (ed.), *Aspects of Philosophical Logic*, 225–277. Dordrecht: D. Reidel.

Kaplan, David. 1989. Demonstratives. An Essay on the Semantics, Logic, Metaphysics, and Epistemology of Demonstratives and Other Indexicals. In Joseph Almog, John Perry, Ingrid Deiwiks, Howard Wettstein & Edward N. Zalta (eds.), *Themes from Kaplan*, 481–563. Oxford: Oxford University Press.

Karttunen, Lauri & Stanley Peters. 1979. Conventional implicature. In Choon-Kyu Oh & David A. Dinneen (eds.), *Syntax and semantics*, vol. Vol. II, 1–56. New York: Academic Press.

Kasper, Gabriele. 1981. *Pragmatische Aspekte in der Interimsprache. Eine Untersuchung des Englischen fortgeschrittener deutscher Lerner*. Tübingen: Narr.

Katamba, Francis. 1993. *Morphology*. 2nd ed. London; New York: Palgrave Macmillan.

Katz, Jerrold J. 1972. *Semantic Theory*. New York: Harper & Row.

Katz, Jerrold M. & Jerry A. Fodor. 1963. The structure of semantic theory. *Language* 39. 170–210.

Kaunisto, Mark. 2009. The Rivalry between English Adjectives ending in -ive and -ory. In Roderick W. McConchie, Alpo Honkapohja & Jukka Tyrkkö (eds.), *Selected Proceedings of the 2008 Symposium on New Approaches in English Historical Lexis (HEL-LEX 2)*. Somerville, MA: Cascadilla Proceedings Project.

Kay, Paul. 1979. *The Role of Cognitive Schemata in Word Meaning: Hedges Revisited*. Berkeley: University of California.

Kay, Paul. 1983. Linguistic Competence and Folk Theories of Language: Two English Hedges. *Proceedings of the Ninth Annual Meeting of the Berkely Linguistics Society* 128–137.

Kay, Paul. 1984. The Kind of/Sort of Construction. *Proceedings of the Tenth Annual Meeting of the Berkeley Linguistics Society* 10. 157–171.

Kay, Paul. 2004. NSM and the meaning of color words. *Theoretical Linguistics* 29(3). 237–245.

Kearns, Kate. 2006. Lexical Semantics. In Bas Aarts & April McMahon (eds.), *The Handbook of English Linguistics*, 557–580. Malden, MA: Blackwell Publishing Ltd.

Keefe, Rosanna. 2000. *Theories of vagueness*. Cambridge: Cambridge University Press.

Keefe, Rosanna & Peter Smith. 1997. Introduction: theories of vagueness. In Rosanna Keefe & Peter Smith (eds.), *Vagueness: A Reader*. Cambridge (Mass.), London: The MIT Press.

Keller, Eric. 1979. Gambits: Conversational strategy signals. *Journal of Pragmatics* 3(3–4). 219–238.

Kennedy, Christopher. 2007. Vagueness and grammar: the semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy* 30(1). 1–45.

Kennedy, Christopher & Louise McNally. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81(2). 345–381.

Kiparsky, Paul. 1982. Lexical Morphology and Phonology. In The Linguistic Society of Korea (ed.), *Linguistics in the Morning Calm*, 3–91. Seoul: Hanshin Publishing.

Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy* 4. 1–45.

Klein, Thomas, Hans-Joachim Solms & Klaus-Peter Wegera. 2009. *Mittelhochdeutsche Grammatik. Teil III: Wortbildung*. Tübingen: Niemeyer.

Kotthoff, Helga. 1989. *Pragmatische Defizite im argumentativen Diskurs. Zur konversationellen (In)sensitivität von Lernersprachen*. Frankfurt am Main: Peter Lang.

Kotthoff, Helga. 1993. Disagreement and concession in disputes: On the context sensitivity of preference structures. *Language in Society* 22. 193–216.

Kripke, Saul A. 1980. *Naming and Necessity*. Oxford: Oxford University Press.

Kroch, Anthony, John Myhill & Susan Pintzuk. 1982. Understanding *do*. In Kevin Tuite, Robinson Schneider & Robert Chametzky (eds.), *Papers from the 18th Regional Meeting of the Chicago Linguistc Society*, 282–294. Chicago: Chicago Linguistic Society.

Kroch, Anthony, Beatrice Santorini & Lauren Delfs. 2004. *The Penn-Helsinki Parsed Corpus of Early Modern English (PPCEME), Release 3*. Philadelphia: University of Pennsylvania. Retrieved from http://www.ling.upenn.edu/ppche-release-2016/PPCEME-RELEASE-3.

Kroch, Anthony, Beatrice Santorini & Ariel Diertani. 2016. *The Penn Parsed Corpus of Modern British English (PPCMBE2), Release 1*. Philadelphia: University of Pennsylvania. Retrieved from http://www.ling.upenn.edu/ppche/ppche-release-2016/PPCMBE2-RELEASE-1.

Kroch, Anthony & Ann Taylor. 2000. *The Penn-Helsinki Parsed Corpus of Middle English, Second Edition (PPCME2), Release 3*. Philadelphia: University of Pennsylvania. Retrieved from http://www.ling.upenn.edu/hist-corpora/.

Kruisinga, Etsko. 1932. *A handbook of present-day English, part II: English accidence and syntax 2*. 5th edn. Groningen: Noordhoff.

Kryk-Kastovsky, Barbara. 1995. Particles revisited. In Gunnel Melchers & Beatrice Warren (eds.), *Studies in Anglistics*, 81–94. Stockholm: Almqvist & Wiksell International.

Kühnhold, Ingeburg, Oskar Putzer & Hans Wellmann. 1978. *Deutsche Wortbildung. Typen und Tendenzen in der Gegenwartssprache 3. Das Adjektiv*. Düsseldorf: Pädagogischer Verlag Schwann.

Kupietz, Marc, Cyril Belica, Harald Lüngen & Rainer Perkuhn. *Das Deutsche Referenzkorpus DeReKo*. Mannheim: Institut für Deutsche Sprache. http://www.ids-mannheim.de/kl/projekte/korpora/.

Kuryłowicz, Jerzy. 1975[1965]. The evolution of grammatical categories. In Jerzy Kuryłowicz (ed.), *Esquisses Linguistiques II*, 38–54. München: Wilhelm Fink.

Kuzmack, Stephanie. 2007. *Ish*: A new case of antigrammaticalization. Paper given at the 2007 LSA Annual Meeting, 4 January 2007, Anaheim, CA.

Kytö, Merja & Suzanne Romaine. 1997. Competing Forms of Adjective Comparison in Modern English: What Could be More Quicker and Easier and More Effective? In Terttu Nevalainen & Leena Kahlas-Tarkka (eds.), *To explain the present: Studies in the changing English language in honour of Matti Rissanen*, 329–352. Helsinki: Société Néophilologique.

Lakoff, George. 1970. A Note on Vagueness and Ambiguity. *Linguistic Inquiry* 1(3). 357–359.

Lakoff, George. 1973. Hedges: A study in meaning criteria and the logic of fuzzy concepts. *Journal of Philosophical Logic* 2(4). 458–508.

Lakoff, George & Mark Johnson. 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.

Lakoff, Robin. 1973. The logic of politeness; or, minding your P's and Q's. In Claudia Corum, T. Cedric Smith-Stark & Ann Weiser (eds.), *Papers from the Ninth Regional Meeting of the Chicago Linguistics Society*, 292–305. Chicago: University of Chicago.

Lambrecht, Knud. 2001. Dislocation. In Martin Haspelmath (ed.), *Language Typology and Language Universals*, 1050–1078. Berlin: De Gruyter.

Langacker, Ronald A. 1987. *Foundations of Cognitive Grammar I: Theoretical Prerequisites*. Stanford, CA: Stanford University Press.

Lasersohn, Peter. 1999. Pragmatic Halos. *Language* 75(3). 522–551.

Lass, Roger. 1987. *The Shape of English: Structure and History*. London; Melbourne: Dent & Sons.

Lass, Roger. 2006. Phonology and morphology. In Richard Hogg & David Denison (eds.), *A History of the English Language*, 43–108. Cambridge: Cambridge University Press.

Lassiter, Daniel & Noah D. Goodman. 2013. Context, scale structure, and statistics in the interpretation of positive-form adjectives. *Semantics and Linguistic Theory (SALT)* 23. 587–610.

Lassiter, Daniel & Noah D. Goodman. 2015. Adjectival vagueness in a Bayesian model of interpretation. *Synthese* 194(10). 3801–3836.

Lee, Choonkyu. 2017. Typicality Knowledge and the Interpretation of Adjectives. In James A. Hampton & Yoad Winter (eds.), *Compositionality and Concepts in Linguistics and Psychology*, 123–138. Cham: Springer International Publishing.

Leech, Geoffrey. 2006. *A Glossary of English Grammar*. Edinburgh: Edinburgh University Press.

Lehmann, Christian. 1995. Synsemantika. In Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld & Theo Vennemann (eds.), *Syntax. Ein internationales Handbuch*, vol. 2, 1251–1266. Berlin: De Gruyter.

Lehmann, Christian. 2004. Theory and method in grammaticalization. *Zeitschrift für Germanistische Linguistik* 32(2). 152–187.

Lehmann, Christian. 2015[1982]. *Thoughts on Grammaticalization: A Programmatic Sketch*. 3rd edition. München: LINCOM Europa.

Lehmann, Hans-Martin, Peter Schneider & Sebastian Hoffmann. 2000. BNCweb. In John Kirk (ed.), *Corpora Galore: Analysis and Techniques in Describing English*, 259–266.

Amsterdam: Rodopi.
Lehnert, Martin. *Poetry and Prose of the Anglo-Saxons. Vol.1: Texts*. Halle (Saale): VEB Max Niemeyer.
Lemnitzer, Lothar & Heike Zinsmeister. 2006. *Korpuslinguistik: eine Einführung*. Tübingen: Narr.
Lenk, Uta. 1997. Discourse markers. In Jan-Ola Östman & Jef Verschueren (eds.), *Handbook of Pragmatics*, 1–17. 3rd edition. Amsterdam: John Benjamins.
Lenk, Uta. 1998. *Marking discourse coherence: functions of discourse markers in spoken English*. Tübingen: Narr.
Lenker, Ursula. 2000. *Soþlice* and *witodlice*: Discourse Markers in Old English. In Olga Fischer, Anette Rosenbach & Dieter Stein (eds.), *Pathways of Change: Grammaticalization in English*, 229–249. Amsterdam: John Benjamins.
Levin, Beth. 1993. *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago, London: University of Chicago Press.
Levin, Beth & Malka Rappaport Hovav. 1988. Non-event *-er* Nominals: a Probe into Argument Structure. *Linguistics* 26. 1067–1083.
Levinson, Stephen C. 1983. *Pragmatics*. Cambridge: Cambridge University Press.
Lewis, Clarence I. & Cooper H. Langford. 1932. *Symbolic Logic*. New York: The Century Co.
Lewis, David. 1970. General Semantics. *Synthese* 22. 18–67.
Lieber, Rochelle. 1980. *On the Organization of the Lexicon*. Massachusetts: Massachusetts Institute of Technology. PhD dissertation.
Lieber, Rochelle. 1992. *Deconstructing Morphology: Word Formation in Syntactic Theory*. Chicago: University of Chicago Press.
Lieber, Rochelle. 2004. *Morphology and Lexical Semantics*. Cambridge: Cambridge University Press.
Lieber, Rochelle. 2005. English word-formation processes. In Pavol Štekauer & Rochelle Lieber (eds.), *Handbook of Word-Formation*, 375–427. Dordrecht: Springer.
Lieber, Rochelle. 2007. The category of roots and the roots of categories: What we learn from selection in derivation. *Morphology* 16(2). 247–272.
Lieber, Rochelle. 2009a. *Introducing Morphology*. Cambridge ; New York: Cambridge University Press.
Lieber, Rochelle. 2009b. A lexical semantic approach to compounding. In Rochelle Lieber & Pavol Štekauer (eds.), *The Oxford Handbook of Compounding*, 78–104. Oxford: Oxford University Press.
Lieber, Rochelle. 2010. On the lexical semantics of compounds. In Sergio Scalise & Irene Vogel (eds.), *Cross-Disciplinary Issues in Compounding*, 127–144. Amsterdam: John Benjamins.
Lieber, Rochelle. 2016a. Compounding in the lexical semantic framework. In Pius ten Hacken (ed.), *The Semantics of Compounding*, 38–53. Cambridge: Cambridge University Press.
Lieber, Rochelle. 2016b. *English Nouns: The Ecology of Nominalization*. Cambridge: Cambridge University Press.
Lieber, Rochelle & Geert Booij. 2004. On the paradigmatic nature of affixal semantics in English and Dutch. *Linguistics* 42(2). 327–353.
Lieber, Rochelle & Pavol Štekauer (eds.). 2009. *The Oxford Handbook of Compounding*. Oxford ; New York: Oxford University Press.
Lloyd, Cynthia. 2007. From denominal to deverbal: The suffix *-age*. In Gabriella Mazzon (ed.), *Middle English. Studies in Middle English forms and meanings*, 145–164. Frankfurt am Main: Lang.
Longacre, Robert E. 1976. Mystery particles and affixes. In Salikoko S. Mufwene, Carol A. Walker & Sanford B. Steever (eds.), *Papers from the twelfth regional meeting of the*

Chicago Linguistic Society, 468–475. Chicago: Chicago Linguistic Society.
Longacre, Robert E. 1983. *The Grammar of Discourse*. New York: Plenum Press.
Love, Robbie, Claire Dembry, Andrew Hardie, Vaclav Brezina & Tony McEnery. 2017. The Spoken BNC2014: designing and building a spoken corpus of everyday conversations. *International Journal of Corpus Linguistics* 22(3). 319–344.
Lowe, Michelle & Ben Graham. 1998. *English language for beginners*. New York: Writers and Readers.
Lüdeling, Anke, Stefan Evert & Ulrich Heid. 2000. On Measuring Morphological Productivity. In Werner Zühlke & Ernst Günter Schukat-Talamazzini (eds.), *KONVENS-2000 Sprachkommunikation*, 57–61. Technische Universität Ilmenau, 9.-12. October 2000: VDE-Verlag.
Łukasiewicz, Jan. 1930. Philosophische Bemerkungen zu mehrwertigen Systemen des Aussagenkalküls. *Comptes rendus des séances de la Société des Sciences et des Lettres de Varsovie. Classe III* 23. 51–77.
Lutzky, Ursula. 2006. Discourse markers? *Well*, ... Delimiting the basic features of discourse markers. *Viewz* 15(1). 3–24.
Lutzky, Ursula. 2012. *Discourse markers in Early Modern English*. Amsterdam, Philadelphia: John Benjamins.
Lyons, John. 1963. *Structural Semantics*. Oxford: Blackwell.
Lyons, John. 1968. *Introduction to Theoretical Linguistics*. Cambridge: Cambridge University Press.
Lyons, John. 1977. *Semantics*. Vol. 2. Cambridge: Cambridge University Press.
Lyons, John. 1982. Deixis and subjectivity: *Loquor, ergo sum*? In Robert J. Jarvella & Wolfgang Klein (eds.), *Speech, Place, and Action: Studies in Deixis and Related Topics*, 101–124. New York: Wiley.
Malkiel, Yakov. 1977. Why ap-*ish* but worm-*y*? In Paul Hopper (ed.), *Studies in descriptive and historical linguistics. Festschrift for Winfred P. Lehmann*, 341–364. Amsterdam: John Benjamins.
Marchand, Hans. 1969. *The Categories and Types of Present-Day English Word-Formation. A Synchronic-Diachronic Approach*. 2nd edition. München: Beck.
Marcus, Gary F., Ursula Brinkmann, Harald Clahsen, Richard Wiese & Steven Pinker. 1995. German inflection: the exception that proves the rule. *Cognitive Psychology* 29. 189–256.
Margerie, Hélène. 2010. On the rise of (inter)subjective meaning in the grammaticalization of *kind of/kinda*. In Kristin Davidse, Lieven Vandelanotte & Hubert Cuyckens (eds.), *Subjectification, Intersubjectification and Grammaticalization*, 315–346. Berlin: De Gruyter.
Markkanen, Raija & Hartmut Schröder. 1989. Hedging as a Translation Problem in Scientific Texts. In Christer Laurén & Marianne Nordman (eds.), *Special Language. From Human Thinking to Thinking Machines*, 171–175. Clevedon: Multilingual Matters.
Markkanen, Raija & Hartmut Schröder (eds.). 1997. *Hedging and Discourse. Approaches to the Analysis of a Pragmatic Phenomenon in Academic Texts*. Berlin ; New York: De Gruyter.
Martin, Friedrich. 1906. *Die produktiven Abstraktsuffixe des Mittelenglischen*. Straßburg. Ph.D. dissertation.
Mauranen, Anna. 2004. "They're a little bit different". Observations on hedges in academic talk. In Karin Aijmer & Anna-Brita Stenström (eds.), *Discourse Patterns in Spoken and Written Corpora*, 173–198. Amsterdam: John Benjamins.
Maurer, Friedrich & Friedrich Stroh (eds.). 1959. *Deutsche Wortgeschichte*. 2nd edn. Vol. 2. Berlin: De Gruyter.
Maxwell, James Clerk. 1857. XVIII.— *Experiments on Colour, as perceived by the Eye, with Remarks on Colour-Blindness*. *Transactions of the Royal Society of Edinburgh* 21(2). 275–

298.
Mayerthaler, Willi. 1981. *Morphologische Natürlichkeit*. Wiesbaden: Akademische Verlagsgesellschaft Athenaion.
McClelland, James L. & David E. Rumelhart. 1981. An Interactive Activation Model of Context Effects in Letter Perception: Part 1. An Account of Basic Findings. *Psychological Review* 88(5). 375–407.
McDonald, Richard. 2000. John Capgrave. (Ed.) Robert T. Lambdin & Laura C. Lambdin. *Encyclopedia of Medieval Literature*. New York; London: Routledge.
McEnery, Tony & Andrew Hardie. 2012. *Corpus linguistics: method, theory and practice*. Cambridge ; New York: Cambridge University Press.
McEnery, Tony & Andrew Wilson. 1996. *Corpus Linguistics. An Introduction*. 2nd edition. Edinburgh: Edinburgh University Press.
McEnery, Tony, Richard Xiao & Yukio Tono. 2006. *Corpus-Based Language Studies. An advanced resource book*. London; New York: Routledge.
McNally, Louise. 2011. The relative role of property type and scale structure in explaining the behavior of gradable adjectives. In Rick Nouwen, Robert van Rooij, Uli Sauerland & Hans-Christian Schmitz (eds.), *Vagueness in Communication*, 151–168. Berlin: Springer.
McSparran, Frances, Paul Schaffner, John Latta, Alan Pagliere, Christina Powell & Matt Stoeffler. 2001. *Middle English Dictionary*. University of Michigan. Available at http://quod.lib.umich.edu/m/med/.
Meillet, Antoine. 1948[1912]. L'évolution des formes grammaticales. In Antoine Meillet (ed.), *Linguistique historique et linguistique générale*, 130–148. Paris: Champion.
Mengden, Ferdinand von. 2016. Functional changes and (meta-)linguistic evolution. In Muriel Norde & Freek Van de Velde (eds.), *Exaptation and Language Change*, 121–162. Amsterdam ; Philadelphia: John Benjamins.
Meyer, Paul G. 1997. Hedging Strategies in Written Academic Discourse: Strengthening the Argument by Weakening the Claim. In Raija Markkanen & Hartmut Schröder (eds.), *Hedging and Discourse. Approaches to the Analysis of a Pragmatic Phenomenon in Academic Texts*, 21–41. Berlin ; New York: De Gruyter.
Minkova, Donka. 2011. Phonemically contrastive fricatives in Old English? *English Language and Linguistics* 15(1). 31–59.
Minkova, Donka & Robert Stockwell. 2009. *English Words: History and Structure*. Cambridge: Cambridge University Press.
Mittwoch, Anita, Rodney Huddleston & Peter Collins. 2002. The clause: adjuncts. *The Cambridge Grammar of the English Language*, 663–784. Cambridge: Cambridge University Press.
Montague, Richard. 1970. Universal grammar. *Theoria* 36(3). 373–398.
Moravcsik, Julius M. E. 1975. Aitia as generative factor in Aristotle's philosophy. *Dialogue: Canadian Philosophical Review* 14(4). 622–636.
Moreno Cabrera, Juan Carlos. 1998. On the relationships between grammaticalization and lexicalization. In Anna Giacalone Ramat & Paul Hopper (eds.), *The Limits of Grammaticalization*, 211–227. Amsterdam: John Benjamins.
Morris, Lori. 2009. A toughish problem: The meaning of *-ish*. *LACUS (Linguistic Association of Canada and the United States) Forum* 24. 207–215.
Morzycki, Marcin. 2011. Metalinguistic comparison in an alternative semantics for imprecision. *Natural Language Semantics* 19(1). 39–86.
Mosegaard Hansen, Maj-Britt. 1998. The semantic status of discourse markers. *Lingua* 104. 235–260.
Motsch, Wolfgang. 2004. *Deutsche Wortbildung in Grundzügen*. Berlin: De Gruyter.
Motsch, Wolfgang. 2015. Word-formation in structuralism. In Peter O. Müller, Ingeborg

Ohnheiser, Susan Olsen & Franz Rainer (eds.), *Word-Formation*, vol. 1, 52–66. Berlin, München, Boston: De Gruyter.
Mroczynski, Robert. 2012. *Grammatikalisierung und Pragmatikalisierung. Zur Herausbildung der Diskursmarker wobei, weil und ja im gesprochenen Deutsch*. Tübingen: Narr.
Mroczynski, Robert. 2013. Zur Herausbildung des Diskursmarker *ja*. Grammatikalisierung oder Pragmatikalisierung? *Zeitschrift für Germanistische Linguistik* 41(1). 127–152.
Mühleisen, Susanne. 2010. *Heterogeneity in Word-Formation Patterns: A corpus-based analysis of suffixation with -ee and its productivity in English*. Amsterdam: John Benjamins.
Müller, Simone. 2005. *Discourse markers in native and non-native English discourse*. Amsterdam: John Benjamins.
Naumann, Bernd. 1972. *Wortbildung in der deutschen Gegenwartssprache*. Tübingen: Niemeyer.
Nevalainen, Terttu & Ingrid Tieken-Boon van Ostade. 2006. Standardisation. In Richard Hogg & David Denison (eds.), *A history of the English language*, 271–311. Cambridge, UK ; New York: Cambridge University Press.
Newmeyer, Frederick J. 1998. *Language Form and Language Function*. Cambridge, Mass.: MIT Press.
Norde, Muriel. 1997. *The History of the Genitive in Swedish. A Case Study in Degrammaticalization*. Amsterdam: Universiteit van Amsterdam.
Norde, Muriel. 2001. Deflexion as a counterdirectional factor in grammatical change. *Language Sciences* 23. 231–264.
Norde, Muriel. 2002. The final stages of grammaticalization: Affixhood and beyond. In Ilse Wischer & Gabriele Diewald (eds.), *New Reflections on Grammaticalization*, 45–65. Amsterdam: John Benjamins.
Norde, Muriel (ed.). 2009. *Degrammaticalization*. Oxford: Oxford University Press.
Norde, Muriel. 2010. Degrammaticalization: Three common controversies. In Ekaterini Stathi, Elke Gehweiler & Ekkehard König (eds.), *Grammaticalization: Current views and issues*, 123–150. Amsterdam: John Benjamins.
Norde, Muriel & Karin Beijering. 2014. Facing interfaces. A clustering approach to grammaticalization and related changes. *Folia Linguistica* 48(2). 385–424.
Ocampo, Francisco. 2006. Movement Towards Discourse is Not Grammaticalization: The Evolution of *claro* from Adjective to Discourse Particle in Spoken Spanish. In Nuria Sagarra & Almeida Jacqueline Toribio (eds.), *Selected Proceedings of the 9th Hispanic Linguistics Symposium*, 308–319. Somverville, MA: Cascadilla Proceedings Project.
Oltra-Massuet, Isabel. 2016. Propositional *ish* as a syntactic Speech Act Phrase. In Aitor Ibarrola-Armendariz & Jon Ortiz de Urbina Arruabarrena (eds.), *On the Move: Glancing Backwards To Build a Future in English Studies*, 307–313. Bilbao: Universidad de Deusto.
Oltra-Massuet, Isabel. 2017. Towards a morphosyntactic analysis of *-ish*. *Word Structure* 10(1). 54–78.
Onodera, Noriko Okada. 2000. Development of *demo* Type Connectives and na Elements: Two Extremes of Japanese Discourse Markers. *Journal of Historical Pragmatics* 1(1). 27–55.
Osborne, Timothy, Michael Putnam & Thomas Groß. 2012. Catenae: Introducing a Novel Unit of Syntactic Analysis. *Syntax* 15(4). 354–396.
Osswald, Rainer & Robert D. Van Valin. 2014. FrameNet, frame structure, and the syntax/semantics interface. In Thomas Gamerschlag, Doris Gerland, Rainer Osswald & Wiebke Petersen (eds.), *Frames and Concept Types: Applications in Language and Philosophy*, 125–156. Cham: Springer.
Östman, Jan-Ola. 1982. The Symbiotic Relationship between Pragmatic Particles and Impromptu Speech. In Nils Erik Enkvist (ed.), *Impromptu Speech: A Symposium. Papers Contributed to a Symposium on Problems in the Linguistic Study of Impromptu Speech*, 147–177. Abo,

Finland.
Pafel, Jürgen & Ingo Reich. 2016. *Einführung in die Semantik: Grundlagen - Analysen - Theorien*. Stuttgart: J.B. Metzler Verlag.
Paul, Hermann. 1975[1880]. *Prinzipien der Sprachgeschichte*. 9th edition. Tübingen: Niemeyer.
Payne, John & Rodney Huddleston. 2002. Nouns and noun phrases. In Rodney Huddleston & Geoffrey K. Pullum (eds.), *The Cambridge Grammar of the English Language*, 323–523. Cambridge: Cambridge University Press.
Peeters, Bert. 2000. Setting the scene: Some recent milestones in the lexicon-encyclopedia debate. In Bert Peeters (ed.), *The lexicon-encyclopedia interface*, 1–52. Oxford: Elsevier Science Publishers.
Peirce, Charles S. 1902. Vague. (Ed.) James M. Baldwin. *Dictionary of Philosophy and Psychology*. New York: MacMillan.
Peoples, James & Garrick Bailey. 2010. *Humanity: An Introduction to Cultural Anthropology*. 9th edition. Belmont, CA: Wadsworth Cengage Learning.
Pierce, Marc. 2014. The further degrammaticalization of *-ish*. *American Speech* 89(1). 115–118.
Pierce, Marc. 2015. More on *Ish*. *American Speech* 90(3). 394–398.
Pinkal, Manfred. 1985a. *Logik und Lexikon*. Berlin ; New York: De Gruyter.
Pinkal, Manfred. 1985b. Kontextabhängigkeit, Vagheit, Mehrdeutigkeit. In Christoph Schwarze & Dieter Wunderlich (eds.), *Handbuch der Lexikologie*, 27–63. Königstein/Ts.: Athenäum.
Pinkal, Manfred. 1991. Vagheit und Ambiguität. In Arnim von Stechow & Dieter Wunderlich (eds.), *Handbuch der Semantik*, 250–269. Berlin ; New York: De Gruyter.
Pinkal, Manfred. 1996. Vagueness, Ambiguity, and Underspecification. In Teresa Galloway & Justin Spence (eds.), *Proceedings from the Conference on Semantics and Linguistic Theory (SALT)*, 185–201. Ithaca, NY: Cornell University.
Pinker, Steven & Ray Jackendoff. 2005. The faculty of language: what's special about it? In: *Cognition* 95. 201-236.
Plag, Ingo. 1999. *Morphological Productivity: Structural Constraints in English Derivation*. Berlin: De Gruyter.
Plag, Ingo. 2003. *Word-Formation in English*. Cambridge: Cambridge University Press.
Plag, Ingo. 2006. Productivity. In Bas Aarts & April McMahon (eds.), *The Handbook of English Linguistics*, 537–556. Oxford: Blackwell Publishing.
Plag, Ingo, Christiane Dalton-Puffer & Harald Baayen. 1999. Morphological productivity across speech and writing. *English Language and Linguistics* 3(2). 209–228.
Pomerantz, Anita. 1984. Agreeing and disagreeing with assessments: some features of preferred/dispreferred turn shapes. In J. Maxwell Atkinson & John Heritage (eds.), *Structures of Social Action. Studies in Conversation Analysis*, 57–101. Cambridge: Cambridge University Press.
Pottier, Bernard. 1963. *Recherches sur l'analyse sémantique en linguistique et en traduction mécanique*. Nancy: Université de Nancy.
Potts, Christopher. 2005. *The Logic of Conventional Implicatures*. Oxford: Oxford University Press.
Potts, Christopher. 2007. Into the conventional-implicature dimension. *Philosophy Compass* 4(2). 665–679.
Potts, Christopher. 2008. Interpretive Economy, Schelling Points, and evolutionary stability. Draft. UMass Amherst, ms.
Potts, Christopher. 2012. Conventional implicature and expressive content. In Claudia Maienborn, Klaus von Heusinger & Paul Portner (eds.), *Semantics: An International Handbook of Natural Language Meaning, Volume 3*, 2516–2536. Berlin: De Gruyter.
Potts, Christopher. 2015. Presupposition and implicature. In Shalom Lappin & Chris Fox (eds.),

The Handbook of Contemporary Semantic Theory, 2nd ed., 168–202. Oxford: Wiley-Blackwell.

Prévost, Sophie. 2011. A propos from Verbal Complement to Discourse Marker: A Case of Grammaticalization? *Linguistics* 49(2). 391–413.

Prince, Ellen F., Joel Frader & Charles Bosk. 1982. On Hedging in Physician-Physician Discourse. In Robert J. Di Pietro (ed.), *Linguistics and the Professions*, 83–97. Norwood, NJ: Ablex Press.

Proffitt, Michael (ed.). 2015. *Oxford English Dictionary*. 3rd edition. Oxford: Oxford University Press. Available at http://www.oed.com.

Pustejovsky, James. 1991. The Generative Lexicon. *Computational Linguistics* 17(4). 409–441.

Pustejovsky, James. 1995. *The Generative Lexicon*. Cambridge (Mass.), London: MIT Press.

Pustejovsky, James. 2016. Lexical semantics. In Maria Aloni & Paul Jacques Edgar Dekker (eds.), *The Cambridge handbook of formal semantics*. Cambridge: Cambridge University Press.

Pustejovsky, James & Peter Anick. 1988. On The Semantic Interpretation of Nominals. *Proceedings of COLING-1988*, 518–523. Budapest.

Pustejovsky, James & Olga Batiukova. 2019. *The Lexicon*. Cambridge: Cambridge University Press.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1985. *A Comprehensive Grammar of the English Language*. London; New York: Longman.

Raffelsiefen, Renate. 1999. Phonological constraints on English word formation. In Geert Booij & Jaap van Marle (eds.), *Yearbook of Morphology 1998*, 225–287. Dordrecht: Kluwer.

Rainer, Franz. 1987. Produktivitätsbegriffe in der Wortbildungstheorie. In Wolf Dietrich, Hans-Martin Gauger & Horst Geckeler (eds.), *Grammatik und Wortbildung romanischer Sprachen: Beiträge zum Deutschen Romanistentag in Siegen, 30.9.-3.10.1985*, 187–202. Tübingen: Narr.

Rainer, Franz. 1988. Towards a theory of blocking: the case of Italian and German quality nouns. *Yearbook of morphology* 1. 155–185.

Rainer, Franz. 2000. Produktivitätsbeschränkungen. In Geert Booij, Christian Lehmann & Joachim Mugdan (eds.), *Morphologie: Ein internationales Handbuch zur Flexion und Wortbildung*, vol. 1, 877–885. Berlin ; New York: De Gruyter.

Rainer, Franz. 2005. Constraints on Productivity. In Pavol Štekauer & Rochelle Lieber (eds.), *Handbook of Word-Formation*, 335–352. Dordrecht: Springer.

Ramat, Paolo. 1992. Thoughts on degrammaticalization. *Linguistics* 30(3). 549–560.

Randall, Beth. 2010. *CorpusSearch* [Computer Software] Version 2.003.00. Philadelphia: University of Pennsylvania. http://corpussearch.sourceforge.net.

Redeker, Gisela. 1991. Linguistic markers of discourse structure. *Linguistics* 29. 1139–1172.

Redeker, Gisela. 2006. Discourse markers as attentional cues at discourse transitions. In Kerstin Fischer (ed.), *Approaches to Discourse Particles*, 339–358. Amsterdam: Elsevier.

Riddle, Elizabeth M. 1985. A historical perspective on the productivity of the suffixes -*ness* and -*ity*. In Jacek Fisiak (ed.), *Historical Semantics - Historical Word-Formation*, 435–461. Berlin: De Gruyter.

Rooij, Robert van. 2011. Vagueness and Linguistics. In Giuseppina Ronzitti (ed.), *Vagueness: A Guide*, 123–170. Dordrecht: Springer Netherlands.

Rosch, Eleanor. 1973. On the Internal Structure of Perceptual and Semantic Categories. In Timothy E. Moore (ed.), *Cognitive Development and the Acquisition of Language*, 111–144. New York: Academic Press.

Rosch, Eleanor. 1975. Cognitive Reference Points. *Cognitive Psychology* 7. 532–547.

Rotstein, Carmen & Yoad Winter. 2004. Total Adjectives vs. Partial Adjectives: Scale Structure

and Higher-Order Modifiers. *Natural Language Semantics* 12(3). 259–288.
Roy, Isabelle & Elena Soare. 2011. Nominalizations: New insights and theoretical implications. *Recherches linguistiques de Vincennes* (40). 7–23.
Ryder, Mary Ellen. 1999. Bankers and Blue-chippers: An account of *-er* formations in present-day English. *English Language and Linguistics* 3(2). 269–297.
Sacks, Harvey, Emanuel A. Schegloff & Gail Jefferson. 1974. A Simplest Systematics for the Organization of Turn-Taking for Conversation. *Language* 50(4). 696–735.
Sadock, Jerrold. 1981. "Almost." In Peter Cole (ed.), *Radical pragmatics*, 257–271. New York: Academic Press.
Sainsbury, R. Mark. 1996[1990]. Concepts without boundaries. In Rosanna Keefe & Peter Smith (eds.), *Vagueness: A Reader*, 251–264. Cambridge (Mass.), London: MIT Press.
Salager-Meyer, Françoise. 1994. Hedges and textual communicative function in medical English written discourse. *English for Specific Purposes* 13(2). 149–171.
Sandt, Rob van der. 2010. Pragmatic Strategies. In Rainer Bäuerle, Uwe Reyle & Thomas Ede Zimmermann (eds.), *Presuppositions and Discourse: Essays offered to Hans Kamp*, 29–64. Bingley: Emerald Group Publishing.
Sassoon, Galit. 2012. A slightly modified economy principle: Stable properties have non-stable standards. *Proceedings of the Israel Association of Theoretical Linguistics (IATL)* 27. 163–182.
Sauerland, Uli. 2011. Vagueness in Language: The Case Against Fuzzy Logic Revisited. In Petr Cintula, Christian Fermüller, Lluis Godo & Petr Hájek (eds.), *Understanding Vagueness - Logical, Philosophical and Linguistic Perspectives*, 185–198. London: College Publications.
Sbisà, Marina. 2001. Illocutionary force and degrees of strength in language use. *Journal of Pragmatics* 33. 1791–1814.
Scalise, Sergio. 1992. The morphology of compounding. *Rivista di Linguistica* 4(1). 175–200.
Schank, Roger C. & Robert P. Abelson. 1977. *Scripts, Plans, Goals and Understanding: An Inquiry into Human Knowledge Structures*. Hillsdale, N.J: Erlbaum.
Schegloff, Emanuel A. 1982. Discourse as an interactional achievement: Some uses of "uh huh" and other things that come between sentences. In Deborah Tannen (ed.), *Analyzing Discourse: Text and Talk*, 71–93. Washington, D.C: Georgetown University Press.
Schegloff, Emanuel A., Gail Jefferson & Harvey Sacks. 1977. The Preference for Self-Correction in the Organizatoin of Repair in Conversation. *Language* 53(2). 361–382.
Schegloff, Emanuel A. & Harvey Sacks. 1973. Opening up Closings. *Semiotica* 8(4). 289–327.
Schendl, Herbert. 2002. Mixed-Language Texts as Data and Evidence in English Historical Linguistics. In Donka Minkova & Robert Stockwell (eds.), *Studies in the History of the English Language. A Millennial Perspective*, 51–78. Berlin, New York: Mouton De Gruyter.
Schiffrin, Deborah. 1987. *Discourse markers*. Cambridge: Cambridge University Press.
Schiffrin, Deborah, Deborah Tannen & Heidi E. Hamilton. 2001. Introduction. In Deborah Schiffrin, Deborah Tannen & Heidi E. Hamilton (eds.), *The Handbook of Discourse Analysis*, 1–10. Malden, Mass: Blackwell.
Schiller, Anne, Simone Teufel, Christine Stöckert & Christine Thielen. 1999. *Guidelines für das Tagging deutscher Textcorpora mit STTS. (Kleines und großes Tagset)*. Universität Stuttgart: Institut für maschinelle Sprachverarbeitung; Universität Tübingen: Seminar für Sprachwissenschaft. Available online at http://www.sfs.uni-tuebingen.de/resources/stts-1999.pdf.
Schlaefer, Michael. 1977. *Die Adjektive auf -isch in der deutschen Gegenwartssprache*. Heidelberg: Carl Winter.
Schmidt, Günter Dietrich. 1987. Das Affixoid. Zur Notwendigkeit und Brauchbarkeit eines

beliebten Zwischenbegriffs in der Wortbildung. In Gabriele Hoppe, Alan Kirkness, Elisabeth Link, Isolde Nortmeyer, Wolfgang Rettig & Günter Dietrich Schmidt (eds.), *Beiträge zur Erforschung der Wortbildung mit entlehnten WB-Einheiten im Deutschen*, 53–101. Tübingen: Narr.

Schneider, Edgar W. 2003. The Dynamics of New Englishes: From Identity Construction to Dialect Birth. *Language* 79(2). 233–281.

Schneider, Edgar W. 2007. *Postcolonial English: Varieties Around the World*. Cambridge: Cambridge University Press.

Schofield, Phil. 1995. *Quantifying language: a researcher's and teacher's guide to gathering language data and reducing it to figures*. Clevedon: Multilingual Matters.

Schourup, Lawrence. 1982. *Common Discourse Particles in English Conversation*. Ohio: Ohio State University.

Schourup, Lawrence. 1999. Discourse markers. *Lingua* 107(3). 227–265.

Schultink, Hans. 1961. Produktiviteit als morfologisch fenomeen. *Forum der Letteren* 2. 110–125.

Searle, John R. 1969. *Speech Acts*. Cambridge: Cambridge University Press.

Selting, Margret, Peter Auer, Dagmar Barth-Weingarten, Jörg Bergmann, Pia Bergmann, Karin Birkner, Elizabeth Couper-Kuhlen, et al. 2009. Gesprächsanalytisches Transkriptionssystem 2 (GAT 2). *Gesprächsforschung - Online-Zeitschrift zur verbalen Interaktion* (10). 353–402.

Shieber, Stuart M. 1986. *An Introduction to Unification-Based Approaches to Grammar*. Stanford, CA: CSLI Publications.

Shoham, Yoav & Kevin Leyton-Brown. 2008. *Multiagent Systems: Algorithmic, Game-Theoretic, and Logical Foundations*. Cambridge: Cambridge University Press.

Siepmann, Dirk. 2005. *Discourse markers across languages. A contrastive study of second-level discourse markers in native and non-native text with implications for general and pedagogic lexicography*. Abingdon & New York: Routledge.

Simon-Vandenbergen, Anne-Marie & Dominique Willems. 2011. Crosslinguistic data as evidence in the grammaticalization debate: The case of discourse markers. *Linguistics* 49(2). 333–364.

Skeat, Walter W. 1967[1882]. *An Etymological Dictionary of the English Language*. Oxford: Clarendon Press.

Solt, Stephanie. 2015. Measurement Scales in Natural Language. *Language and Linguistics Compass* 9(1). 14-32.

Stein, Gabriele. 1981. Zur Typologie der Suffixentstehung. In Leonhard Lipka & Hartmut Günther (eds.), *Wortbildung*, 324–356. Darmstadt: Wissenschaftliche Buchgesellschaft.

Stokes, Michael, Matthew Anderson, Srinivasan Chandrasekar & Ricardo Motta. 1996. A Standard Default Color Space for the Internet - sRGB. *Version 1.10*.

Sugawara, Ayaka. 2012. Semantics of English suffix *-ish*. Paper presented at CLS 48.

Sweetser, Eve. 1988. Grammaticalization and semantic bleaching. In: *Berkeley Linguistics Society*, Proceedings of the Fourteenth Annual Meeting. 389-405.

Sylvan, Urbanus. 1904. Provincial Letters. A Holiday in Wensleydale. *The Cornhill Magazine* XVII. 830–839.

Syrett, Kristen, Evan D. Bradley, Christopher Kennedy & Jeffrey Lidz. 2006. Shifting standards: Children's understanding of gradable adjectives. In Kamil Ud Deen, Jun Nomura, Barbara Schulz & Bonnie D. Schwartz (eds.), *Proceedings of the Inaugural Conference on Generative Approaches to Language Acquisition – North America, Honolulu, HI*, Vol. 2, 353-364. Cambridge, Mass: Uconn Occasional Papers in Linguistics 4.

Szymanek, Bogdan. 1988. *Categories and Categorization in Morphology*. Lublin: Catholic University Press.

Szymanek, Bogdan. 2005. The latest trends in English word-formation. In Pavol Štekauer & Rochelle Lieber (eds.), *Handbook of Word-Formation. Studies in Natural Language and Linguistic Theory*, 429–448. Dordrecht: Springer.

Tabor, Whitney & Elizabeth Closs Traugott. 1998. Structural scope expansion and grammaticalization. In Anna Giacalone Ramat & Paul J. Hopper (eds.), *The Limits of Grammaticalization*, 227–270. Amsterdam: John Benjamins.

Taylor, Ann. 2003. *CorpusSearch Lite: A beginner's guide to searching with CorpusSearch (Version 1.1)*. York: University of York. Retrieved from: https://www.ling.upenn.edu/mideng/csdocs/CSLite.htm.

Taylor, Ann, Anthony Warner, Susan Pintzuk & Frank Beths. 2003. *The York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE)*. York: University of York. Retrieved from http://www.-users.york.ac.uk/~lang22/YCOE/YcoeHome.htm.

Taylor, John R. 2003. *Linguistic categorization: prototypes in linguistic theory*. 3rd edition. Oxford: Clarendon Press.

Thaler, Verena. 2012. Mitigation as modification of illocutionary force. *Journal of Pragmatics* 44. 907–919.

Thatcher, Oliver J. 1901. *The Library of Original Sources. Vol. IV: Early Mediaeval Age*. Milwaukee: University Research Extension.

The British National Corpus, version 3 (BNC XML Edition). 2007. Distributed by Bodleian Libraries, on behalf of the BNC Consortium: University of Oxford. Retrieved from http://www.natcorp.ox.ac.uk/.

Toledo, Assaf & Galit W. Sassoon. 2011. Absolute vs. Relative Adjectives - Variance Within vs. Between Individuals. *Proceedings of Semantics and Linguistic Theory (SALT)*, vol. 21, 135–154. New Jersey: Rutgers University.

Trask, Robert Lawrence. 1993. *A Dictionary of Grammatical Terms in Linguistics*. London: Routledge.

Traugott, Elizabeth Closs. 1982. From propositional to textual and expressive meanings. Some semantic-pragmatic aspects of grammaticalization. In Winfred P. Lehmann & Yakov Malkiel (eds.), *Perspectives on Historical Linguistics*, 245–271. Amsterdam: John Benjamins.

Traugott, Elizabeth Closs. 1989. On the rise of epistemic meanings in English: An example of subjectification in semantic change. *Language* 65. 31–55.

Traugott, Elizabeth Closs. 1995. The role of discourse markers in a theory of grammaticalization. Paper presented at the 12th International Conference on Historical Linguistics, Manchester, UK.

Traugott, Elizabeth Closs. 2001. Legitimate counterexamples to unidirectionality. Paper presented at Freiburg University. Freiburg, ms.

Traugott, Elizabeth Closs. 2002. From etymology to historical pragmatics. In Donka Minkova & Robert Stockwell (eds.), *Studies in the History of the English Language*, 19–49. Berlin ; New York: De Gruyter.

Traugott, Elizabeth Closs. 2003. From subjectification to intersubjectification. In Raymond Hickey (ed.), *Motives for Language Change*, 124–139. Cambridge: Cambridge University Press.

Traugott, Elizabeth Closs. 2007. Discussion article: Discourse markers, modal particles, and contrastive analysis, synchronic and diachronic. *Catalan Journal of Linguistics* 6. 139–157.

Traugott, Elizabeth Closs. 2010a. Grammaticalization. In Silvia Luraghi & Vit Bubenik (eds.), *Continuum Companion to Historical Linguistics*, 269–283. London: Continuum.

Traugott, Elizabeth Closs. 2010b. (Inter)subjectivity and (inter)subjectification: A reassessment. In Kristin Davidse, Lieven Vandelanotte & Hubert Cuyckens (eds.), *Subjectification, Intersubjectification and Grammaticalization*, 29–70. Berlin: De Gruyter.

Traugott, Elizabeth Closs. 2012. Intersubjectification and clause periphery. (Ed.) Lieselotte Brems, Lobke Ghesquière & Freek Van de Velde. *Intersections of Intersubjectivity* 5. 7–28.

Traugott, Elizabeth Closs & Richard B. Dasher. 2002. *Regularity in Semantic Change*. Cambridge: Cambridge University Press.

Traugott, Elizabeth Closs & Bernd Heine (eds.). 1991a. *Approaches to Grammaticalization: Volume I. Theoretical and methodological issues*. Amsterdam: John Benjamins.

Traugott, Elizabeth Closs & Bernd Heine (eds.). 1991b. *Approaches to Grammaticalization: Volume II. Types of grammatical markers*. Amsterdam: John Benjamins.

Traugott, Elizabeth Closs & Ekkehard König. 1991. The semantics-pragmatics of grammaticalization revisited. In Elizabeth Closs Traugott & Bernd Heine (eds.), *Approaches to Grammaticalization Vol.I*, 189–218. Amsterdam: John Benjamins.

Traugott, Elizabeth Closs & Graeme Trousdale. 2013. *Constructionalization and Constructional Changes*. Oxford: Oxford University Press.

Trier, Jost. 1931. *Der deutsche Wortschatz im Sinnbezirk des Verstandes: Die Geschichte eines sprachlichen Feldes I. Von den Anfängen bis zum Beginn des 13. Jhdts.* Heidelberg: Winter.

Trips, Carola. 2008. New insights into the rivalry of suffixes. *Morphology and Dialectology: on-line proceedings of the Sixth Mediterranean Morphology Meeting (MMM6), Ithaca, 27-30 September 2007*, 132–146. Patras: University of Patras.

Trips, Carola. 2009. *Lexical Semantics and Diachronic Morphology: The Development of -hood, -dom, and -ship in the History of English*. Tübingen: Niemeyer.

Truswell, Robert, Rhona Alcorn, James Donaldson & Joel Wallenberg. 2019. A Parsed Linguistic Atlas of Early Middle English. In Rhona Alcorn, Bettelou Los, Joanna Kopaczyk & Benjamin Molineaux (eds.), *Historical Dialectology in the Digital Age*, 19–37. Edinburgh: Edinburgh University Press.

Ungerer, Friedrich. 1988. *Syntax der englischen Adverbialien*. Tübingen: Niemeyer.

Vismans, Roel. 1991. Dutch Modal Particles in Directive Sentences and Modalized Directives in English. *Multilingua* 10(1–2). 111–122.

Viti, Carlotta. 2015. On degrammaticalization: Controversial points and possible explanations. *Folia Linguistica* 49(2). 381–419.

Wachtel, Tom. 1980. Pragmatic Approximations. *Journal of Pragmatics* 4. 201–211.

Waite, Gregory. 2000. *Old English Prose Translations of King Alfred's Reign: An Annotated Bibliography*. Cambridge: D.S. Brewer.

Watkins, Calvert (ed.). 2000. *The American Heritage Dictionary of Indo-European Roots*. 2nd edition. Boston: Houghton Mifflin Company.

Webster, Noah. 1989. *Webster's Encyclopedic Unabridged Dictionary of the English language*. New York: Portland House: Crown Publishers.

Weinreich, Uriel. 1964. Webster's Third: A Critique of its Semantics. *International Journal of American Linguistics* 30. 405–409.

Weinreich, Uriel. 1966. On the semantic structure of English. In Joseph H. Greenberg (ed.), *Universals of Language*, 142–217. Cambridge, Mass.: MIT Press.

Wellmann, Hans. 1975. Fremdwörter des Lexikons oder systemgebundene Ableitungen? Über die Integration der Adjektive auf *-esk* (und *-oid*). In Ulrich Engel & Paul Grebe (eds.), *Sprachsystem und Sprachgebrauch. Festschrift für Hugo Moser zum 65. Geburtstag. Teil 2*, 409–431. Düsseldorf: Schwann.

Wellmann, Hans. 1998. Die Wortbildung. *Dudenband*, vol. 4, 408–557. Mannheim: Bibliographisches Institut.

Wierzbicka, Anna. 1972. *Semantic primitives*. Frankfurt/Main: Athenäum.

Wierzbicka, Anna. 1986. Precision in vagueness. *Journal of Pragmatics* 10. 596–614.

Wierzbicka, Anna. 1996. *Semantics. Primes and Universals*. Oxford: Oxford University Press.

Wiese, Heike. 2011. *So* as an Emerging Focus Marker in German. *Linguistics* 49(5). 991–1039.
Williams, Edwin. 1981a. Argument structure and morphology. *Linguistic Review* 1. 81–114.
Williams, Edwin. 1981b. On the Notions "Lexically Related" and "Head of a Word." *Linguistic Inquiry* 12(2). 245–274.
Wilson, Deirdre. 2011. The conceptual-procedural distinction: Past, present and future. In Victoria Escandell-Vidal, Manuel Leonetti & Aoife Ahern (eds.), *Procedural Meaning: Problems and Perspectives*, 3–31. Bingley: Emerald.
Wilson, Deirdre. 2016. Reassessing the conceptual–procedural distinction. *Lingua* 175–176. 5–19.
Wischer, Ilse. 2000. Grammaticalization Versus Lexicalization: *Methinks* There is Some Confusion. In Olga Fischer, Anette Rosenbach & Dieter Stein (eds.), *Pathways of Change: Grammaticalization in English*, 355–370. Amsterdam: John Benjamins.
Wischer, Ilse. 2010. Sekretion und Exaptation als Mechanismen in der Wortbildung und Grammatik. In Rüdiger Harnisch (ed.), *Prozesse sprachlicher Verstärkung: Typen formaler Resegmentierung und semantischer Remotivierung*, 29–40. Berlin ; New York: De Gruyter.
Wischer, Ilse & Gabriele Diewald (eds.). 2002. *New Reflections on Grammaticalization*. Amsterdam: John Benjamins.
Wittgenstein, Ludwig. 1953. *Philosophical Investigations*. Translated by Gertrude E. M. Anscombe. New York: MacMillan.
Wright, Crispin. 1975. On the coherence of vague predicates. *Synthese* 30(3/4). 325–365.
Wright, Laura. 2011. On variation in medieval mixed-language business writing. In Herbert Schendl & Laura Wright (eds.), *Code-Switching in Early English*, 191–218. Berlin; Boston: De Gruyter.
Wright, Laura. 2012. On variation and change in London medieval mixed-language business documents. In Merja Stenroos, Martti Mäkinen & Inge Særheim (eds.), *Language Contact and Development around the North Sea*, 99–115. Amsterdam , Philadelphia: John Benjamins.
Wunderlich, Dieter. 1997. CAUSE and the structure of verbs. *Linguistic Inquiry* 28. 27–68.
Yonge, Charlotte M. 2001[1865]. *The clever woman of the family*. (Ed.) Clare A. Simmons. Peterborough, Ont. ; Orchard Park, NY: Broadview Press.
Yoon, Youngeun. 1996. Total and partial predicates and the weak and strong interpretations. *Natural Language Semantics* 4(3). 217–236.
Zadeh, Lotfi A. 1965. Fuzzy Sets. *Information and Control* 8. 338–353.
Zadeh, Lotfi A. 1972. A Fuzzy-Set-Theoretic Interpretation of Linguistic Hedges. *Journal of Cybernetics* 2(3). 4–34.
Zadeh, Lotfi A. 2013. What is fuzzy logic? *IFSA Newsletter*.
Zandvoort, Reinard Willem. 1972[1957]. *A Handbook of English Grammar*. 6th edition. London: Longman.
Zhang, Qiao. 1998. Fuzziness - vagueness - generality - ambiguity. *Journal of Pragmatics* 29(1). 13–31.
Zimmerman, Odo John (trans.). 1959. *The Fathers of the Church. Saint Gregory the Great Dialogues. A New Translation*. Vol. 39. Washington, D.C: The Catholic University of America Press.
Zwicky, Arnold M. 1985. Clitics and Particles. *Language* 61(2). 283–305.
Zwicky, Arnold M. & Jerrold M. Sadock. 1975. Ambiguity tests and how to fail them. In John P. Kimball (ed.), *Syntax and semantics*, vol. 4, 1–36. New York: Academic Press.

10 Appendix

Explanatory Note

The appendix includes selected data from the corpus analyses of chapters 4, 5, and 7 as well as Lieber's (2004, 2016) full definitions for her major ontological features used in this work. The tables for chapter four represent ethnic and non-ethnic hapaxes for the historical corpora and non-ethnic hapaxes for present-day British English. Chapter five includes selected examples which represent the three developmental stages from the bound to the free morpheme. Lastly, the tables for chapter seven give selected examples of ethnic and non-ethnic hapaxes for the English and German suffixes each and they inform about whether the hapaxes are listed in comprehensive dictionaries.

Given the tremendous overall amount of types and tokens of the corpus analyses of chapters four and seven, and the extended contexts of the examples in chapter five, I decided to present a selection of the findings. The complete data are available upon request.

Hapaxes that might not have been analysed in the respective period and instead represent simplexes are marked with an asterisk *. Likewise, hapaxes in later periods that had been attested in earlier corpora or corresponding dictionaries are marked with an asterisk. The total number of hapaxes that results from removing those marked types is given in round brackets.

A. Part I: Chapter 3

Full definitions for Lieber's major ontological features:

[+/-material]: The presence of this feature defines the conceptual category of SUBSTANCES/THINGS/ESSENCES, the notional correspondent of the syntactic category Noun. The positive value denotes the presence of materiality, characterizing concrete nouns. Correspondingly, the negative value denotes the absence of materiality; it defines abstract nouns. (Lieber 2004: 24)

[+/-Loc]: Lexical items which bear the feature [Loc] for "Location" are those for which position or place in time and space is relevant. For those items which lack the feature [Loc], the notion of position or place is irrelevant. Further, those items which bear the feature [+Loc] will pertain to position or place. [-Loc] items will be those for which the explicit lack of position or place is asserted. (Lieber 2004: 99)

[+/-dynamic]: The presence of this feature signals an eventive or situational meaning, and by itself signals the conceptual category of SITUATIONS. The positive value corresponds to an EVENT or Process, the negative value to a STATE. (2004: 24, footnote omitted)

[+/-B]: This feature stands for "Bounded". It signals the relevance of intrinsic spatial or temporal boundaries in a SITUATION or SUBSTANCE/THING/ESSENCE. If the feature [B] is absent, the item may be ontologically bounded or not, but its boundaries are conceptually and/or linguistically irrelevant. If the item bears the feature [+B], it is limited spatially or temporally. If it is [-B], it is without intrinsic limits in time or space. (Lieber 2004: 136)

[+/-CI]: This feature stands for "Composed of Individuals". The feature [CI] signals the relevance of spatial or temporal units implied in the meaning of a lexical item. If an item is [+CI], it is conceived of as being composed of separable similar internal units. If an item is [-CI], then it denotes something which is spatially or temporally homogeneous or internally undfifferentiated. (2004: 136)

[+/-scalar]: This feature signals the relevance of a range of values to a conceptual category. With respect to [-dynamic] SITUATIONS it signals the relevance of gradability. Those SITUATIONS for which a scale is conceptually possible will have the feature [+scalar]. Those SITUATIONS for which a scale is impossible will be [-scalar]. With respect to SUBSTANCE/THING/ESSENCES the feature [scalar] will signal the relevance of size or evaluation (i.e. this will be the feature which characterizes augmentative/diminutive morphology in those languages which display such morphology). (Lieber 2007: 263)

B. Part I: Chapter 4

Table 1. Ethnic and non-ethnic hapaxes in OE (YCOE)

No.	Ethnic adjectives	Non-ethnic adjectives
1	Alexandrisc 'of Alexandria'	æwisc 'disgraced'
2	Amalechitisc 'Amalekite'	cristallisc 'of crystal'
3	Amonitisc 'Ammonite'	domisc 'of the final judgement'
4	Armenisc 'Armenian'	elðeodisc 'foreign, strange'
5	Beadonesc 'of (Mount) Badon'	gæglisc 'lascivious'
6	Constantinopolisc 'of Contantinople'	gimmisc 'jewelled'
7	Corinthisc 'Corinthian'	gullisc 'golden'
8	Cretisc 'Cretan'	*mechanisc 'mechanical'
9	Egisc 'Aegean'	tigrisc 'of a tiger'
10	Ethiopisc 'Ethiopian'	þiderleodisc 'of that people'
11	Galatisc 'Galatian'	
12	Gerasenisc 'Gerasene'	
13	Gotisc 'Gothic'	
14	Icarisc 'Icarian'	
15	Lundonisc 'of London'	
16	Mediolanisc 'Milanese'	
17	Norðhymbrisc 'Northumbrian'	
18	Norðmandisc 'Norman'	
19	Numentisc 'of Numantia'	
20	Nyceanisc 'Nicene'	
21	Pictauisc 'Pictish'	
22	Philisteisc 'Philistine'	
23	Sepontinisc 'Sepontine'	
24	Siracusanisc 'of Syracuse'	
25	Sirofenisc 'Syrophoenician'	
26	Speonisc 'Spanish'	
27	Tiberiadisc 'Tiberian'	
28	Tibertinisc 'Tiburtine'	
29	Yrisc 'Irish'	
Total hapaxes:	**29**	**10 (9)**

* possibly unanalysed in OE

Table 2. Ethnic and non-ethnic hapaxes in ME (PPCME2)

No.	Ethnic adjectives	Non-ethnic adjectives
1		develish 'devilish'
2		folish 'foolish'
3		helendish 'of another land, foreign'
4		hevenish 'heavenish'
5		*rabbish 'unruly, rash, fierce'
6		rotherish 'resembling oxen'
Total hapaxes:	**0**	**6 (5)**

* possibly unanalysed in ME

Table 3. Ethnic and non-ethnic hapaxes in EME (PPCEME)

No.	Ethnic adjectives	Non-ethnic adjectives
1	Cornish	*apish
2	Jacobitish	bookish
3		brackish
4		bruitish
5		carrionish
6		*clayish
7		*darkish
8		doltish
9		duskish
10		dwarfish
11		firish
12		fumish
13		gluish
14		*heathenish
15		loutish
16		lumpish
17		monkish
18		*sheepish
19		sleepish
20		*sluggish
21		staffish
22		waggish
23		waspish
24		whorish
Total hapaxes:		**24 (18)**

* already attested in earlier periods (see Bosworth & Toller; MED)

Table 4. Non-ethnic hapaxes in MBE (PPCMBE)

No.	Non-ethnic adjectives
1	baddish
2	bearish
3	*brackish
4	brummish
5	*brutish
6	*childish
7	copperish
8	*dwarfish
9	faintish
10	fawnish
11	girlish
12	*hellish
13	highish
14	maidenish
15	saltish
16	*sheepish
17	slavish
18	smartish
19	stiffish
20	vagabondish
21	*womanish
22	whiggish
23	wildish
Total hapaxes:	**23 (16)**

* already attested in earlier periods (see Bosworth & Toller; MED)

Table 5. Non-ethnic hapaxes in the written and spoken sections in PDE (BNCweb); Selection

No.	Written non-ethnic adjectives	Listed in the OED	Spoken non-ethnic adjectives	Listed in the OED
1	18.00 ish	No	actorish	Yes
2	1968-ish	No	amateurish	Yes
3	25-ish	No	baggyish	No
4	beaverish	Yes	dampish	Yes
5	blondish	Yes	earlyish	Yes
6	cartoonish	No	eleven o'clockish	No
7	cheapish	Yes	fifty-ish	No
8	coolish	Yes	four o'clockish	No
9	dilettantish	Yes	ghoulish	Yes
10	eleven-ish	No	headache-ish	No
11	Eliotish	No	heavyish	Yes
12	end-of-the-worldish	No	hippyish	No
13	evenish	No	iffyish	No
14	first-nightish	No	liveish	No
15	forever-ish	No	millionish	No
16	gingerish	Yes	moreish	Yes
17	goatish	Yes	nightmarish	Yes
18	Haydnish	No	ninetyish	Yes
19	John-Majorish	No	on-ish	No
20	middle-of-the-nightish	No	opera-ish	No
21	ninetyish	Yes	plumpish	Yes
22	novelettish	Yes	roundish	Yes
23	oldwomanish	Yes	soonish	Yes
24	school-teacherish	Yes	steadyish	Yes
25	snappish	Yes	tallish	Yes
26	soupish	No	thinnish	Yes
27	summerish	Yes	uppish	Yes
28	textbookish	Yes	wankish	No
29	twentyish	Yes	waspish	Yes
30	zombie-ish	No	weekendish	No
Total hapaxes:		**152**		**49**
Listed (OED)		**78**		**32**

C. Part II: Chapter 5

Table 6. Group 1: Suffix -ish in GloWbE; Selection

No.	Region Code	Example	URL
1	GB G	So, Today around 11 **ish**.	timelessmyths.co.uk
2	GB G	Wake up – 7:00 a.m. - eat breakfast usual shower etc. take wife to work around 8:00 **ish** to downtown LA to law firm	dailymail.co.uk
3	GB G	However, there will be a 0.0000001 **ish** chance of something happening because of interference and a further 0.0000001 chance of it causing a problem [...]	guardian.co.uk
4	LK G	He is a 30 **ish** year old Male with no tusks.	millenniumelephantfoundation.com
5	CA G	[…] the average coastal man has about 10,000 invested in gear.... Or 10 decent **ish** suits.	vanmag.com
6	SG B	But what caught my attention first – and I'm sure this was the case for several people – was the super charismatic boy **ish** rapper named Amber, [...]	ycroxmyworld.blogspot.com
7	US B	Did anyone else find the girlfriend storyline a little... soap-opera **ish**?	thewinchesterfamilybusiness.com
8	CA B	Starved, or too little epoxy will show as a whit- **ish** glitter.	bearmountainboats.com
9	AU G	Unfortunately, we're still awaiting an Australian release date, though Rian mentioned on Twitter that it may get to us around June- **ish**	alicetynan.com
10	GB G	Blonde- **ish** Lady Astor, blooming late in this sad autumn, flashed defiant roots and clutched her neck pearls.	dailymail.co.uk
11	CA B	I am tempted to become too philosophical about art, too "ivory-tower- **ish**," (oops, I meant conceptual, minimalist, deconstructionist) and before I know it, I crave for the human touch of real people.	cardus.ca
12	IE B	In the centre there are young -- **ish** people going about their everyday life.	ireland.anglican.org
13	CA G	I think maybe the "Twilight Zone" **ish** categorization of public space leads to the attitude of, "Why bother picking up my trash or trying to keep the space clean if no-one else does?".	tea.empresschic.com
14	GB G	A good friend of mine has some dcs for a sleep over on a 'regular' **ish** basis.	mumsnet.com
15	AU G	I don't act like I don't like them, but I get really shy around him when I do like someone a lot in a more than friends **ish** way.	au.answers.yahoo.com
		Total (Group 1): 373 / 1,193	

Table 7. Group 2: Transition ish in GloWbE; Selection

No.	Region Code	Example	URL
Orthographic marking			
1	CA B	I'm getting old. **Ish**.	tonymcfadden.net
2	AU B	from the Wei-lio: "the sea-water being bitter and unfit for drinking is the cause that few travellers come to this country (Ta-tsin, roughly Roman Syria... **ish**)	samuelrunge.com
3	AU G	I agree with you LAWRIEJAY, Warren for president in say 2020-2024? **ish**.	independentaustralia.net
4	GB B	I've been fascinated by the 1500m since seeing the 1984 Olympic final as a young (**ish**!) child [...]	bbc.co.uk
Range			
5	IN B	If Obama wins I think it will be in the lower end of the yellow band (280 to 310 **ish** around 290).	such.forumotion.com
6	US G	[…] the median Mississipi [sic] resident pays an effective tax rate of around 8%-10% **ish**.	esr.ibiblio.org
7	CA G	Join us Thursday, Aug. 30, 5-6p.m. (**ish**), at the Phoenix Auditorium [...]	soundernews.com
Measurement units			
8	CA B	After about 15 minutes or so of prep and then 20 minutes (**ish**) of baking while I clean up the kitchen, and dinner is done!	soverydomestic.com
9	GB G	You could try and clock the memory a little to 550mhz **ish**.	fixitwizkid.com
10	GB G	you have to expect to do some sort of work on a 15yr **ish** old car.	pistonheads.com
Inflectional morphology			
11	GB G	This [sic] latest (**ish**) versions of Opera don't distinguish between primary and 3rd party cookies.	bbc.co.uk
12	KE B	On to topic i think the whole team natural versus team relaxed **ish** which i must say is usually instigated by team naturals is rather silly.	kurlykichana.com
Phrasal units			
13	GB B	I guess around 7.30 ish last night and about an hour ago **ish**.	nufcblog.com
14	GB G	[…] oh and as the crow flies im about 15miles from bideford **ish**	stargazerslounge.com

No.	Region Code	Example	URL
Miscellaneous: Numeral complexity			
15	IE G	ON Thursday 1 July, at 4.22- **ish**, having spent the first official 22 minutes of opening rushing around wiping counters and	9beanrow.com
16	GB G	Date: 2012-Mar-03 # Time: 9:47 **ish** # Location: mickleover derby # Report: a fire ball that was easily seen with the eye "it looked low" i think moving form [sic] north to south east.	arpc65.arm.ac.uk
17	GB G	Second problem: GIRLS When girls are young, (<25 **ish**) they want the confident, strong, controlling guys.	uk.answers.yahoo.com
Miscellaneous: Scope ambiguity			
18	GB G	Oh yes, and their son was selling it cheap. **Ish**.	mariankeyes.com
19	AU B	Bit hard to explain and keep short..... **ish**.....	bodyinmind.org
20	IN B	She's going to end up with Damon at some point, right? Please show, please. Like she can't not. So it's fine... **ish**... For now...	theartfuldodgers.blog.com
		Total (Group 2): 712 / 1,193	

Table 8. Group 3: Free morpheme Ish in GloWbE; Selection

No.	Region Code	Example	URL
1	AU G	[…] Completely worth of becoming an official Lego set via Lego Cuusoo (Cuusoo is the name of Lego's version of Kickstarter. **Ish**).	gizmodo.com.au
2	SG G	It's somewhat satisfying, though a little pat for my tastes, but most importantly it gives each of our characters an ending that I think is fitting. (**Ish**.)	dramabeans.com
3	IE G	Both hair & make-up girls arrived at about 9am (I think, **ish**), [...]	mrs2be.ie
4	US G	im beginning to think that theres no stopping with this argument. lets just call it truce, we're both right, no winner and just be friends... **ish**.	goodreads.com
5	GB B	I designed this many months ago, back when the sun was still shining... **ish**.	kingdomofstyle.typepad.co.uk
6	GB B	Though it was over between them, and both Chas and Cameron had moved on (**ish**) making plans to marry their current partners, [...]	primetime.unrealitytv.co.uk
7	GB B	In my last year of uni, I gate crashed one of my sister's writing residentials and spent a week at a lovely house in Wales being tranquil and writing poetry. Well, **ish**.	limebirdwriters.co.uk
8	GB B	Yeah, I guess I have been pretty busy recently. Not. Well. **Ish**.	hawth.me
9	GB B	The last three films have mixed up the order but it is True. To. Fleming. Well, **ish**.	commanderbond.net
10	US B	I am a Jew (**ish**), but it doesn't matter to me, either, I just thought it was an interesting question.	patheos.com
11	NZ B	While i agree with what you say, **ish**, i completely disagree with banning playdoh, [...]	stuff.co.nz
12	KE B	It had been a long journey to get there – 671.15 kilometres to be precise. **Ish**.	wanjeri.com
13	CA B	Thanks, internet, for all of the hyper-engaging and irrevent [sic] real-time humour that accidentally turned me into someone who kind of knows what's going on in American politics right now... **ish**.	laurenoutloud.com
14	CA G	I have left Guelph and resettled in my home province of Quebec... **ish**.	cdlu.net
15	IE G	I watched the minister on the news yesterday when asked if the hospital would be built for 2016. His reply.... "**ish**" in the most nonchalant and arrogant fashion	thejournal.ie
		Total (Group 3): 108 / 1,193	

D. Part III: Chapter 7

Table 9. Non-ethnic -ish hapaxes in COCA and their listedness in the OED

No.	Non-ethnic adjectives	Listed in the OED
1	12-ish	No
2	attorneyish	No
3	Avant-gardish	No
4	Blues-ish	No
5	Caesar-ish	No
6	carbonara-ish	No
7	daredevilish	Yes
8	deadish	Yes
9	ESPN-ish	No
10	film-noirish	Yes
11	Frankenstein-ish	No
12	gospelish	No
13	happy-ish	No
14	jerkish	Yes
15	loserish	No
16	Newton-Johnish	No
17	novemberish	Yes
18	operettaish	No
19	pimpish	Yes
20	pricklish	Yes
21	responsible-ish	No
22	Safari-ish	No
23	spider-webish	No
24	tabloidish	No
25	Teddy-bearish	Yes
26	trailer-parkish	No
27	Universe-ish	No
28	vampish	Yes
29	vixenish	Yes
30	Yoda-ish	No
Total hapaxes:		**185**
Listed (OED):		**53**

Table 10. Non-ethnic -like hapaxes in COCA and their listedness in the OED

No.	Non-ethnic adjectives	Listed in the OED
1	princesslike	No
2	professorlike	Yes
3	Prozac-like	No
4	purse-like	Yes
5	python-like	Yes
6	quartz-like	No
7	queen-like	Yes
8	Quixote-like	No
9	R.V.-like	No
10	raccoon-like	Yes
11	radishlike	Yes
12	Rapunzel-like	No
13	remote-control-like	No
14	riverlike	Yes
15	Russian-novel-like	No
16	salad-like	No
17	Sauerkraut-like	No
18	Schwarzenegger-like	No
19	scroll-like	No
20	serpentlike	Yes
21	skateboard-ramp-like	No
22	swordlike	Yes
23	tadpolelike	Yes
24	tantrumlike	No
25	tequila-like	No
26	theme-parklike	No
27	thermometer-like	No
28	thunderlike	Yes
29	time-machine-like	No
30	tomatolike	No
Total hapaxes:		**83**
Listed (OED):		**17**

Table 11. Non-ethnic -esque hapaxes in COCA and their listedness in the OED

No.	Non-ethnic adjectives	Listed in the OED
1	1918-esque	No
2	appleseed-esque	No
3	atwateresque	No
4	Bernstein-esque	No
5	bunkeresque	No
6	car-dealer-esque	No
7	chopinesque	Yes
8	darwinesque	No
9	disneylandesque	No
10	divaesque	No
11	ebay-esque	No
12	Ferrari-esque	No
13	garboesque	Yes
14	hell-esque	No
15	hippie-esque	No
16	humanesque	No
17	King-esque	No
18	lobsteresque	No
19	novelesque	Yes
20	octoberesque	No
21	pizza-esque	No
22	renoiresque	Yes
23	sculpture-esque	Yes
24	sinatraesque	No
25	sovietesque	No
26	superheroesque	No
27	Tarzan-esque	Yes
28	tigeresque	No
29	tudoresque	Yes
30	wagonesque	No
Total hapaxes:		**234**
Listed (OED):		**23**

Table 12. Non-ethnic -isch hapaxes in DeReKo (with Cosmas II)

No.	Non-ethnic adjectives	Listed in DWDS / Duden
1	abweichlerisch 'deviationist'	Yes
2	alarmistisch 'alarmist'	Only Duden
3	alchemistisch 'alchemic'	Yes
4	analphabetisch 'illiterate'	Yes
5	bibliographisch 'bibliographical'	Only Duden
6	brutalistisch 'brutalist'	No
7	bühnenbildnerisch 'stage setting -'	No
8	büroisch 'office-like'	No
9	Cäsarisch 'Caesarean'	Yes
10	denkerisch 'intellectual'	Yes
11	editorisch 'editorial'	Yes
12	erdmagnetisch 'earth-magnetic'	Yes
13	feinmotorisch 'fine motor -'	Only Duden
14	frömmlerisch 'sanctimonious'	Yes
15	gerichtsmedizinisch 'forensic'	Yes
16	globalistisch 'globalistic'	No
17	kaleidoskopisch 'kaleidoscopic'	Yes
18	linguistisch 'linguistic'	Yes
19	maurerisch 'masonic'	Only Duden
20	nummerisch 'numeric'	Yes
21	ozeanisch 'oceanic'	Yes
22	parasitisch 'parasitic'	Yes
23	pilotisch 'pilot -'	No
24	schauspielerisch 'theatrical'	Yes
25	schwarzseherisch 'pessimistic'	Yes
26	urbanistisch 'urbanistic'	Yes
27	vampirisch 'vampiric'	Only DWDS
28	viehisch 'bestial'	Yes
29	wagnerisch 'Wagner-like'	No
30	weibisch 'womanish'	Yes
Total hapaxes:		**177**
Listed (OED):		**106**

Table 13. Non-ethnic -lich hapaxes in DeReKo (with Cosmas II)

No.	Non-ethnic adjectives	Listed in DWDS / Duden
1	aktienrechtlich 'according to stock corporation law'	Only DWDS
2	bergbaulich 'mining -'	Yes
3	bestechlich 'corrupt'	Yes
4	bezirklich 'district -'	Yes
5	eiszeitlich 'Ice Age -'	Yes
6	elternlich 'parental'	No (only *elterlich*)
7	freizeitlich 'leisure -'	No
8	fremdsprachlich 'foreign language -'	Yes
9	gartenbaulich 'horticultural'	Yes
10	großväterlich 'grandfatherly'	Yes
11	kaiserzeitlich 'imperial'	Yes
12	landgerichtlich 'regional court -'	No
13	lautlich 'phonetic'	Yes
14	löslich 'soluble'	Yes
15	mundartlich 'dialectal'	Yes
16	nachbarlich 'neighbourly, adjacent'	Yes
17	neurowissenschaftlich 'neuroscientific'	Only Duden
18	novemberlich 'November-like'	Only Duden
19	obrigkeitlich 'authoritarian'	Yes
20	prinzlich 'princely'	Yes
21	regierungsamtlich 'governmentally'	Yes
22	regionalwirtschaftlich 'regional economic'	Only DWDS
23	schulmeisterlich 'schoolmasterly'	Yes
24	schwärzlich 'blackish'	Yes
25	spätsommerlich 'late summer -'	Yes
26	spießbürgerlich 'bourgeois'	Yes
27	sprachwissenschaftlich 'linguistic'	Yes
28	veränderlich 'changeable, versatile'	Yes
29	wintersportlich 'winter sport-'	No
30	wochenendlich 'weekend-'	No
Total hapaxes:		**170**
Listed (OED):		**99**

Table 14. Non-ethnic -isch hapaxes in DeReKo (with Cosmas II)

No.	Non-ethnic adjectives	Listed in DWDS / Duden
1	animalesk 'animal-esque'	No
2	aquarellesk 'aquarelle-esque'	No
3	barockesk 'baroque-esque'	No
4	bernsteinesk 'Bernstein-esque'	No
5	blondinesk 'blonde-esque'	No
6	dinoesk 'dino-esque'	No
7	donjuanesk 'Don Juan-esque'	Only Duden
8	elefantesk 'elephant-esque'	No
9	fiftyesk 'fifty-esque'	No
10	frankensteinesk 'Frankenstein-esque'	No
11	gigantesk 'giant-esque'	Yes
12	goetheesk 'Goethe-esque'	No
13	gossenhumoresk 'toilet humour-esque'	No
14	gummibärchenesk 'gummy bear-esque'	No
15	hiphopesk 'hip hop-esque'	No
16	jamesbondesk 'James Bond-esque'	No
17	Kanzleresk 'chancellor-esque'	No
18	kraftwerkesk 'power plant-esque'	No
19	legoesk 'Lego-esque'	No
20	lennonesk 'Lennon-esque'	No
21	mantra-esk 'mantra-esque'	No
22	marthastewaresk 'Martha Steward-esque'	No
23	otto-esk 'Otto-esque'	No
24	pumuckelesk 'pumuckel-esque'	No
25	rehhagelesk 'Rehhagel-esque'	No
26	roboteresk 'robotesque'	No
27	schlaraffenlandesk 'cockaigne-esque'	No
28	sinatresk 'Sinatra-esque'	No
29	tolkienesk 'Tolkien-esque'	No
30	vangaallesk 'van Gaal-esque'	No
Total hapaxes:		**167**
Listed (OED):		**2**

Table 15. Formal multiplets in the two corpora (COCA - DeReKo)

Types	**English suffixes**			**German suffixes**		
	-ish	***-like***	***-esque***	***-isch***	***-lich***	***-esk***
Quadruplets	Bondish	Bond-like	Bond-esque	-	-	jamesbond esk
	brownish	Brown-like	brownesque	-	bräunlich	-
	childish	child-like	-	kindisch	kindlich	-
	-	Military-like	Military-esque	militärisch	-	militaresk
	Yoda-ish	Yoda-like	Yoda-esque	-	-	yodaesk
	Total: 5					
Triplets	-	Animal-like	-	tierisch	-	animalesk
	cartoonish	Cartoon-like	-	-	-	cartoonesk
	Diva-ish	-	Divaesque	-	-	divaesk
	-	-	napoleon esque	napoleon isch	-	napoleonesk
	slavish	slavelike	-	sklavisch	-	-
	Total: 21					
Doublets	actorish	-	-	schau spielerisch	-	-
	-	-	chaplin esque	-	-	chaplinesk
	clownish	-	-	-	-	clownesk
	reddish	-	-	-	rötlich	-
	-	winterlike	-	-	winterlich	-
	Total: 66					