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Distribution, Competition, Historical Development**

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1. Introduction

Literature seems to be full of discussion on negation in general. However, since negation is mainly focused on clause negation (see section 2.1.2), I became curious about the 'underdog' that was named 'negative affixes'. In order to better understand this way of negation, I chose it as the topic for my thesis. For this, I intend to look at three aspects of negative affixes: (i) their distribution, (ii) their competition in present-day English and (iii) their historical development.

Since the term 'negative' has many different meanings, I will deal with the concept of 'negation' first and define what is understood by 'negative' in my thesis. For this, I will point out the differences between clause negation and so-called local negation. The latter will, then, be of more interest as negative affixes negate one word only, rather than an entire clause. Further, I will differentiate between contrary and contradictory opposition, the distinction of which will be crucial when discussing the affixes' competition in present-day English. In addition to this, I will deal with the process of affixation which is one of many ways to form new words. For sake of completeness, other word-formation processes will be described very briefly. This section should also show how small the sphere of negative affixes is in the great field of word-formation, even though there is a lot to say about them. Finally, I will discuss the matter of productivity which implies the ability to coin and understand new words.

The first aspect of negative affixes involves their distribution in present-day English. In this part of my thesis I will describe the affixes which are considered to be 'negative'. We shall see that the English language has several negative affixes, but not all of them will be discussed in the following chapters.

The second aspect involves the competition of the negative affixes in present-day English. Since there are so many negative affixes, the question that arises is: which affix can be applied to which word? Since negative affixes may be difficult for learners of English, it is relevant whether there are any fixed rules or, at least, some general patterns, which make it easier to find the 'right' affix? This discussion will consider morpho-syntactic, semantic and etymological criteria. Further, I shall discuss whether this distinction is enough to opt for the 'correct' negative affix.

In addition to this, I will deal with the question of what difficulties may arise when using (non-) affixal negation. If all negative prefixes have (more or less) the same meaning, does it matter which one a speaker is using? This is where the distinction between contrary and contradictory opposition plays an important role. As we shall see, the utterance *I am not happy* has a slightly different meaning than *I am unhappy*. Further, I will discuss constraints that lead to obligatory use of either affixal or non-affixal negation.

As the final part of my thesis, I will examine the historical development of the negative affixes. Since a detailed history of all negative affixes would go beyond the scope of this thesis, this section will focus on the debate between the use of negative *un-* and negative *in-*. As will be mentioned in the Competition section (and also partly in the Distribution section), the prefix *un-* is considered to be the biggest rival of *in-*. With the aid of linguistic corpora, I will investigate this rivalry and describe how the use of *un-* and *in-* prefixation has developed over the years.

I am aware that the three aspects mentioned above may overlap to a certain degree and that there are no clear-cut boundaries between them. Nevertheless, I decided to structure my thesis in this way to allow a clear picture of negative affixes.

2. Theoretical framework

In this chapter, I want to introduce three concepts which are directly linked to 'negative affixes' and which will occur frequently in this thesis, namely (i) negation, (ii) affixation, and (iii) productivity. I will discuss each concept in turn. The aim of this chapter is to not only provide the basis for my thesis, but also to help mapping 'negative affixes' in the expansive landscape of linguistics.

2.1. What is negation?

2.1.1. Negative

In order to discuss 'negative affixes', it is of importance to know what is understood by the term 'negative'. According to the OED (s.v. *negative adj., adv.², and int.*), 'negative' first appeared as a noun and, then, developed to a verb and adjective respectively. As a noun, 'negative' expresses two senses: (a) those relating to denial or negation, and (b) those relating to an opposite or inverse form (OED: s.v. *negative n.*). 'Negative' as a verb seems to have limited use in the English language. The most recent entries of it occurred as late as the 1980s (OED: s.v. *negative, v.*). The use of 'negative' as an adjective forms the largest group. As an adjective, the OED (s.v. *negative adj., adv.², and int.*) lists no less than thirteen meanings of 'negative', such as denial, negation, refusal, unsuccessful results, etc.

In linguistics, 'negative' is "[a] grammatical form usually implying negation". (Hartmann 1972:150). Trask (1993:179) elaborates on this by saying that "a grammatical element which, when added to a sentence expressing a proposition, reverses the truth value of a proposition." For Matthews (1997:240), 'negative' is a "(sentence, construction, form) whose basic role is in asserting that something is not the case". In general, it can be said that 'negative' functions as the opposite of 'positive' or 'affirmative' (Crystal 2008:324).

According to Crystal (2008:15; 2008:323-4; 2008:376), 'positive' and 'affirmative' both indicate a proposition without any markers of negation and, thus, express an 'assertion', such as in *She is happy* as opposed to the negative *She is not happy* (also Matthews 1997:10; 1997:287). This then means that "the process or the result of making a negative statement" (Hartmann 1972:150) is called

‘negation’. Based on these entries, we can now say that, at least for my purposes, the term ‘negative’ will be used to imply negation and will be treated as the opposite to the terms ‘positive’ and ‘affirmative’.

Having established what ‘negative’ means, there is one more question that needs to be dealt with: what is a ‘negative’ proposition and how can we tell (cf. Horn 1989 [2001]:30)? In his book, Horn (ibid.) does not provide an explicit answer as the discussion between negation and affirmation has been ongoing for many centuries and scholars are still in disagreement today. However, he points out that “the difference between affirmative and negative statements [can] be reduced to one approach” (Horn 1989 [2001]:34), namely that to Ayer’s (1952) notion of negativity. Ayer (1952:813) describes it as follows:

[a] statement is negative if it states that an object lacks a certain property rather than stating that it possesses the complementary property: a statement is negative if it states that a certain property is not instantiated, rather than stating that the complementary property is universally instantiated.

From all this, we are able to infer that the presence of a negative, i.e. some grammatical element, indicates that the statement or proposition uttered may be regarded as ‘negative’. If such an element is absent, i.e. the utterance does not carry a negative marker, it may be considered as an assertion or affirmative (cf. Mazzon 2004:1). In the following section, I will discuss the traditional criteria which signal negation in the English language.

2.1.2. Negation

The term ‘negation’ derives from the Latin verb *negare* which means ‘to say that...not, deny’ (Bußmann 1996:322) and accordingly from the Latin noun *negātiō*, which translates to ‘denial, refusal, act of making negative’ (OED: s.v. *negation* n.). The concept of negation can traditionally be found in philosophy, logic, computing, mathematics and linguistics (cf. OED: s.v. *negation* n.; Bußmann 1996:323). Thanks to Aristotle, negation has moved from the “the realm of pure ontology [i.e. study of being] and enter[ed] the domains of language and logic” (Horn 1989 [2001]:6). In his original theories, Aristotle focused on a “system of oppositions between pairs of terms” (Horn ibid.) and built the foundations of negation in linguistics as we know it today. Asher (1994:2769) points out that “negation in

natural languages is very different from, and much more complicated than, negation in logic or mathematics". Logical negation basically functions like linguistic sentence negation where "the truth value of a proposition p [is converted] into its opposite truth value" (Bußmann 1996:322). However, in linguistics, as opposed to logic, negation is quite manifold and can be divided into more than one category. Generally speaking, negation in linguistics is "[a] process or construction in grammatical and semantic analysis which typically expresses the contradiction of some or all of a sentence's meaning" (Crystal 2008:323). Ayer (1952:799) argues that "[denying] some previous suggestion [...] may even be [negation's] most common use".

As already mentioned, negation in linguistics is rather complex and has been an issue of debate for many years (cf. Horn 1989 [2001], Asher 1994, Ayer 1952). Therefore, it comes as no surprise that there are some differences in categorisation.

For this thesis, I shall go with Quirk et al.'s (1985) categorisation. The reason why I settle for Quirk et al.'s (1985) solution is, to put it frankly, because their categorisation is simple and straight-forward. Their classification is kept at a very general level. Other scholars (see below) have very detailed differentiations in regard to negation. Huddleston and Pullum (2002), for example, differentiate between four types of negation, namely (i) verbal vs non-verbal, (ii) analytic vs synthetic, (iii) clausal vs subclausal, and (iv) ordinary vs metalinguistics. Another scholar, Klima (1964), defines instances of sentence and word negation which is similar to Quirk et al. (1985), but he additionally differentiates between strong and weak negation. Jespersen (1924 [1977]:322ff) has a different approach with his distinction between indirect, incomplete, special and nexal negation as well as his tripartition positive-questionable-negative. Another scholar, namely Bußmann (1996:323), distinguishes between internal, external, weak and strong negation, and, thus, uses yet another means of categorisation. Even though it is important to know the different approaches on negation by different scholars, these categorisations are much too detailed for my purposes. Moreover, my thesis will be concerned with affixal negation, rather than negation in general. Therefore, a very detailed discussion on negation would go beyond the scope of my thesis.

According to Quirk et al. (1985:775), there are three types of negation: (a) clause negation, (b) local negation, and (c) predication negation. Since the third

kind, predication negation, is a “minor type applying only after certain auxiliaries, in which the predication is negated” (Quirk et al. *ibid.*), I shall omit this type entirely. An example of predication negation would be *they may not go swimming* which implies ‘they are allowed not to go swimming’ (Quirk et al. 1985:797). I will, however, discuss clause and local negation in detail, whereupon my focus will lie on local negation.

In the English language, there are many different ways of indicating negation. Bußmann (1996:323) states that negation may be expressed lexically, morphologically, intonationally, and idiomatically. In lexis, it is typically signalled by the particle (often referred to as ‘negative particle’) *not* or its contracted form *n’t* as in examples (1a), (1b), (2a) and (2b) below (cf. also Crystal 2008:323; Hartmann 1972:150; Bußmann 1996:323; Leech 2006:64-5). Jespersen (1924 [1977]:325) explains that *not* generally “means ‘less than’, or in other words ‘between the term qualified and nothing’”.

- | | | |
|----------------------|----------------------------------|--------------------------|
| (1) He is happy. | (1a) He is <u>not</u> happy. | (1b) He isn’t happy. |
| (2) I have finished. | (2a) I have <u>not</u> finished. | (2b) I haven’t finished. |

Other lexical means include “adverbs and adverbial expressions (*not, never, by no means*), indefinite pronouns (*nobody, nothing, none*), co-ordinating conjunctions (*neither...nor*), sentence equivalents (*no*), or prepositions (*without, besides*)” (Bußmann 1996:323). In terms of morphology, negative prefixes such as *un-* in *unhappy* or negative suffixes such as *-less* in *helpless* are used (Bußmann *ibid.*; cf. also Crystal 2008:323). As far as intonation is concerned, Bußmann (1996:323) argues that negation depends on the stress expressed in an utterance. He (Bußmann *ibid.*), for example, states that in the sentence *Jacob is not flying to New York tomorrow*, the negation can refer either to ‘Jacob’, ‘flying’, ‘New York’, or ‘tomorrow’ (cf. also Quirk et al. 1985:787). Negation may also be expressed by means of idioms such as in *For all I care* (Bußmann 1996:323). For Crystal (2008:323) and Jespersen (1924 [1977]:329), the use of lexemes with negative meaning, such as *deny* or *lack*, is another way of expressing negation.

Before I turn to clausal and local negation, I shall first refer to the so-called ‘scope’ and ‘focus of negation’. The scope of negation is “the stretch of the language over which the negative item has a semantic influence” (Quirk et al.

1985:787). In other words, the scope is the part in an utterance which is being negated (cf. also Huddleston and Pullum 2002:790). Usually, the scope of negation begins at the negative element and terminates at the end of the clause, whereupon intonation marks the difference of two or more meanings (Quirk et al. 1985:787-8). For example, the sentence *For the whole time I wasn't listening* either expresses the meaning 'the whole time I wasn't listening, instead I scribbled over my notebook' or 'I was listening but not the entire time' (ibid.). As far as focus of negation is concerned, it indicates the "special or contrastive nuclear stress falling on a particular part of the clause" (Quirk et al. 1985:789). This means that negation is prominently or explicitly indicated in one particular spot of the utterance (Quirk et al. ibid., cf. also Huddleston and Pullum 2002:790). However, since it is of no relevance to the discussion of affixal negation, I shall not go into more detail with this.

In **clause negation**, a whole sentence or finite clause is regarded as a negative statement. Clause negation can be achieved "by inserting the negative particle *not* between the operator and the predication" (Quirk et al. 1985:776). The operator may be defined as "the first or only auxiliary" (Quirk et al. 1985:79) which usually follows the subject directly. The predication "consists of the non-finite part of the verb-phrase plus any other elements relating to it" (Leech 2006:89). For example the sentence (2) above has been negated by inserting the negative particle *not* between 'have' (operator) and 'finished' (predication) to become *I have not finished* as seen in (2a). Often, there may be no predication given, e.g. in sentence (1), then, the negative particle immediately follows the operator, as can be seen in (1a). In cases where the operator is not present, the so-called 'dummy' auxiliary *do* will be used to support the negation (ibid.), for example *She works hard* is negated to *She does not work hard*.

Other means of expressing clause negation include the use of "words negative in form and meaning" (Quirk et al. 1985:778) such as *no*, *none* or *never*, and "words negative in meaning but not in form" (Quirk et al. 1985:780) such as *seldom*, *rarely*, *scarcely*, *hardly*, *barely*, *little* and *few* as illustrated below.

(3a) That was no accident.

(3b) None of them were prepared.

(3c) I will never make this mistake again.

- (4a) I seldom go to church.
- (4b) The author rarely accepts suggestions from others.
- (4c) They barely know him.
- (4d) Little did I know.
- (4e) Few people were invited to join the discussion.

It needs to be pointed out that negative clauses are syntactically different from positive clauses. According to Quirk et al. (1985:777ff), there are five distinct features. Clauses are considered to be negative if they are (i) followed by positive checking tag questions, (ii) followed by negative tag clauses, (iii) followed by negative agreement responses, (iv) followed by non-assertive items such as *any*, or (v) do not co-occur with items that have positive orientation. Examples of these features can be seen in (5) below. Quirk et al. (1985:778) state that the features (i) to (iii) mentioned above, are only applicable to independent declarative clauses. In contrast to this, the features (iv) and (v) may also apply to subordinate finite and non-finite clauses.

- (5a) She does not work hard, does she?
- (5b) She does not work and neither do you. OR: She does not work, nor do you.
- (5c) She does not know him – No, she does not.
- (5d) There was not any parking space left.
- (5e) *It is not pretty late. (cf. It's pretty late)

In addition to this, Huddleston and Pullum (2002:786) argue that clause negation can also be identified by the addition of a *not even* construct. They claim that “[w]hen a clause is negative, the following *even* is commonly preceded by *not* [...] but *not* is inadmissible after a positive clause” (Huddleston and Pullum *ibid.*). For example, *She does not work hard* may be extended to *She does not work hard, not even when a pay raise is offered*. Consequently, this sentence contains clause negation. In contrast to this, a positive clause, e.g. *She works hard*, could not be extended by *not even*, e.g. **She works hard, not even when a pay raise is offered*. Instead, positive clauses are followed by *so*, as in *She works hard, so a pay raise has been offered* (Huddleston and Pullum 2002:787).

In **local negation**, only one constituent is negated and, thus, leaves the entire clause positive (Quirk et al. 1985:776). Huddleston and Pullum (2002:789) refer to this kind of negation as 'subclausal negation'. A constituent, i.e. a word or phrase, is usually negated by the preceding negative element, for instance *not* as shown in example (6) below (Quirk et al. 1985:790).

(6) She is a not unattractive woman.

In this example, we can see that the negative particle *not* only negates *unattractive* and not the entire clause. Since the syntactic features for negative clauses cannot be applied, the negation cannot be of clausal kind. In addition, we could see that the test by Huddleston and Pullum (2002:786), i.e. adding a *not even* construct would not apply either. If, however, the sentence was *She is not an attractive woman*, the syntactic features would apply and, thus, make it a clause negation.

At this point, I shall note that *attractive* and *not unattractive* do not express the same meaning (Huddleston and Pullum 2002:810). Huddleston and Pullum (2002:809) state that "attributive adjectives cannot be negated directly by *not*", for example **a not large house*. This means that an adjective can only be preceded by *not*, if it has a productive and transparently negative prefix, such as *un-*, and if it is gradable (ibid.). Therefore, a sentence like **She is a not attractive woman* would have been impossible. The notion of (un-) gradable lexemes (cf. contrary and contradictory opposition) will be discussed in section 2.1.3.

The negative element in local negation not only modifies adjectives but also (i) degree adverbs as in *I visit them not very often*, (ii) adverbs expressing distance or time, for instance in *They live not far from us*, (iii) the quantifiers *a few* and *a little*, e.g. *I sensed not a little hostility*, (iv) the comparatives *more*, *less*, *fewer* for example *We need to collect no fewer than 100 signatures for the petition*, or (v) prepositional phrases such as *We cleared the table in no time* (Quirk et al. 1985:791-2).

Local negation may also be achieved morphologically by adding so-called 'negative affixes' such as the prefix *un-* in *uncertain* or the suffix *-less* in *helpless*. Since these are considered to be a 'special kind' of local negation, they will be discussed separately below.

The question that now arises is, why is it essential to distinguish between clause and local negation? In many cases, there may be a difference in meaning depending on “whether the negative belongs to one special word or is placed with the verb as belonging to the sentence as a whole” (Jespersen 1933 [1950]:298). In order to illustrate this, let me compare the sentences (7a) and (7b) below:

(7a) They own not very fierce dogs. (from Quirk et al. 1985:791)

(7b) They do not own very fierce dogs.

The example above shows that sentence (7a) consists of local negation, where the degree adverb *very* is negated. This sentence, thus, implies that 'they have dogs, which happen to be not very fierce'. Sentence (8b), on the other hand, comprises clause negation, where *own very fierce dogs* is negated. Consequently, the utterance implies that 'they do not have dogs at all' (cf. Quirk et al. 1985:791).

In other cases, however, clause negation may correspond to local negation and basically imply the same message, but the 'main idea' of an utterance may be different (Quirk et al. 1985:791-2). Take, for example, the sentences in (8) below. Sentence (8a) consists of clause negation, where *like the film* is being negated, and basically indicates that 'the majority of us did not like the film'. In contrast to this, sentence (8b) involves local negation, which negates *not many of us*, and implies that 'the minority liked the film'. It can, thus, be said that (8b) is essentially what (8a) indicates, but the focus is different, i.e. in (8a) focus lies on the general dislike of the film, but in (8b) the fact that only 'few people' liked it is stressed.

(8a) Many of us did not like the film. (from Quirk et al. 1985:791-2)

(8b) Not many of us liked the film.

The general tendency in negation is to “place the negative first, or at any rate as soon as possible” (Jespersen 1966:5) in order to avoid misunderstandings of any kind. As we have seen above, it is often a matter of style whether clause or local negation is being chosen, e.g. *it is not possible to do this* versus *it is impossible to do this*. However, Jespersen (1966:43) claims that local negation such as in *it is impossible* is “somewhat stronger”.

A special kind of local negation is that of **affixal negation** because it is “purely morphological” (Huddleston and Pullum 2002:790). Generally speaking, affixal negation is a type of negation where a lexeme with positive meaning is not negated with a negative particle *not* but is instead negated with an affix (Crystal 2008:232). Klima (1964:291) points out that negative affixes are “not instances of sentence negation” and Huddleston and Pullum (2002:789) insist that “[a]ffixal negation is *always* subclausal” (my emphasis, CL), i.e. a matter of local negation rather than clause negation. The reason for this is quite simple: the negative affix only negates the lexeme to which it is attached (cf. Klima 1964:292). Jespersen (1924 [1977]:329) even considers affixal negation to be a ‘special negation’ because negation, then, only belongs to “one single idea” (ibid.).

Negative affixes in the English language include the prefixes *un-*, *in-*, *de-*, *dis-*, *mis-*, and *non-* and the suffix *-less* (Cruse 2006:117). In addition to this, Jespersen (1966:147) also considers the prefixes *a(n)-*, such as *asexual* or *amoral*, and *no-*, e.g. *no-settlement*, to be negative. According to Tottie (1991), the suffix *-out*, as in *without*, should also be included in the list of negative affixes. I should note, however, that the affixes *no-* and *-out* will not be considered in this thesis. The reason being that there is hardly any information on these two affixes which makes a detailed discussion impossible. The characteristics and behaviours of negative affixes will be the focus of attention in chapters 3 and 4 of this thesis.

2.1.3. Contrary and contradictory opposition

An issue that needs to be tackled when discussing negative affixes is the difference between contrary and contradictory opposition. Knowing the difference is crucial not only because it influences the choice between affixal and non-affixal negation, but also because some negative affixes can only express one or the other kind of opposition. The latter will be dealt with in greater detail in chapter 4 of this thesis.

The notions ‘contrary opposition’ and ‘contradictory opposition’ go as far back as Aristotle (Horn 1989 [2001]:6-7). Generally speaking, lexemes with positive meaning usually have a negative counterpart and vice versa; for example *succeed* (positive) with the counterpart *fail* (negative) (Lyons 1977 [1978]:270). For Lyons (ibid.), the “standard technical term for oppositeness of meaning between

lexemes is antonymy". It should be noted, however, that for Lyons (1977 [1978]) the term 'antonymy' is not a general one to define oppositeness, as for instance used in dictionary entries, but it is reserved for a particular kind of oppositeness (Crystal 2008:28).

Lyons (1977 [1978]:271) insists that a distinction between so-called 'gradable' and 'ungradable' opposites must be made. Examples of 'gradable' opposites include *long – short*, *hot – cold*, *happy – sad*, whereas 'ungradable' opposites include *single – married*; *female – male*; *dog – cat*; *alive – dead* (Cruse 2006:14-15 and 2006:35-36). Gradable opposites are listed in example sentences (9a) to (9d). How do they differ from the ungradable opposites in (10a) to (10d)?

(9a) The Golden Gate Bridge is long.

(9b) The Golden Gate Bridge is longer than the Tower Bridge.

(9c) The Tower Bridge is short.

(9d) The Tower Bridge is shorter than the Golden Gate Bridge.

(10a) Susan is married.

(10b) *Susan is more married than Carol.

(10c) Carol is single.

(10d) *Carol is more single than Susan.

Sentences (9b) and (9d) show that 'gradable' opposites can be used to represent similarities or differences, i.e. they are used for comparison. In contrast to this, the adjectives in (10b) and (10d) respectively are not subject to comparison. It is semantically impossible for someone to be 'more married' or 'more single' as these two lexemes represent absolute states. This leads to the result that the most crucial factor for gradability is comparison (Lyons 1977 [1978]:271). Because of comparison it is possible to set "one or more middle terms" (Jespersen 1924 [1977]:322). For example, if I were to describe the size of a tablet computer I could say that it is smaller than an average PC but bigger than a mobile phone. In this case, I did not choose either one of the extremes (*small – big*), instead I opted for the middle and say it is medium-sized.

Gradable opposites are referred to as either **antonymy** or as **contrary opposition** (Lyons 1977 [1978]:272; Crystal 2008:112). Cruse (2006:36) defines it

as follows, “[t]wo propositions stand in a contrary relation to one another if truth of one entails the falsity of the other, but the falsity of one does not entail the truth of the other”. This means that both lexemes cannot be true at the same time but they both may be false at the same time (Lyons 1977 [1978]:272; Cruse 2006:36). For example, if *the coffee is hot*, it automatically implies that *the coffee is not cold* – and of course vice versa, if *the coffee is cold*, then *the coffee is not hot*. However, if one of the opposites is negated, e.g. *the coffee is not hot*, it does not necessarily imply the truth of the other, i.e. *the coffee is cold*. The reason for this is that in contraries both may be false, so *the coffee is neither hot nor cold, but lukewarm*. Ayer (1952:208) refers to this as follows, “[o]f any two statements which are not mutually exclusive it may be said that each is a partner in the range of the other.” Essentially, *lukewarm* is ‘a little bit of hot’ and ‘a little bit of cold’ simultaneously.

In contrast to this, two ungradable opposites do not possess these qualities, hence the term un-gradable. They are often referred to as **complementary or contradictory opposites** (Lyons 1977 [1978]:271; Cruse 2006:35). Cruse (2006:35) explains that “[t]wo propositions are contradictory if the truth of one entails the falsity of the other, and the falsity of one entails the truth of the other”. In other words, both cannot be true at the same time and both cannot be false at the same time (Lyons 1977 [1978]:271-2; Cruse 2006:35). For instance, if *Jamie is alive* it definitely implies that *Jamie is not dead*. However, if *Jamie is not alive* it automatically means that *Jamie is dead*. In other words, it is impossible for Jamie to be neither *alive* nor *dead*, but it is also out of question for him/her to be both *alive* and *dead* at the same time. In addition to this, any middle terms are excluded (Jespersen 1924 [1977]:322).

The distinction between contrary and contradictory opposition should be kept in mind as it will be crucial when discussing the issue of negative affixes’ competition in chapter 4 of this thesis. We shall, then, see that semantic difficulties arise when a decision between affixal, e.g. *unhappy*, and non-affixal negation, e.g. *not happy*, has to be made.

2.2. What is affixation?

The second concept which I want to discuss is that of affixes, or rather the process of affixation. Affixation is part of the linguistic branch of morphology, which “studies

the structure or forms of words” (Crystal 2008:314). Morphology stands in contrast to the branch of syntax as it “deals with the internal structure of words” (Lyons 1968:194). In addition to this, Matthews (1974:154) argues that morphology is also about the words’ “relationship to other words within the paradigm”. Syntax, on the other hand, deals with “[the] ‘putting together’ or ‘arranging’ of elements” (Matthews 1974:2) and “the rules governing [the words]’ combination in sentences” (Lyons 1968 [1969]:194). In this section, I will at first briefly explain word-formation, which is a sub-category of morphology, then I will discuss its most basic principles and will, finally, go into depth about the affixation process.

2.2.1. Word-formation

Morphology can be divided into two sections, namely inflection and word-formation (Lyons 1968 [1969]:195, Matthews 1974:38, Bauer 1983 [2002]:33). The former is, briefly said, the study of endings which mark grammatical elements such as tense, person, case, etc. (Bauer 1983 [2002]:10, Plag 2003:14). For example the ending –s, as in *he sings*, marks the third-person singular indicative present of the verb. Consequently, these inflections obey grammatical rules, e.g. subject-verb agreement, with which sentences are built (Plag 2003:14-15). Word-formation, on the other hand, examines the processes with which new words are formed (Lyons 1968 [1969]:195, Kastovsky 1982:71, Bauer 1983 [2002]:33).

Word-formation can be further categorized into derivation and compounding (Matthews 1974:38, Bauer 1983 [2002]:30 and 1983:33). According to Lyons (1968 [1969]:195), derivation is the formation of new words based on already existing ones (cf. also Lyons 1977:522). For example the noun *nation* can be extended to *nationhood* (‘state of being a nation’), it can become an adjective by adding the suffix –*al* (*national*, ‘of or relating to nation’), which can, then, be used as verb with –*ise* (*nationalise*, ‘to bring under state control’) (cf. Bauer 1983 [2002]:11). In contrast to this, inflection does not result in new words, as can be seen in *nation* > *nations*, i.e. plural form of ‘political state’.¹ Thus, derivation is said to encode lexical meaning, whereas inflection expresses grammatical properties (Plag 2003:17). As far as compounding (or composition) is concerned, it may loosely be defined as

¹ All definitions according to OED (s.v. *nationhood*, *n.*; *national*, *adj.* and *n.*; *nationalise*, *v.*; *nation*, *n.1*).

“the process of putting two words together to form a third” (Bauer 1983 [2002]:11). For instance, the noun *girlfriend* is considered to be a compound as it consists of the two lexemes *girl* and *friend* (cf. Plag 2003:5).

2.2.1.1. The term ‘word’

When discussing ‘word-formation’, it is of importance to clarify the term ‘word’. The word is without a doubt the most essential unit in both syntax and morphology (cf. Lyons 1968 [1969]:194). However, there is one question that arises: what is a ‘**word**’? Despite the disagreement on the definition of ‘word’, Bauer (1983 [2002]:8) points out that “speakers of a language, even illiterate speakers, have a feeling for what is, or is not, a word”. But what *exactly* is understood by ‘word’? According to Marchand (1969:1), a ‘word’ is something which “denote[s] the smallest independent, indivisible, and meaningful unit of speech, susceptible of transposition in sentences.” Lyons (1968 [1969]:69 and 196) divides the term ‘word’ into three senses: (i) phonological or orthographic, (ii) grammatical, and (iii) the ‘abstract’ entity.

As Lyons (1968 [1969]:196) points out, the phonological and orthographic senses of ‘word’ are based on realisation. Thus, the phonological word can simply be defined as the combination of sounds to form a meaningful entity (Lyons 1968 [1969]:69). The orthographic word, on the other hand, represents this entity “as a unit of the writing system” (Plag 2003:4). For instance phonological /kæt/ represents orthographic *cat*. At this point, it is important to note that one phonological word may represent two or more different orthographic words (Lyons 1968 [1969]:69), for instance /sʌn/ may stand for *sun* or *son*. This is, then, referred to as homophony (Plag 2003:9, Matthews 1974:23).

Different word-forms which have different grammatical properties may be subject to one paradigm. This paradigm is, then, referred to as **lexeme** (Lyons 1968 [1969]:197, Kastovsky 1982:74, Bauer 1983 [2002]:12-13, Plag 2003:9). For example, the different word-forms *sing*, *sings*, *singing*, *sang*, *sung*, and *singer* all underlie the paradigm or lexeme *sing* (Lyons 1968:197). A lexeme, thus, may be regarded as the abstract entity where a “set of forms” constitute for one paradigm (ibid.). For Matthews (1974:22), the lexeme is “the fundamental unit [...] of the lexicon of the language” as it implies “all the possible shapes that [a] word can

have" (Bauer 1983 [2002]:11). It can also be said that a lexeme is the item which can be found in the dictionary.

Lyons (1968 [1969]:197) argues that "[i]t is up to us to decide which way we wish to define the term 'word'. The important thing is to keep the three senses apart". Therefore, Bauer (1983 [2002]:13) argues to reserve the term 'word' for entities that are "vague between word-form and lexeme".

2.2.1.2. Basic elements in word-formation

In discussions of word-formation it is, unfortunately, not sufficient to distinguish between word, word-form and lexeme. For proper analysis, smaller units, i.e. 'parts of words' (Matthews 1974:77), need to be established. Lyons (1968 [1969]:183) argues that "when the word can be segmented into parts, these segments are referred to as **morphs**"; for example, the word *untouchables* can be divided into the morphs *un*, *touch*, *able*, and *s* (cf. Bauer 1983 [2002]:13-15). According to Bauer (1983 [2002]:15) a morph is "a segment of a word-form which represents a particular morpheme" (cf. also Lyons 1968 [1969]:184; Matthews 1974:83). This is to say that **morphemes** are abstract elements made of morphs which are essentially "phonetic (or orthographic) strings" (Bauer 1983 [2002]:15) with "its own form (or set of forms), its own meanings, and its own distribution" (Bauer 1983 [2002]:13). Generally speaking, a morpheme can be defined as "the minimal unit of grammatical analysis" (Lyons 1968 [1969]:181, Matthews 1974:11-12, Bauer 1983 [2002]:14, Plag 2003:10).

Kastovsky (1982:71) differentiates between "lexikalische Morpheme" and "grammatische Morpheme". The former are units which are used to combine with one another within a syntactic-semantic framework. The latter includes markers of grammatical properties such as tense, person, case, etc. (see also discussion on inflection above). In addition to these morphemes, Kastovsky (1982:72) further differentiates between "freie, gebundene und blockierte Morpheme". **Free morphemes** are entities "which may occur alone as utterances" (Lyons 1968 [1969]:201). This is to say that free morphemes function as independent units, which "can occur in isolation" (Bauer 1983 [2002]:17), and do not have to be combined with anything else, for example *the*, *go*, *alone*, *man*, *in* (cf. Kastovsky 1982:72).

Whenever entities cannot stand alone as whole utterances and need to be “in conjunction with at least one other morph” (Bauer 1983 [2002]:17), they are called ‘**bound morphemes**’ (Lyons 1968 [1969]:201, Kastovsky 1982:72, Bauer 1983 [2002]:17). Let me illustrate this with the morphemes *commit* and *ment* in the lexeme *commitment*. While *commit* can occur independently, it is impossible for *ment* to be unattached. Hence *commit* is regarded as a free morpheme, whereas *ment* must be bound. Such bound morphemes are generally referred to as ‘affixes’ (Kastovsky 1982:72). Depending on their position in a word, affixes are divided into three categories, namely (i) prefixes, (ii) suffixes, and (iii) infixes (Kastovsky 1982:72, Bauer 1983 [2002]:18, Plag 2003:10-11, Crystal 2008:16). Affixes are discussed in-depth in the following section.

For Kastovsky (1982:72), blocked morphemes constitute a special case as they only occur in certain, closed paradigms; for example the morphemes *cran-*, as in *cranberry*, or *Mon-*, as in *Monday*, do not occur elsewhere. However, in the paradigm of *berry*, *cran-* is used to differentiate between *raspberry*, *strawberry* or such and, thus, its existence makes sense. The same applies to *Mon-*: within the paradigm of *day*, *Mon-* can clearly be separated from *Tuesday* or *Friday*. Another kind of morpheme, which is not relevant in terms of negative affixes, but which I will discuss for completeness’ sake, is the allomorph. An allomorph is a morph which represents variant forms of one morpheme (Plag 2003:27, Crystal 2008:20). For example, the indefinite article has three distinct realizations: [ə] as in *a question*, [ən] as in *an answer*, or [‘eɪ] when it is isolated (cf. Plag 2003:27).

Apart from morphemes, there is another element which we will come across on a frequent basis, namely ‘base’, sometimes also referred to as ‘root’ or ‘stem’. Generally speaking, these three terms “designate that part of a word that remains when all affixes have been removed” (Bauer 1983 [2002]:20). A distinction between these three terms has been established to not only avoid confusion but also to clearly separate from inflectional and derivational operations (Bauer 1983 [2002]:20, Plag 2003:10-11).

The ‘**base**’ is essentially that part of a word to which any affixes can be attached (Bauer 1983 [2002]:21, Plag 2003:11). For instance, *touch* functions as the base when the prefix *un-* and the suffix *-able* are added to form *untouchable* (cf. Bauer 1983 [2002]:21). A base, thus, represents the “central meaningful

element of the word” (Plag 2003:10). In addition to this, the term ‘**root**’ is used for “bases that cannot be analyzed further into morphemes” (Plag 2003:11) neither by means of derivation nor in terms of inflection (Bauer 1983 [2002]:20). In the example *untouchable* above, the base *touch* also functions as the root because it is not further analysable. The third term, ‘**stem**’, is exclusively used in discussions of inflectional morphology (Bauer 1983 [2002]:20, Plag 2003:11). When all inflections have been removed, the part that is left is referred to as ‘stem’ (Bauer 1983 [2002]:20). For instance, in *(he is) singing* the stem is *sing*, in *books* the stem is *book*. It should be noted that in a word like *untouchable*, *touchable* can never be considered a stem as it is not a matter of inflection (Bauer 1983 [2002]:20).

2.2.1.3. Word-formation processes

For the sake of completeness, I will very briefly describe word-formation processes other than affixation in this section. Scholars, such as Kastovsky (1982), Bauer (1983 [2002]), Plag (2003), Adams (1973), Marchand (1969), Jespersen (1942), etc. have identified many methods to enhance the English language's lexicon. The ‘major’ word-formation processes include compounding, zero-derivation, back-formation, and affixation. The ‘minors’, which Bauer (1983 [2002]:232) termed the ‘unpredictable formations’ because “it is by no means clear that the forms of these words can be predicted by rules without appealing to such ill-understood notions as euphony” (ibid.), include clipping, blends, acronyms, and word manufacture. I will briefly discuss each process in turn. Since the process of affixation is of more interest for my purposes, it will be dealt with in detail in the following section.

Compounding, or composition, is “the most productive type of word-formation” (Plag 2003:132). It is, roughly said, the combination of two or more words to form a new one (Bauer 1983 [2002]:11, Plag 2003:133). Kastovsky (1982:152) states that compounds are built on the basis of something “schon Bekanntem” and, thus, argues that “Wortbildungen sind [...] als Syntagmen zu definieren, denen eine Determinatum/Determinans-Beziehung zugrundeliegt”. Since the notions ‘Determinatum’ and ‘Determinans’ will recur in section 2.2.2., I will briefly discuss them here. The Determinatum serves as ‘head’ or ‘nucleus’ (Marchand 1969:13) which not only expresses the most important unit (Plag 2003:152), but also constitutes the known element in a compound (Kastovsky

1982:153). The Determinans (E determinant), on the other hand, represents the element to be modified (Kastovsky ibid.).

Another word-formation process is that of **zero-derivation**, which is often also referred to as **conversion** (cf. Jespersen 1942, Adams 1973, Bauer 1983 [2002], Plag 2003). Since this issue will return in chapter 4.1.1., where I will discuss the negative affixes' competition based on morpho-syntactic criteria, I will treat this a little longer than the other word-formation processes. Generally speaking, zero-derivation implies "the derivation of a new word without any overt marking" (Plag 2003:107). Kastovsky (1982:172) defines it as follows:

Es handelt sich hierbei um Konstrukte, die zur Charakterisierung von Beziehungen auf der Ebene des Sprachsystems dienen und eine Leerstelle bezeichnen, die normalerweise durch ein explizites Suffix gefüllt wird.

For Bauer (1983 [2002]:226-227) conversion is an "extremely productive" process where a lexeme of one word-class is treated as if it belongs to a different class. Examples of zero-derivation are listed in (11a) to (11d) below (from Plag 2003:107, Kastovsky 1982:172-173).

- | | | |
|-------|------------|--|
| (11a) | the bottle | to bottle ('to put something into a bottle') |
| | the father | to father ('someone who acts as father') |
| | the water | to water ('to provide something with water') |
| (11b) | poor | the poor ('people who are poor') |
| | rich | the rich ('people who are rich') |
| | English | the English ('people from England') |
| (11c) | to cheat | the cheat ('someone who cheats') |
| | to guess | the guess ('the act of guessing') |
| (11d) | empty | to empty ('to make empty') |
| | open | to open ('to make open') |

Kastovsky (1982:173) insists that the lexeme, which serves as base, and its derived form must be semantically connected. That is to say that the verb *to bottle* presupposes the concept of *bottle* (Kastovsky ibid., cf. also Plag 2003:109). Bauer (1983 [2002]:226) states that because "all form classes seem to be able to undergo

conversion, and conversion seems to be able to produce words of almost any form class”, there appears to be no specific ruling for this process.

According to Bauer (1983 [2002]:32), some scholars, especially Marchand (1969) and later also Kastovsky (1982), prefer the term zero-derivation to conversion. A reason for this, Bauer (1983 [2002]:32) continues, is that the term zero-derivation implies the operation of a “zero affix” (cf. also Adams 1973:37), a “zero-form” (cf. also Plag 2003:111) or a “zero-morpheme” (cf. also Marchand 1969:359). This zero element, thus, is an “affix with many functions” (Adams 1973:37) as this affix expresses numerous different actions, roles, etc. (see examples in (11) above). Lyons (1977:523) states that the term 'zero-derivation' implies affixation of an “identity-element” (i.e. zero element), whereby the new lexeme is being considered as an 'extension' in their new word-class; for instance *to bottle* is an 'extension' (i.e. belongs to a subclass) of verbs. The term 'conversion', on the other hand, merely expresses “the syntactic transposition of a word” (Marchand 1969:360). For Marchand (ibid.) conversion is a notion which should be used in discussions of grammar.

Another means of forming new words is the process of **back-formation** or **back-derivation**. In this process, a suffix (or supposed suffix) is deleted in order to form a new, somewhat shorter lexeme (Kastovsky 1982:174, Bauer 1983 [2002]:232, Plag 2003:37). The probably most cited example is that of the verb *edit* (e.g. Bauer 1983 [2002]:231). This verb was derived from the noun *editor*, but the suffix *-or* was deleted because it was perceived as an analogy to *actor* (> *to act*) or *director* (> *to direct*). Bauer (1983 [2002]:232) argues that in regards to more recent examples, such as *transcript* (from *transcription*), back-formation could even be treated as “a special case of clipping” (see below).

One of what Bauer (1983 [2002]:232) calls the ‘unpredictable formations’ is the process of **clipping**. It refers to the “deletion of material” (Plag 2003:13) while “still retaining the same meaning” (Bauer 1983 [2002]:233). In contrast to back-derivation, clipping does not change word-class (Bauer 1983 [2002]:233). Examples of clipping include *ad* (from *advertisement*), *bi* (from *bisexual*), *deli* (from *delicatessen*), *lab* (from *laboratory*), etc. (cf. Bauer 1983 [2002]:233, Plag 2003:121). Clippings, so Adams (1973:135) suggests, are “generally used in less formal situations than their full-length equivalents”.

Another word-formation process is called **blends**. A blend constitutes two (rarely more) words which are combined into one, whereby material from one (or both) are deleted (Plag 2003:121-122). Such a combination, however, no longer allows any transparent analysis into morphs (Bauer 1983 [2002]:234). Most frequently used blends include *smog* which derives from *smoke* + *fog*, *Spanglish* (> *Spanish* + *English*), or *brunch* (> *breakfast* + *lunch*).

A new lexeme is defined as an **acronym** when “the initial letters of the words in a title or phrase” (Bauer (1983 [2002]:237) are used to form this lexeme. It should be noted that acronyms clearly differ from abbreviations. Even though abbreviations are also “formed by taking initial letters of multi-word sequences” (Plag 2003:126) for instance *BA* for *Bachelor of Arts*, acronyms are pronounced like regular words. This is to say that acronyms “must conform to the phonological patterns of English” (Plag 2003:128). On this note, NATO is treated as an acronym because it is pronounced as /'neɪ tɒ/ rather than /en eɪ ti: ɒ/, and BBC is considered to be an abbreviation because /bbk/ (or /bbs/) is an impossible combination of sounds in the English language (cf. Plag 2003:128).

For Bauer (1983 [2002]:239), the “purest cases” of creating a new lexeme are without any morphological, phonological or orthographic motivation. However, such cases are pretty rare. The probably most famous example of **word manufacture** is the brand name *Kodak* (Bauer *ibid.*).

2.2.2. Affixation

Affixation is a very common and productive method to create new words (cf. Lyons 1977:521, Plag 2003:104). It stands in clear contrast to compounding as it involves at least one bound morpheme, it differs from back-derivation because an affix is added (rather than removed), and there are hardly any material deletions involved. This section will go into detail about the affixation process and discuss its main characteristics in the English language.

As mentioned earlier, an 'affix' is generally described as a bound morpheme which cannot stand alone and, therefore, must be attached to another morpheme. Depending on their function, affixes are referred to as inflectional affixes, when they mark grammatical properties like tense, or as derivational affixes, when they contribute to the creation of new words (cf. Plag 2003:14-15, Crystal 2008:138).

According to Matthews (1974:124), the process of affixation consists of two characteristics:

Firstly, the derivand (the form which results when process or operation is applied) will consist of the operand (the form that it is applied to) plus a new formative which has been added or 'affixed' to it. [...] Secondly, this additional formative (the affix) will be a constant; it will be the same whatever particular operand is in question.

This is to say that in affixation a base, which Matthews (1974:124) termed 'operand', is the central meaningful element to which an affix (or more) must attach (cf. Plag 2003:10). Furthermore, a particular affix always operates in the same way, no matter what the base is, hence Matthews' notion of 'constant'. This means that prefixes can never become suffixes and vice versa. These processes are illustrated in (12a) to (12c) below.

(12a) general rule: base + affix = derivative

suffixation: base + suffix = derivative

prefixation: prefix + base = derivative

(12b) base + -ed = derivative expressing past tense, e.g. played, watched

base + -ish = derivative expressing vagueness ('somewhat...'), e.g. greyish

(12c) *trans-* + base = derivative expressing location ('across'), e.g. *transatlantic*

re- + base = derivative expressing repetition of an action, e.g. *re-entry*, *retry*

Affixes are, then, divided into three categories, i.e. (i) prefixes, (ii) suffixes, and (iii) infixes (Kastovsky 1982:72, Plag 2003:10-11, Crystal 2008:16). As the Latin-influenced names suggest, prefixes include all affixes which are attached before the base, suffixes are placed after the base and infixes are situated between two bases (ibid.). Even though prefixes and suffixes are very common in the English language, it needs to be pointed out that the third kind of affixation has no occurrences in English at all (Plag 2003:11). Infixation can, however, be found in Asian, American Indian and African languages (Crystal 2008:243). Plag (2003:11) claims that speakers of English have used infixation in connection with swear words, such as in *abso-bloody-lutely* (cf. *absolutely*). However, it goes without saying that this is restricted to the informal spoken genre.

This, then, leads to the question of the origins of affixes in the English language. According to Marchand (1969:129), the handful of native prefixes, which

include *a-*, *be-*, *fore-*, *mis-*, *mid-*, *un-*, came into being thanks to independent words. Most of the foreign prefixes, on the other hand, “came into language ready-made, so to speak”, so Marchand (ibid.) claims. During the Norman Conquest, the English language experienced a “rise of prefixes and suffixes” (Marchand 1969:130), where many French and Latin loan words entered the language. Since a number of these French and Latin loans (and, of course, from other languages as well) had the same or similar structure to English, it was possible for patterns to extend and to form new affixes over time (Marchand 1969:129-130). As far as suffixes are concerned, Marchand (1969:210) states that

there are two ways in which a suffix may come into existence: 1) the suffix was once an independent word but is no longer one; 2) the suffix has originated as such, usually as a result of secretion.

Regarding the former, Marchand (1969:210) points out that the suffixes *-dom* and *-hood* were still independent words in Old English. Consequently, their development can be observed. In terms of the latter, the suffix *-ling* is merely an extended form of *-ing*. Furthermore, other suffixes came into being because they were used as “second parts of combinations” (Marchand ibid.). Even though they were still regarded as words, they were no longer used as independent words, such as *-wise* or *-wright*. In contrast to this, there are some second elements of combination, which have been treated as suffixes, but are, according to Marchand (ibid.), “not suffixes”, such as *-craft* (*witchcraft*), *-fiend* (*cigarette-fiend*), or *-proof* (*fireproof*).

It is with cases like the latter where difficulties “in discerning affixed words and the pertinent affixes” (Plag 2003:85) could arise. Therefore, it needs to be pointed out that the boundaries between prefixation, suffixation, and infixation are not always as clear-cut as the theory suggests (Matthews 1974:125). As a result, the exact number of affixes in the English language cannot be established, “but it is clear that there are dozens” (Plag 2003:85). According to Matthews (1974:124), the most common process in the English language is suffixation. In his major work on word-formation, Marchand (1969) lists 65 prefixes, 78 suffixes, and six ‘semi-suffixes’.²

Other than their position in a word, affixes have distinct characteristics which clearly separate prefixes from suffixes. In the following, I will describe general

² These numbers include affixes which are listed twice (or more) due to their different types.

properties which “are mostly of a phonological nature, but they have serious consequences for the properties of derived words and the combinability of affixes with roots and other affixes” (Plag 2003:79). The list below shows some examples of prefixes and suffixes and with it, it is possible to determine some dissimilarities.

(13a) Prefixes	hero	<u>anti</u> -hero
	organise	<u>re</u> organise
	modern	<u>post</u> modern
	president	<u>vice</u> -president
(13b) Suffixes	hero	hero <u>ic</u>
	evolution	evolution <u>ary</u>
	selective	selectiv <u>ity</u>
	offense	offensiv <u>e</u>

The first striking difference between prefixes and suffixes is the change of base-form in suffixation (cf. also Plag 2003:79). As seen in the list above, suffixes have caused the deletion of some material at the end of the base (Plag *ibid.*). For instance, both *selective* and *offense* lose the orthographic <e> respectively. In contrast to this, the base-form remains unaltered in prefixation. However, there are some suffixes, such as *-less* or *-ness*, which do not result in deletion of material (Plag *ibid.*), e.g. *hope* > *hopeless*, *open-minded* > *open-mindedness*.

The second difference concerns parts of speech. The list above clearly shows that suffixation results in change of word-class (cf. also Kastovsky 1982:171, Plag 2003:15): for example, the noun *hero* becomes an adjective in *heroic*. With prefixation, on the other hand, the word-class does not change, e.g. verb *organise* stays a verb in *reorganise*. According to Kastovsky (1982:171), the reason for this is that the suffix acts as determinatum, which then modifies the base. In other words, the determinatum (suffix), i.e. the head or dominant element, is able to move the determinant (base), i.e. the ‘weak’ element, into a different word-class (Kastovsky 1982:153 and 1982:171). Let me illustrate this with an example of *to employ* > *employer*. In the case of *employer*, the suffix *-er* denotes “the performer of an action, occasional or habitual” (Marchand 1969:273). Thus, suffix acts as agent substantive, ergo *employ* is nominalised to *employer*. According to Bauer (1983 [2002]:216) the “vast majority of prefixes” in the English

languages does not change word-class. Those prefixes that do change word-class include *a-* (e.g. *asleep*), *be-* (e.g. *befriend*), *en-* (e.g. *enslave*) and many more (Bauer *ibid.*).

Finally, another difference between prefixes and suffixes affects phonology. Some suffixes trigger change in the stress pattern, such as *-ise*, *-ate*, or *-ity*, while others do not, e.g. *-less*, *-hood*, or *-ly* (Plag 2003:80). As a 'rule of thumb', Plag (*ibid.*) states that suffixes, which trigger phonological changes are vowel-initial, whereas those that do not are consonant-initial.³ Prefixes, on the other hand, have "no effect on the stress patterns of their base words" (Plag 2003:79).

As seen above, affixes are generally categorised according to their position in a word, i.e. prefixes, suffixes and infixes. Nevertheless, there have been numerous different ways of categorisation including alphabetical order, or classification according to syntactic or semantic properties (Plag 2003:85-86). However, most of these have turned out to be quite problematic or even impractical. Therefore, affixes are often listed in terms of the syntactic properties of the derived form (Plag *ibid.*). Such categories include suffixes forming nouns (e.g. Bauer 1983 [2002]:220), forming verbs (e.g. Bauer 1983 [2002]:222), forming adjectives (e.g. Bauer 1983 [2002]:223), forming adverbs (e.g. Bauer 1983 [2002]:224). In terms of prefixes, the categorisation is somewhat more problematic as they often derive different categories, such as *un-*, which derives an adjective in *unhappy* but a verb in *untie* (Plag 2003:86). Bauer (1983 [2002]:217ff), thus, differentiates between class-changing and class-maintaining prefixes.

At this point, I shall note that even though the amount of affixes is vast and would lead to numerous possibilities to create new words, there are some affixes which are used more often than others – and others which are hardly or not used at all (Plag 2003:44). This property is called 'productivity' and will be discussed in the following section.

2.3. What is productivity?

When talking about word-formation, sooner or later one stumbles upon the term 'productivity'. As previously mentioned, there are some affixes which are used

³ According to Plag (2003:80), *-ish* is the only vowel-initial suffix which does not result in change of stress pattern.

more often to create new words, while other affixes are used rarely or not at all (e.g. Plag 2003:44). This is, then, referred to as the ‘productivity’ of affixes. In this chapter, I will discuss the concept of ‘productivity’ in morphological terms (as opposed to productivity in syntax), which has been a matter of discussion among linguists for many years (e.g. Bauer 1983 [2002]:62).

2.3.1. Possible and actual words

Aronoff (1976:19) claims that “the task of a morphology [is] to tell us what sort of new words a speaker can form”. However, this then leads to the question of how speakers (or rather listeners) are able to understand new words, if they are unknown (Plag 2003:54). For example, Kastovsky (1982:152) mentions the lexeme *mud-bather*. Given that a speaker is familiar with the concept of *sun-bather*, i.e. a person who takes a sun-bath, it is easy to infer that a *mud-bather* is someone who takes a mud-bath. According to Plag (2003:54), the main reason for this deduction is that speakers/listeners are able to “decompose the word into its constituent morphemes and compute the meaning on the basis of the meaning of the parts”. Therefore, speakers are not only well aware of which words are possible and which are not (Plag 2003:44), but also have “intuitions about [the new word's] meaning and structure” (Aronoff 1976:19). Nevertheless, in morphology many things are possible, but “some are more possible than others” (Aronoff 1976:35). This potential of coining new words is, then, referred to as ‘productivity’ (cf. Bauer 2001:41, Plag 2003:68). However, Kastovsky (1982:156) raises the issue that

[e]ine wesentliche Schwierigkeit für eine Beschreibung der Wortbildungsprozesse, die zugleich Aussagen über mögliche Neubildungen und damit über die Wortbildungskompetenz eines Sprechers/Hörers anstrebt, ergibt sich daraus, daß zwischen tatsächlich realisierten und systematisch möglichen Bildungen eine beträchtliche Diskrepanz besteht.

This leads to the question what words are possible and what words have been established? Van Santen (1992:63-74 quoted in Bauer 2001:34) insists on the distinction between ‘possible’ (‘potential’) and ‘actual’ (‘existing’) words because “[p]roductivity is manifested in the space between the existing and the impossible” (Van Santen 1992:63-74 quoted in Bauer 2001:34). As Bauer (2001:34) puts it,

only in accepting the category of 'existing' words, the notion of 'productivity' is possible.

A **possible word** is understood as an entity whose "semantic, morphological or phonological structure is in accordance with the rules and regularities of the language" (Plag 2003:46). Consequently, these rules and regularities should be clearly stated (Plag *ibid.*). Furthermore, this means that words can be coined but may not be used, for whatever reason (Bauer 2001:40). Plag (2003:46) lists *cannibalisable* as an example of a possible word, i.e. it follows word-formation patterns where the suffix *-able* can attach to verbs (cf. *readable*, *manageable*), but is not an actual word. On this note, it shall be pointed out that not all possible words are, or will eventually become, actual words (Plag 2003:46). In fact, Bauer (1983 [2002]:81) states that actual words are always only "a small proportion" of the possible words.

Actual words can loosely be defined as those entities which have already been coined and used by speakers of English, i.e. actual words are known entities, which are in use (Plag 2003:46). Of course, this then raises the debate about what is 'known' and what is 'in use'. On this note, Bauer (2001:36) uses the terms 'existing' and 'established' words. The former implies that a word exists "from the moment it is first coined" (Bauer *ibid.*). The latter expresses that a word has been established when it has become part of the norm. This, consequently, leads to the problematic issue of an individual speaker's mental lexicon (cf. Plag 2003:47). How can a speaker know that a given word has already been coined, let alone established (Plag 1999:8)? By and large, it can be said that there is "a large overlap" (Plag *ibid.*) of speakers' mental lexicons whereby "the common core of vocabulary" (Bauer 2001:35) is shared and, thus, meaning is generally understood.

In addition to this, Plag (1999:8-9) points out that the boundaries between possible and actual words are very fuzzy. For instance *knowledgeable* (from Plag 2003:47) does not accord to the word-formation rules of the suffix *-able*, where the derivate gains the meaning 'capable of doing' (Marchand 1969:230-231), cf. *affordable* 'can be afforded', whereas *knowledgeable* means 'having knowledge'. Furthermore, Plag (1999:8) claims that "the class of actual words contains both morphologically regular and morphologically idiosyncratic forms". He (1999:8, 2003:47), thus, concludes that only actual words may be idiosyncratic, but possible words are never idiosyncratic. Nevertheless, such an actual/possible word

distinction is certainly “useful and often necessary” (Plag 1999:9) when describing morphological processes. After all, possible words are determined “by studying large amounts of actual words” (Plag 1999:9).

In summary, it can be said that speakers and listeners not only have the ability to understand new coinages but are also able to distinguish between possible and impossible words. But what does this potential for coining new words, i.e. ‘productivity’, mean?

2.3.2. Subsets of productivity

The ‘essence’ of productivity is rather hard to grasp and, thus, the definition (or an attempt of definition) of the notion productivity has been subject of debate for many years (Bauer 2001:12). For Aronoff (1976:35), productivity is even “one of the central mysteries of derivational morphology”. From the literature I have read (Aronoff 1976, Bauer 2001), I came to the conclusion that the main idea behind productivity is the ability to create new forms based on already stored elements. This can be argued as follows:

According to Bauer (2001:20), there are three prerequisites for productivity, namely (i) frequency, (ii) semantic coherence, and (iii) the ability to make new forms. Even though many scholars claim that **frequency** equals productivity, for Bauer (2001:48) this is not the case (cf. also Aronoff 1976:36). The sheer number of occurrences with a certain morphological process cannot be the crucial factor of productivity (Aronoff 1976:36, Plag 2003:52). On the one hand, some morphological processes seem to be productive, but then generate a low frequency of new words. According to Bauer (2001:48), the prefix *a-*, which means “in a state or position of” (Marchand 1969:139) as in *ablaze*, is an example for this. Bauer (2001:48) laments that “given the number of potential verbal bases for such formations, [about ninety listings in Marchand (1969:139-140)] is not a large number”. On the other hand, seemingly unproductive processes have lead to a high frequency of new words, for instance suffix *-ment* (Bauer 2001:48). However, Plag (2003:53) points out that frequency is a useful indicator for productivity because the higher the frequency of a word, the more likely it is to be established and, thus, it becomes an actual word (see 2.3.1. above).

In terms of **semantic coherence**, Aronoff (1976:39) suggests that it is directly linked to productivity. Aronoff (1976:38) claims that meaning is “assigned to [coinages] by the semantic function of the rule”. This is to say that the meaning of the newly coined word can be predicted based on the rule carried out (Aronoff *ibid.*), for example in the lexeme *Anglicism*. The meaning of it can be easily retrieved because the suffix *-ism* denotes ‘a peculiarity or characteristic of what the base states’ (OED: s.v. *-ism*, *suffix*, *sense 2b*). Hence, *Anglicism* implies ‘being of English quality’ (OED: s.v. *Anglicism*, *n.*, *sense 2*). In this regard, Aronoff (1976:39) states that “the correlation [semantic coherence and productivity] is perfectly reasonable: the surer one is of what a word will mean, the more likely one is to use it”.

For Bauer (2001:21), it seems redundant to list '**ability to form new words**' as a prerequisite for productivity. However, he (*ibid.*) points out that there are two things worth mentioning. First, “the actual production of new words is not necessary to productivity” (Bauer 2001:21). That is to say that the potential or possibility for it plays the central role (Bauer 2001:41) (see section 2.3.1.). Second, coinages may be a result from unproductive morphological processes (Bauer 2001:22). Bauer (2001:56) remarks that it is possible for individual speakers to coin new words from morphological patterns, which are not productive. This may be done consciously or unconsciously (Bauer *ibid.*). In conclusion, it is the “potential to lead to new coinages, or to the extent to which it does lead to new coinages” (Bauer 2001:41) that makes processes productive.

Word-formation presents, as Bauer (2001:41), puts it, “methods for filling [lexical gaps], by exploiting the potential which the system provides”. This exploiting is, however, not unlimited. Thus, productivity also has its limitations (Bauer 1983 [2002]:84ff., Plag 2003:60ff.). Since this is not relevant for my purposes, I will omit the discussion on productivity restrictions.

2.3.3. My understanding of productivity

Generally speaking, productivity can be regarded as the “potential for repetitive non-creative morphological coining” (Bauer 2001:98). By distinguishing between what is a possible and an actual word, speakers are able to form new coinages. It can, thus, be said that productivity serves as scaffold for producing new forms.

Frequency is a prerequisite for productivity because it is more likely for a new affix to be stored, the more it is used (Plag 2003:53). In addition to this, productivity constitutes “the statistical readiness with which an element enters into new combinations” (Bolinger 1948:18 quoted in Plag 1999:22). With semantic coherence as another subset for productivity, one is more likely to use new coinages when the speaker is certain of its meaning (Aronoff 1976:39). In conclusion it can be said that morphological patterns⁴ are productive, if they are readily available to coin new words. Therefore, “productivity is all about potential” (Bauer 2001:41).

2.3.4. Productivity and negative affixes

Putting the notions mentioned above into the scope of negative affixes, it is possible to deduce the following things. First of all, negative affixes are part of word-formation, which in turn is, as briefly mentioned above, a method of naming new items, actions and the like (cf. Bauer 2001:41). Using negative affixes is a means of exploiting the potential which the English language provides.

Second, this potential of forming new words, i.e. productivity, has contributing factors: semantic coherence, frequency, and the ability to form new words. It is clear that negative affixes are semantically coherent (e.g. Aronoff 1976:39). Therefore, it not only makes it easy for a person to understand the meaning, but it also allows a speaker to form new words using a negative affix. It is this ability of coining new words by means of affixation, which plays an important role. That is to say that even if the newly coined words are only possible words and may never become actual words, this potential makes affixal negation productive. As we shall see in the following chapter, some negative affixes are more productive than others.

⁴ Bauer (2001:12ff) describes the disagreement about what is actually considered to be productive in word-formation. He (ibid.) states that, depending on the scholar, productivity applies to particular affixes, morphological processes, groups of processes, rules, or even individual words. Due to space constraints, I will not go into detail about this disagreement and will, following Bauer (2001:13), assign productivity to morphological processes.

2.4. Summary

In this chapter I have introduced three concepts which are essential when discussing negative affixes. First, I have discussed the notion of 'negative', whose basic function in linguistic usages is to reverse the truth value of a proposition. This operation is, then, referred to as 'negation'. Negation can be divided into clause negation, local negation, and predication negation. For my purposes, local negation is of greater interest as only one word (or phrase) is being negated, rather than an entire clause. A means of expressing local negation includes the addition of negative affixes. In addition to this, I have explained the difference between contrary and contradictory opposition which will be crucial when discussing the negative affixes' competition. This, then, leads to the second concept, namely that of affixation.

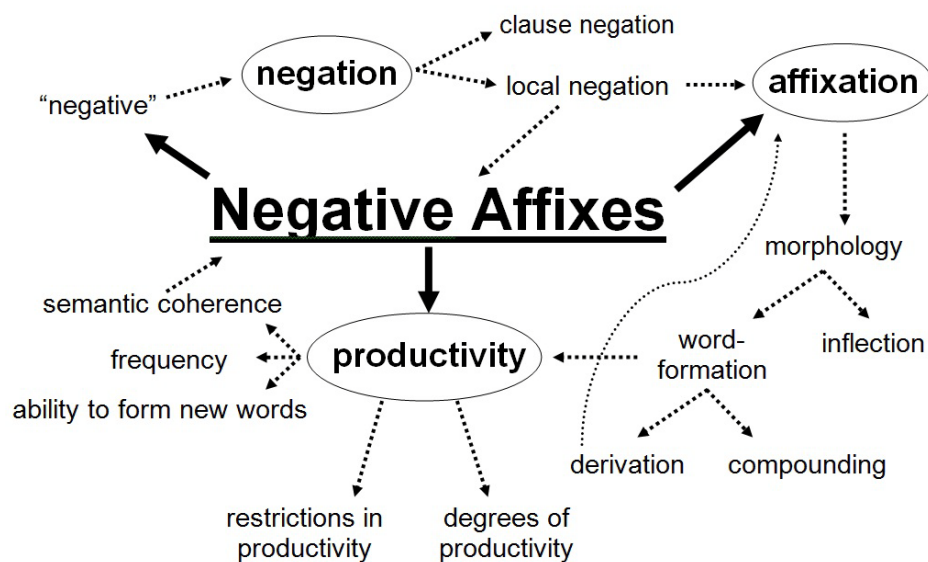
Affixation is part of word-formation which is one of the two branches of morphology; the other being inflection. Word-formation is, generally speaking, concerned with the formation of new words, or 'coinages'. Apart from affixation, word-formation processes include compounding, zero-derivation, back-formation, clipping, blends, acronyms, and word manufacture. Affixation, however, is probably the most common method for coinages. There are three kinds of affixes, i.e. prefixes, suffixes, and infixes, which are further categorised according to syntactic or semantic properties, such as affixes forming verbs, or affixes denoting negation. Even though the number of affixes is large, there are some affixes which are used more often than others. This brought me to the third concept, productivity.

Productivity has been subject of debate for many years and there is no final definition of this term. My interpretation of productivity is that it is the potential to form new words. Since speakers are able to distinguish between words which are possible and which are actual (existing), they are capable of decomposing new coinages and of inferring their meanings. The factors which are contributing to productivity are frequency, semantic coherence, and the ability to form new words. Since negative affixes are semantically coherent and occur frequently, the process of affixal negation is likely to be productive.

Keeping these notions in mind, it is now possible to dive into the discussions of negative affixes. A schematic representation of how these concepts are linked to each other can be seen in Figure 1 below. In the following chapter, I will discuss

which affixes are considered to be negative and I will introduce three concepts of meaning: 'negative', 'reversative', and 'privative'.

Figure 1. *Negative Affixes*.



3. Distribution

Having established the notions which go hand in hand with ‘negative affixes’, I will now discuss the negative affixes themselves. In this chapter, I will at first describe all affixes which are considered to be negative in the English language. I shall briefly describe their origins, historical development and their semantics respectively. At last, I will introduce three concepts of meaning which are essential when discussing the affixes’ competition to each other, namely ‘negative’, ‘reversative’, and ‘privative’.

3.1. Which affixes are negative?

Even though negative affixes are limited in number, they differ considerably from other prefixes. As we shall see, the discussion of negative affixes will be very interesting as they seem more complex than meets the eye (cf. Plag 2003:99).

Affixes, which are regarded as ‘negative’, include the prefixes *un-*, *in-*, *de-*, *dis-*, *mis-*, and *non-* as well as the suffix *-less* (Cruse 2006:117). Welte (1978:186) and Jespersen (1966:147) add *a(n)-* to the list of negative prefixes. For Jespersen (ibid.), the prefix *no-* is also a negative affix. Furthermore, Plag (2003:99) claims that the prefix *anti-* should also be included because it is a ‘relative’. In her studies on negation in spoken and written texts, Tottie (1991:8) also included the suffix *-out*. For sake of simplicity, I have categorised these affixes into prefixes and suffixes, and, further, sorted them alphabetically. It should be noted that this is a tentative categorisation and should not be given any interpretation of significance for each affix. At the end of this chapter, I will enclose a list of the affixes which will be discussed further in chapter 4 of this thesis. It needs to be pointed out that the definitions of all example words are taken from the online version of the OED.

3.1.1. Negative prefixes

3.1.1.1. a(n)-

Even though Marchand (1969:139ff) divides the prefix *a-* into two types, namely (i) “in a state or position of” such as *asleep* (i.e. ‘in a state of sleep’) and (ii) ‘not’ as in *asymmetric* (i.e. ‘not symmetric’), it should be noted that the prefix *a-* is in these

cases only the same in terms of orthography. In terms of phonology they should be treated separately because *asleep* is pronounced with /ə/, while *asymmetric* has /æ/.

Negative *a-* [æ] expresses the meaning 'not' (see above), but could also imply "without, devoid of, not affected or characterized by what is denoted by the root" (Marchand 1969:140) as in *asexual* 'without sex' (Plag 2003:99). This prefix originates in Greek (Zimmer 1964:26, Marchand 1969:140) and is usually combined with Greek bases, but can also be found with Latin bases (OED: s.v. *a-*, *prefix*⁶). This prefix, however, is "of very limited occurrences in English" (Zimmer 1964:26). As Zimmer (ibid.) continues, the majority of terms starting with negative *a-* "belong to highly specialized areas of vocabulary", such as *acardiac* 'lacking heart', *amnemonic* 'characterised by loss of memory' or *anhydrous* 'having no water in its composition' (examples from Marchand 1969:140). Non-scientific lexemes with *a-* include for instance *asymmetric* 'not symmetric', *amoral* 'not in sphere of moral sense', *apolitical* 'detached from political issues' (examples from Marchand ibid.).

The prefix *a(n)-* usually derives adjectives from substantival bases (Marchand 1969:140, Plag 2003:99). Marchand (1969:140), however, states that "in practice they are often analysed as opposites of unprefixated adjectives".

Words with this prefix usually express contradictory opposition (Zimmer 1964:27). This means that lexemes negated with *a(n)-* are not subject of degree and, hence, are not eligible for comparison. Zimmer (ibid.) claims that it is "more or less equivalent to the suffix *-less*", which stands in clear contrast to the suffix *-ful*.

In terms of phonology, the prefix *a-* changes to *an-*, when it is attached to a base beginning with a vowel (Jespersen 1966:147, Marchand 1969:140).

3.1.1.2. anti-

Plag (2003:99) added this prefix to the group of negative affixes because it seems to be related. This prefix originates in Greek and is usually found in "compounds already formed in Greek" (OED: s.v. *anti-*, *prefix*¹). New formations with this prefix are based on Greek models (OED ibid.).

In Old Greek, this prefix attached to verbs and deverbal nouns; the latter, however, has not been implemented into the English language (Marchand 1969:142). According to Stein (2007:11), *anti-* attaches to nouns and adjectives.

The first *anti*-word in English, namely *antichrist* meaning ‘enemy of Christ’, was recorded in 1300 and served as “the archetype for a whole group” (Marchand 1969:142).

Originally, the meaning of this prefix was ‘counter, opposite, instead’ but has extended over the centuries (Marchand 1969:142-143). During the 17th century, the prefix also implied ‘against, opposing’ (Marchand 1969:142, Plag 2003:99) such as in *anti-Calvinist* to mean ‘to be against Calvin’. Further, *anti*- was “used in chemico-medical terms with the meaning ‘counteractive, neutralizing, preventive of’” (Marchand 1969:143), such as *anti-bacterial*, *anti-catarrhal*, or *anti-diphtheritic*. According to Marchand (1969:143), a sense of ‘defense’ was added to this prefix in the 20th century, giving way to formations like *antiaircraft gun*, *antitank gun*, or *anti-missile protection*. Plag (2003:99) claims that nowadays the prefix *anti*- also expresses ‘not having the characteristics of what the base denotes’, examples include *anti-hero* ‘unlike a hero’, or *anti-matter* ‘matter composed of anti-particles’.

In terms of orthography, I have found *anti*-words sometimes written with a hyphen and sometimes without. Neither Marchand (1969:142ff) nor any other literature I consulted, explained when, or if, a hyphen should be used.

At this point, I want to stress that not every *anti*- seems to be the negative prefix *anti*-. In some cases *anti*- is a variant of the prefix *ante*-, meaning ‘before’ (OED: s.v. *anti*-, *prefix*²). Thus, *anticipate* meaning ‘to observe, practice in advance’ or *anticamera* ‘antechamber’ (obs.) are not matters of local negation.

3.1.1.3. de-

The prefix *de*- originally developed from the Old French prefix *des*- (OED: s.v. *dis*-, *prefix*). In French speech, *des*- became *de*- before a consonant and when the letter <s> was eventually omitted in writing as well, the prefix *de*- emerged (OED: s.v. *de*-, *prefix*, *sense 1f*; cf. also OED: s.v. *dis*-, *prefix*). *De*- was first introduced to the English language when some *de*-words were taken over from French, such as *decrease*, *defend*, or *desire* (OED: s.v. *de*-, *prefix*). According to the OED (ibid.), *de*-words which entered English at a later stage “have been adapted directly from Latin, or formed from Latin elements, without the intervention of French”.

General meanings of the prefix *de*- are (i) ‘down from / to’ as in *depend* ‘to hang down’ (this meaning is predominately used in literature), (ii) ‘away, off’ as in *defend* ‘to ward off’, and (iii) ‘down to the bottom’ such as *deplore* ‘to weep, to

lament, to regret'. It may refer to 'something bad' as in *deceive* 'to mislead' and *detest* 'to hate intensely', or it may imply that something is made of two or more elements as in *decompose* 'to separate into constituent parts' (OED: s.v. *de-*, *prefix*, *senses 1a-e*).

In terms of negation, *de-* refers to two distinguishable types: one, which Marchand (1969:153) refers to as the 'demilitarise-type', and the other, which he (*ibid.*) labelled the 'delouse-type'. Even though both types denote some kind of removal, they differ in quality (Marchand *ibid.*). The demilitarise-type expresses reversativity because it implies the 'undoing of an action' (Marchand *ibid.*). The delouse-type, on the other hand, expresses privativity because it denotes the 'removal of what the base denotes' (Marchand 1969:155). Consequently, *demilitarise* implies 'sending military organisation which is then taken away again', whereas *delouse* means 'to clear of lice'. The notions of reversativity and privativity will be dealt with in greater detail in section 3.2.

This prefix can attach to nouns, verbs, and adjectives (Stein 2007:33) and is predominately used to derive verbs (cf. OED: s.v. *de-*, *prefix*, *sense 2a*). According to Marchand (1969:153-154), *de-* is most frequent with verbs ending in *-ise*, for example *decentralise*, *demagnetise*, *demilitarise*, *denaturalise*, followed by verbs ending in *-ate*, such as *decolorate*, *defecate*, or *defoliate*. The prefix seems to be very limited in numbers with the verbal suffix *-ify* as in *defortify*, *deossify*, *declassify*. *De-*verbs ending in *-ify* are commonly found in the scientific field (Marchand 1969:154).

In terms of orthography, a hyphen is usually used when *de-* comes before a vowel, as in *de-acidify* 'to remove acid'. In other instances, *de-* is hyphenated to emphasise the composition as in *de-Christianise* 'to make no longer Christian' (Jespersen 1942:483). Generally, however, the hyphen is not required (OED: s.v. *de-*, *prefix*, *sense 2a*).

3.1.1.4. dis-

Similar to *de-*, *dis-* developed from the Old French prefix *des-* (OED: s.v. *dis-*, *prefix*; cf. also Marchand 1969:158). Even though *dis-* already existed in the Latin language, the Romanic version *des-* was preferred and coinages were usually formed with *des-* (OED: s.v. *dis-*, *prefix*). As mentioned earlier, French *des-* became *de-* in speech and was, eventually, also established as *de-* in writing

(OED: s.v. *de-*, *prefix*, *sense 1f*, cf. also OED: s.v. *dis-*, *prefix*). However, in some cases Latin *dis-* was retained and “was often substituted for, or used alongside of, *des-*” (OED: s.v. *dis-*, *prefix*), leading to the co-existence of e.g. F *descorder* and F *discorder* (E *to be discordant*) (OED *ibid.*). In the later stages of the Middle English period, *dis-* “was uniformly substituted, and *des-* became entirely obsolete” (OED *ibid.*). Marchand (1969:159) claims that the prefix *dis-* was “definitely established by the 15th century”.

The meaning of *dis-* is manifold. First, it was considered as the clear opposite of L *com-* / *con-* which, in a nutshell, expresses a sense of combination or togetherness (OED: s.v. *com-*, *prefix*). Thus, giving for instance *concolor* (E *of the same colour*) > *discolor* (E *of different colours*), or *concordia* (E *concord*) > *discordia* (E *discord*), etc. (OED *ibid.*). Further, the prefix *dis-* also implied senses of separation as in L *dīvidĕre* (E *divide*), L *dījūdīcāre* (E *dijudicate*), L *dīnumerāre* (E *dinumerate*) and such (OED: s.v. *dis-*, *prefix*, *senses 1a-c*).

In terms of negation, this prefix expresses the meaning “refuse to, fail to, not” (Marchand 1969:159). Examples include *disagree* ‘to differ in agreement’, *dislike* ‘to not like’, *disregard* ‘to pay no regard’. When *dis-* is used with a noun, it usually conveys the meaning ‘absence’ or ‘lack of’ (Marchand 1969:161), for instance *discomfort* ‘lack of comfort’, or *disease*, which literally means ‘lack of ease’, but it is generally used to describe the condition of ‘being out of health’, i.e. *illness*. In addition to this, Marchand (1969:159) states that in some instances *dis-* implies “cease to” such as in *discontinue* (‘to stop’) or *disused* (‘no longer used’).

The prefix *dis-* is able to attach to nouns, verbs, and adjectives (Stein 2007:36), whereupon elements of Romance origin are preferred (Marchand 1969:159, 1969:161-162). It seems as though the number of derived verbs is higher than those of adjectives or nouns (Marchand 1969:159-162). Marchand (1969:159) points out that *dis-* can attach to “many verbs beginning with *en-* (*em-*, *in-*, *im-*)”, such as *disengage*, *disembark*, *disinter*, *disimprison*. Marchand (1969:159) also suggests that the reason for this is the “very productive” type *désenchanter* in French (cf. also Kastovsky 2000:107).

Dis- is one of two prefixes, the other being *un-*, which has negative, reversative, as well as privative meaning (see section 3.2.). Marchand (1969:161) claims that nouns and adjectives with *dis-* express negativity, whereas verbs most often imply reversativity or privativity.

Reversative meaning of the prefix *dis-* has been established around 1500 (Marchand 1969:159) and expresses the undoing or the reversal of the action denoted by the base (OED: s.v. *dis-*, *prefix*, *sense 2a*). Examples of reversative *dis-* include lexemes like *disappear* ‘to vanish from sight’, or *disconnect* ‘to sever a connection’ (examples from Marchand *ibid.*). Privative meaning, i.e. to remove from or deprive of what is denoted by the base, has been established in English by the second half of the 15th century (Marchand 1969:160). Examples of *dis-* with privative meaning are *to disarm* ‘to remove arms or weapons’, *to discharge* ‘to release, free, rid from something’, *to disqualify* ‘to deprive of the qualifications necessary for a purpose’. A detailed discussion about the differences between negative, reversative, and privative can be found in section 3.2.

Lexemes coined with the prefix *dis-* usually imply contrary oppositions (Jespersen 1966:146, Marchand 1969:159). This is to say that *to dislike*, for example, does not immediately convey ‘to hate’ and is, thus, similar to the example of *unhappy* – *not happy* which will be discussed in section 4.1.1. Marchand (1969:161), however, points out that “[a] strict line between [contrary and contradictory opposition] cannot be drawn”, for example in a lexeme like *dissimilar* it is not quite clear whether ‘somewhat different’ (contrary opposition) or ‘completely different’ (contradictory opposition) is implied.

3.1.1.5. in-

A distinctive characteristic of the prefix *in-* is that it has always followed the Latin rules of phonology (Jespersen 1966:139, Marchand 1969:169, OED: s.v. *in-*, *prefix*²). In other words, this prefix has *il-*, *ir-* and *im-* as its alternate forms, which can be explained by assimilation: the prefix changes to *il-* before [l] as in *illiterate*, to *im-* before [m, b, p] as in *immoral* or *impossible*, and to *ir-* before [r] as in *irreplaceable* (Jespersen 1966:139, Marchand 1969:169). In contrast to this, the prefix *un-*, which is the biggest rival to *in-* (see section 3.1.1.9. below), does not assimilate: *unlit*, *unmitigated*, *unbreakable*, *unreliable*, etc.

In etymological terms, the prefix *in-* goes back “to the same Arian form, *n-* (syllabic), reduced from the negative word *ne*” (Jespersen 1966:139). It is cognate with Greek α - and αv - and conveys the meaning ‘not’, as in *infinite* ‘not finite’ (Jespersen *ibid.*, Marchand 1969:168, OED: s.v. *in-*, *prefix*³). In Old French, many words with *in-* became *em-* / *en-* (OED: s.v. *in-*, *prefix*²), such as L *inimīcus* > OF

enemi > E *enemy* (OED: s.v. *in-*, *prefix*³). In the 14th century, many French loans to the English language, however, had retained the Latin prefix *in-* because Latin was “predominant” (Marchand 1969:168). According to Marchand (ibid.), *in-* has been established as “an independent formative by about 1500”.

Commonly used with nouns and adjectives (Stein 2007:83), the prefix *in-* conveys ‘not’ (especially with adjectives) or ‘want, lack, absence of’ (predominantly with nouns) (Marchand 1969:168), for example *innumerable* meaning ‘not capable of being numbered or not countable’, *inanimate* ‘without motion of life’, *injustice* ‘want of equity’, *intolerance* ‘absence of tolerance’, etc.

The number of verbs with *in-* seems to be very low. Neither Marchand (1969:169) nor Jespersen (1966:142) discusses verbs beginning with *in-*; they only mention *illegalise*, *immortalise*, and *inhabit*. However, it should be noted that *inhabit* cannot be treated as local negation because this *in-* prefix is the Latin preposition *in*, expressing ‘into, in’ (Jespersen 1966:142, OED: s.v. *in-*, *prefix*¹ and *in-*, *prefix*²). Thus, *inhabit* conveys the meaning ‘to reside permanently in, live habitually in’.

In contrast to the previously mentioned prefixes *de-* or *dis-*, *in-* cannot take reversative and/or privative meaning. It is purely negative in meaning, i.e. it expresses negation only (Marchand 1969:168). In regards to this, *in-* implies contradictory opposition, e.g. *illegal* definitely means ‘not legal’ (Jespersen 1966:144). In some cases, the prefix *in-* is often changed to *a-*, for instance in *immoral* > *amoral*, or to *un-* as in *inhuman* > *unhuman* (Jespersen 1942:470, Jespersen 1966:144-145). Jespersen (1942:470) explains the difference between *immoral* and *amoral* as follows: while *immoral* conveys the opposite of *moral*, *amoral* indicates having no moral quality at all. The subtle difference between *inhuman* and *unhuman* is described in section 4.2.2 when discussing rivalry between *in-* and *un-*.

As briefly hinted above, there is direct rivalry between *in-* and the prefix *un-*. Jespersen (1966:140), for example, states that many words with *in-* may be created with *un-* as well. Over the centuries, especially from the 14th century onwards (OED: s.v. *un-*, *prefix*¹, *sense 5b*), there were some instances which had “by-forms with the prefix *un-*” (Marchand 1969:170), such as *impractical* – *unpractical*, *inexact* – *unexact*, *irreplaceable* – *unreplaceable*, *incorrupt* – *uncorrupt*, *imperfection* – *unperfection* (examples from Marchand 1969:170; OED:

s.v. *un-*, *prefix*¹, *sense 5b*). Only from the 17th century onwards, there was a tendency to differentiate between the two prefixes (OED: *un-*, *prefix*¹, *sense 5b*). The reason for this was “to discard one or other of the doublets” (OED *ibid.*). During that time, preference was given to the prefix *in-*, especially when the base was of Latin origin, e.g. *inadequate* (OED *ibid.*, also OED: s.v. *in-*, *prefix*³). Marchand (1969:169), however, points out that nowadays the prefix *un-* “is ousting *in-* more and more”, especially in regard to adjectives. In this respect, the OED (s.v. *in-*, *prefix*³) states that “words obviously answering to Latin types” keep the *in-* prefixation, while all others take *un-*. The rivalry between *in-* and *un-* will be further discussed in chapters 4 and 5 of this thesis.

Marchand (1969:169) states that “[f]or reasons of euphony”, *in-* does not attach to lexemes that already begin with *in-*, hence, **ininhabitable* or **inintelligible* do not exist (cf. also Jespersen 1966:142). Such words are, therefore, negated with *un-* to form *uninhabitable* and *unintelligible* respectively.

3.1.1.6. mis-

The prefix *mis-* is often referred to as a negative affix because it implies negation, such as *misfortune*, i.e. ‘bad luck’ or simply the opposite of *luck*. During the Old English period, *mis-* was actually “use[d] as a mere negative prefix” (OED: s.v. *mis-*, *prefix*¹, *senses 4 and 5*). In Modern English, however, *mis-* is semantically speaking not a ‘real’ negative affix because this prefix expresses the meaning “badly, wrongly, improperly, amiss” (Marchand 1969:176), rather than ‘not’. Examples with *mis-* include *mishap* ‘unfortunate event’, *mistrust* ‘lack of trust’, *mischievous* ‘harm, injury’ (now obsolete: ‘bad luck’), *to misunderstand* ‘to understand wrongly’, *to misrepresent* ‘to give false or misleading representation’.

The origins of *mis-* can be traced back to the Old English period, but the prefix has not been exploited until the Middle English period (OED: s.v. *mis-*, *prefix*¹). Marchand (1969:176) describes that many French words with *mes-* were introduced into English during the Middle English period. The French prefix *mes-* was essentially synonymous with the prefix *mis-* (Onions 1966:580), and both prefixes later “naturally fused into one” (Marchand 1969:176).

Many lexemes with *mis-* date back to the Middle English period, where it had been used extensively (Marchand 1969:177). During the 17th century, *mis-* was highly productive (OED: s.v. *mis-*, *prefix*¹). Francis Bacon, John Donne, and

Bishop Joseph Hall are among the scholars who have used this prefix frequently in their respective works (OED *ibid.*; cf. also Marchand 1969:177).

According to the OED (s.v. *mis-*, *prefix*¹), the prefix *mis-* attached freely to bases of native or foreign origin. It seems as though this prefix is most frequent with nouns and verbs (Marchand 1969:176-177, Stein 2007:110): *misbelieve*, *misconception*, *to mislead*, *to miscall*. This prefix is, however, less frequent in adjectives (Marchand 1969:177). Adjectival examples include *misproud*, *miscontent*, *misinded* from the Middle English period. In this respect, it needs to be pointed out that in some instances *mis-* has given way to the prefixes *ill-* and *mal-* as in *misinded* > *ill-minded* (OED: s.v. *mis-*, *prefix*¹).

In terms of orthography, in Old and Middle English lexemes with *mis-* were usually written as two words (OED: s.v. *mis-*, *prefix*¹). Hyphenated *mis*-words have been occasionally found in Middle English texts. The custom of writing two words has ceased during the 16th century, where *mis*-words were then recorded as one word, either with or without the hyphen. Today, hyphenation with *mis-* has stopped, except in “new or rarely used formations” (OED *ibid.*), especially when the base word begins with the letter <s>.

3.1.1.7 no-

Jespersen (1966:147) includes the pronoun *no* to the group of negative affixes because it can often be used as “a kind of prefix” such as in *no-education*, or *no-settlement*. Unfortunately, Marchand (1969) does not mention *no-* in his work and there are no entries for *no-* as a prefix in the online version of the OED. Due to the lack of sources and information, I will not include this prefix in further discussions.

3.1.1.8. non-

The prefix *non-* has its origin in Latin and was specifically used in special or technical fields such as Law (OED: s.v. *non-*, *prefix*, Jespersen 1966:147, Marchand 1969:179, Mazzon 2004:111). Examples with *non-* include *non-payment* meaning ‘failure or refusal to pay’, or *non-regardance* (obs.) expressing ‘failure or refusal to regard something’ (all examples from Jespersen 1966:147). From the 17th century onwards, this prefix was no longer restricted to certain areas of expertise and began to attach freely to any bases (OED: s.v. *non-*, *prefix*). Newer

formations include *non-resistance*, *non-obedience*, *nonconformist*, etc. (examples from OED *ibid.*, Marchand 1969:179)

Non-, like the prefix *in-*, can only be used in a negative meaning, i.e. to express negation (OED: s.v. *non-*, *prefix*). Generally, it conveys the meaning 'absence or lack of' (OED *ibid.*). Often, the meaning can be extended to 'not doing, failure to do' and to 'not being, failure to be' (OED *ibid.*), as shown in the examples above.

This prefix is predominantly attached to nouns giving *non-appearance*, *non-communicant*, etc. but can also be found in numerous adjectives such as *non-active*, *non-breakable*, *non-irritating* and such (Marchand 1969:179-180, Stein 2007:116). According to Marchand (1969:180) *non-* cannot be found in verbs. However, he (*ibid.*) mentions that from the 15th to the 17th century, "*non-* was frequently prefixed to verbs" (Marchand 1969:180) but this usage has ceased.

Words prefixed with *non-* generally express contradictory opposition (Zimmer 1964:33). That is to say that *non*-words are never matters of comparison, for instance *non-smoker* is the direct opposite to *smoker* and any middle terms are excluded.

As far as orthography is concerned, *non*-words are usually hyphenated (OED: s.v. *non-*, *prefix*). However, the hyphen may be omitted, as seen in words such as *nonsense*, or *nonchalant*.

3.1.1.9. un-

Unlike *in-* or *non-*, the prefix *un-* can convey either negative, reversative or privative meaning (see section 3.2). For sake of clarity, I will begin with *un-* as a negative and will, then, turn to the reversative and privative meanings of this prefix.

Negative *un-* shares the same root as the prefix *in-*, i.e. it is a variant of the negative word *ne* (OED: s.v. *un-*, *prefix*¹), and can be traced back to the Old English period (OED: s.v. *un-*, *prefix*¹, *sense 2*). Like *in-*, the prefix *un-* conveys the meaning 'not', such as in *unhappy* 'not happy' (Marchand 1969:201).

According to the OED (s.v. *un-*, *prefix*¹, *sense 2*), there were about 1250 words with *un-* recorded in the Old English period. Unfortunately, only an eighth of this number survived beyond that period (OED *ibid.*), though most of these 'survivors' "had passed out of use by 1250" (OED: s.v. *un-*, *prefix*¹, *sense 3*). Due to this incredible loss, *un*-words were categorised into four groups in the early

Middle English period: (i) survivals of Old English, (ii) new formations from native elements, (iii) adoptions from Scandinavian forms, and (iv) new formations on French bases (OED: s.v. *un-*, *prefix*¹, *sense 4a*). The usage of this prefix was, then, predominantly based on “the traditional stock” (OED: s.v. *un-*, *prefix*¹, *sense 4a*) and new forms were hardly coined. During the 14th century, however, the English language experienced a revival of the present and past participles and the suffix – *able* was introduced (OED *ibid.*). By the 1400s, the prefix *un-* was used more frequently and new formations started to emerge (OED *ibid.*). From the 15th century onwards, the prefix *un-* experienced a steady increase in its usage and by the time of the 17th century, the English language has become “extremely rich in words beginning with *un-*” (OED: s.v. *un-*, *prefix*¹, *sense 6a*). Despite the disappearance of older formations and the restrictions of newer ones during the 1900s, the prefix *un-* was nevertheless very popular in use, up to the point where “its employment has become almost unrestricted” (OED *ibid.*).

Generally speaking, *un-* can attach to adjectives, nouns, and verbs (Stein 2007:170). As discussed above, negative *un-* hardly seems to have any limitations. However, one limitation concerns the affixation to verbs: negative *un-* can only be attached to present or past participles, where it becomes “adjectival in character” (OED: s.v. *un-*, *prefix*¹, *sense 5d*), for instance in *unchanging*, *unbecoming*. According to Marchand (1969:204), some *un-*verbs in the 16th and 17th century were back-derivations giving *to unbecome*, *to unknow* and such. Nevertheless, similar instances were coined in Middle English too, but did not survive, such as *untrust* ‘distrust’ or *unbetide* ‘not happen’ (Marchand *ibid.*).

Furthermore, the OED (s.v. *un-*, *prefix*¹, *sense 11b*) states that negative *un-* is able to attach to simple adverbs, yet this is hardly the case. Even though such formations have existed in Old English, they were quite rare even then. Some instances remained during the Middle English period, but the general tendency was to get rid of such forms. Other than this, *un-* seems to have no greater limitations when attaching to bases.

Adjectives and nouns prefixed with negative *un-* can express contrary as well as contradictory opposition (Kastovsky 2006:261). Examples for contradictory opposition include *unfit* ‘not suitable’, *unworthy* ‘not worthy’, *unemployed* ‘not employed’ (examples from Kastovsky *ibid.*, and Jespersen 1942:465-466). Contrary opposition, on the other hand, can be found in lexemes like *unwise* which

“means more than *not wise*” (Jespersen 1942:465) or *unhappy* which “is not far from *miserable*” (Jespersen *ibid.*).

In terms of reversative meaning, the prefix *un-* has its origin in the Old English prefix *and-* / *ond-* (OED: s.v. *un-*, *prefix*², *sense 1*, Marchand 1969:204). According to the OED (s.v. *un-*, *prefix*², *sense 2a*), reversative *un-* and its alternate form *on-* were recorded from Old English onwards, although most formations were made in the 16th and 17th century (OED s.v. *un-*, *prefix*², *sense 2b*). The basic meaning of this prefix is ‘the reversal of what the base denotes’ (OED: s.v. *un-*, *prefix*², *sense 3*) or, as Marchand (1969:205) describes it, to “cause the object of the verb to be no longer *-ed*”. Examples of modern uses of reversative *un-* include *undo* ‘to reverse an action’, *untie* ‘to unfasten cord, knot, etc.’, *unbutton* ‘to undo the buttons of a garment’ and such.

With regard to the privative meaning of *un-*, this type has already been recorded in Old and Middle English (OED: s.v. *un-*, *prefix*², *sense 4a*). However, the respective numbers were quite small (OED *ibid.*). It seems as though privative *un-* became more frequent from the 16th century onwards (Marchand 1969:206), where lexemes like *unsaddle* ‘to dislodge from a saddle’, *unhorse* ‘to dismount from a horse’, *unbody* ‘to remove from body’ (cf. *disembody*) entered the English language. Privative *un-* generally conveys ‘remove, release from’ or ‘deprive of (character or quality)’ (Marchand 1969:206).

3.1.2. Negative suffixes

3.1.2.1. –less

This suffix originates in the Old English lexeme *léas* and is used to convey the meaning ‘devoid of’, ‘free from’ (OED: s.v. *–less*, *suffix*) or ‘without’ (Plag 2003:73). In Old English, *léas* was written as either a separate word or was attached to a lexeme (OED: s.v. *–less*, *suffix*). During the Middle English period, the separate word disappeared and *léas* became a suffix (OED *ibid.*, Marchand 1969:324). Today, this suffix is attached to nouns and verbs to derive adjectives (OED: s.v. *–less*, *suffix*), e.g. *numberless*, *paperless*, *helpless*, *countless*, etc.

The suffix *–less* is usually used to negate words ending in *–ful* (Jespersen 1942:467, Marchand 1969:324-325). Thus, they “are often semantically correlative”

(Marchand 1969:325), as in *careful* – *careless*, *harmful* – *harmless*, and so on. However, Marchand (ibid.) adds that, in the 15th century,

the suffix *-ful* had lost of its original meaning ‘full’ to such an extent that its correlation with *-less* practically no longer existed. This does not mean that their semantic opposition had altogether ceased to be felt (in many words it is felt to the present day), but the distance between the suffixes was no longer the one that had existed between the words *full* and *less*.

As a consequence, many adjectives which end in the suffix *-ful*, are nowadays often negated by prefixing negative *un-* (Marchand 1969:325). Therefore forming, for example, *unfruitful*, *uncareful*, *uneventful*, *unfaithful*, *ungrateful*, *unlawful*, *unsuccessful*, *untactful*, *unthoughtful*, etc. (examples from Marchand 1969:291-292).

3.1.2.2. –out

In her work, Tottie (1991:8) included the suffix *–out* in the list of negative affixes. However, this suffix only occurs in the word *without* and can, thus, be considered as unproductive. Unfortunately, the OED does not have an entry for *–out* as a suffix and, further, Marchand (1969) does not mention it in his work. Hence, I am unable to give any information on this suffix and, thus, will not include this suffix in further discussions.

3.2. Negative, reversative, and privative

In his work *Categories and Types*, Marchand (1969:156) introduces three semantic values, which are present in negative affixes: (i) negativity, (ii) reversativity, and (iii) privativity. Even though their meanings are easily inferred from example words (see words with *de-*, *dis-* and *un-* above), I decided to discuss these semantic patterns separately. This will not only give a better overview of the negative affixes, but also demonstrate how important they are in terms of competition.

The notion of ‘**negativity**’, on the one hand, has already been discussed in section 2.1. In a nutshell, an affix is negative when it expresses opposition and negation. As seen in the examples above, negativity generally expresses the meaning ‘not’. Ironically, not all negative affixes convey negativity. The prefix *de-*

and the suffix *-less* are the only negative affixes without negative meaning (see discussion on this further below).

As far as '**reversativity**' is concerned, Welte (1978:186) describes it as the reverse order of an action. In other words, 'reversative' meaning implies to return to the state before the action occurred (Kastovsky 2000:101). Kastovsky (ibid.) formally describes the semantic structure as follows:

(14) cause theme (T) to come to be not in location (L) or status (S)

This means that the focus is set on location (L) or status (S), which serves as the basis of the derived word, whereas the theme (T) is the external object (Kastovsky 2000:100-101). Therefore, the action *unpacking a suitcase*, for example, implies the pre-action of packing (i.e. status S) a suitcase (i.e. theme T), which is then emptied (cf. *to unpack*) and, thus, results in an empty suitcase again (i.e. T no longer in S).

The term '**privativity**', on the other hand, expresses some kind of removal (Marchand 1969:153, Welte 1978:186). In contrast to reversativity, the focus in privativity lies on theme (T), which then serves as the basis of derivation, and the location (L) becomes the external object (Kastovsky 2000:100-101). Let me illustrate this with an example: *to defrost a steak* means to cause the frost (T) to be removed from the steak (L). Therefore, privativity can be described as follows (cf. Kastovsky ibid.):

(15) cause location (L) not to have theme (T)

Based on these three semantic patterns in negative affixes, Welte (1978:186-187) concludes that negative prefixes⁵ can be organised in three categories: (i) those negative prefixes, which only have negative meaning, namely *a-*, *non-*, and *in-*, (ii) those, which have two meanings, namely reversative and privative, i.e. *de-*, and (iii) those, which can convey all three meanings, namely *un-*, and *dis-*. This is illustrated in Table 1 below. As far as (ii) is concerned, Welte (ibid.) insists that if negative prefixes express two meanings only, these meanings must be

⁵ Welte (1978) does not discuss any negative suffixes in his work.

reversativity and privativity. Any other combination, so Welte (ibid.) states, does not occur in negative prefixes.

Even though negativity is clearly distinguishable from reversativity and privativity, it needs to be pointed out that the borderline between reversative and privative meaning is “somewhat fuzzy” (Kastovsky 2000:100). In many cases, it is quite unclear whether a pre-action is on hand. Kastovsky (ibid.) gives the example of the verb *disarm*: in terms of privativity, *to disarm* implies that someone removed someone else’s arms, assuming no pre-action of providing arms occurred because one is already born with arms. In terms of reversativity, however, *to disarm* implies that someone was previously provided with arms because one was born without them which are then taken away (cf. Kastovsky ibid.).

Table 1. *Negativity, reversativity, and privativity*

Affix	Negative	Reversative	Privative
a(n)-	✓	-	-
de-	-	✓	✓
dis-	✓	✓	✓
in-	✓	-	-
mis-	✓	-	-
non-	✓	-	-
un-	✓	✓	✓
-less	-	-	✓

(based on Welte 1978:186-187, Kastovsky 2000:102)

Table 2. *Negativity, reversativity, and privativity – examples*

Affix	Negative	Reversative	Privative
a(n)-	<i>asymmetric</i>	-	-
de-	-	<i>deactivate</i>	<i>defrost</i>
dis-	<i>disagree</i>	<i>disjoin</i>	<i>disarm</i>
in-	<i>impolite</i>	-	-
mis-	<i>misunderstand</i>	-	-
non-	<i>non-smoker</i>	-	-
un-	<i>unhappy</i>	<i>untie</i>	<i>unnerve</i>
-less		-	<i>useless</i>

The distinction between negativity, reversativity, and privativity is crucial when discussing the negative affixes’ competition to each other. As Table 1 above shows, not every affix is in direct competition with the others. The prefixes *de-*, *dis-* and *un-*, for example, are the only ones with reversative and privative meaning. That is to say that, in this respect, the others cannot compete with them. The

reverse also holds: the prefix *in-*, for instance, only has negative meaning, which in turn means that it is in competition with every other affix that has negative meaning. Keeping the differences between negativity, reversativity, and privativity in mind will be helpful when deciding which affix to take. This is discussed in detail in the following chapter.

3.3. Summary

In this section, I have discussed nine prefixes and two suffixes which are considered to be ‘negative’ in the literature consulted. I have elaborated on the historical development, specifically with the prefixes *de-*, *dis-*, *in-*, *mis-*, *un-*, and the suffix *-less*. Further, I have described to what kind of bases each affix usually attaches to. Doing so, I have discovered that only four negative affixes are able to freely attach to either verbs, nouns, or adjectives, namely the prefixes *de-*, *dis-*, *un-* and, to a certain degree, *mis-*. In two cases, i.e. prefixes *a-* and *non-*, I have described that they are found in specialised vocabulary. All the others seem to be found in everyday language. In addition, I have distinguished between affixes which express contrary opposition and those which imply contradictory opposition. Contrary opposition can be indicated by the prefixes *un-* and *dis-*. Contradictory opposition, on the other hand, can be expressed by *a-*, *anti-*, *dis-*, *non-*, and the suffix *-less*. In this respect, the prefix *dis-* seems to be the only negative affix that is eligible to express contrary as well as contradictory opposition. Furthermore, the prefix *de-* is the only negative affix without negative meaning. And, of course, I have also pointed out each affix’ meaning.

In regard to this, Table 3 below gives an overview of all meanings, which the negative affixes can obtain. With the help of Table 4, I will omit some affixes from further discussion in this thesis, namely the prefixes *anti-* and *no-*, as well as the suffix *-out*. The reasons for this are stated as follows.

Even though the prefix *anti-* is related to negative affixes, I have the impression that it is different in quality. This prefix implies ‘against, opposing’ and is, thus, not entirely negative in meaning. In my opinion, *anti-* is very similar to the prefix *contra-*, which is used to “indicate a thing made or acting against” (OED: s.v. *contra-*, prefix, sense 3) and does not quite fit the profile of negative affixes. In terms of the prefix *no-* and the suffix *-out*, there is hardly any information available

in the literature. Due to this lack of information, it is impossible to discuss these affixes in detail.

Even though the prefix *de-* does not have negative meaning, I decided to keep it in the list of negative affixes. The reason for this is twofold. First, *de-* complies with Welte's (1978:186-187) classification for negative prefixes discussed in section 3.2. Second, the prefix *de-* differs from the prefix *anti-* in the sense that *de-* implies the opposite state or action of what is denoted by the base. In terms of the suffix *-less*, it does not have negative meaning either, but historically speaking it can be regarded as the antonym of the suffix *-ful*.

Consequently, the affixes which will be further discussed in chapter 4 of this thesis are *a(n)-*, *de-*, *dis-*, *in-*, *mis-*, *non-*, *un-*, and *-less* because they are all in accordance with the term 'negative' as discussed in section 2.1.1. This means that these affixes comply with the definition of 'negative', i.e. to express opposition. However, I would like to point out that Modern English *mis-* is actually no longer a 'real' negative. Due to its historical development, i.e. it had negative meaning in the Middle English period, it will remain among the negative affixes in my thesis. In the following chapter, we shall see it does not compete with the other negatives.

Table 3. *Summary: negative affixes*

affix	meaning(s) in terms of negation		
a(n)-	'not', 'without, devoid of'	-	-
anti-	'against, opposing'	-	-
de-	-	'undoing an action'	'deprive of, remove from'
dis-	'not', 'refuse to, fail to', 'absence or lack of', 'cease to'	'undoing an action'	'deprive of', 'remove from'
in-	'not', 'absence or lack of'	-	-
mis-	'badly, wrongly, improperly, amiss'	-	-
non-	'absence or lack of', 'not doing', 'failure to do/be'	-	-
un-	'not'	'undoing an action'	'deprive of', 'release from'
-less	-	-	'devoid of', 'free from', 'without'

4. Competition

In Old English, there was only one negative prefix, namely *un-* (OED: s.v. *un-*, *prefix*¹). However, due to (or thanks to) foreign languages' influences and borrowings over the centuries (e.g. Fisiak 2005), many other negative affixes have been introduced to the English language, "which now [compete] with *un-* and among themselves" (Kastovsky 2006:260). Given that speakers of English are aware of the semantic coherence between the prefixes *dis-*, *in-*, *non-*, *un-*, etc. and are, thus, able to form possible words (see section 2.3.1), how are they able to find the 'correct' negative affix? For example, if the noun *comfort* is negated to *discomfort*, why is the negated adjective called *uncomfortable* and not **discomfortable*? Further, why is it possible to say *intolerance* but not **non-tolerance*, when both prefixes supposedly convey the same meaning, i.e. 'absence or lack of'? After all, *discomfortable* and *non-tolerance* are both possible words. In addition to this, negative affixes can be particularly difficult for learners of English. Therefore, I want to ask if it is possible to establish rules, or at least rough guidelines which dictate when which affix is used?

The aim of this chapter is to detect patterns which make it easier to find the correct negative affix. This section is divided into three groups of criteria, namely (i) morpho-syntax, (ii) semantics, and (iii) etymology, with which (hopefully) some patterns emerge and the 'jumble' behind negative affixation is disentangled. At first, however, I will deal with the question whether speakers are able to choose freely between affixal and non-affixal negation.

4.1. Is there a choice between affixal and non-affixal negation?

In section 2.1.2., I have described that affixal negation belongs to local negation, where only one constituent is negated. In contrast to this, non-affixal negation equals clause negation, where a whole sentence or finite clause is negated. As a consequence, these kinds of negation are syntactically different from each other. Therefore, it could be argued that affixal and non-affixal negation cannot be compared. However, Tottie (1991:49) points out that "sentences with affixal and

nonaffixal negation may be semantically equivalent” – and it is this semantic equivalence that “is crucial” (Tottie *ibid.*). This brings me to the following question: if affixal as well as non-affixal negation is possible, which one will – or should – be used? Further, how will a speaker know that s/he chose the ‘right’ kind of negation? Tottie (1998:233) explains that constraints determine the choice and, thus, “[v]ariation between affixal and non-affixal negation is not free”.

In this section, I will discuss these constraints in detail, which Tottie investigated in her extensive study (1991) on the usage of affixal negation in speech and writing. I will only highlight the most striking issues when comparing affixal to non-affixal negation. It should be noted that the discussion is limited to the use of negative meaning only. That is to say that discussions on reversative and privative uses have been omitted. The reason for this is that reversative and privative uses do not have non-affixal counterparts which are semantically equivalent. For instance *please deactivate the alarm* cannot be rephrased to *please do not activate the alarm* (or vice versa) because its meaning would change entirely. I shall begin with instances where both affixal and non-affixal negation is possible, and will then turn to obligatory affixal and non-affixal negation respectively.

4.1.1. Affixal and non-affixal negation possible

In most cases it is possible to use both affixal and non-affixal negation. It is more or less the speaker’s choice which one s/he uses – presupposing both sentences are semantically equivalent, as shown in the examples (16) to (19) below.

(16a) The patterns on this carpet are not symmetric.

(16b) The patterns on this carpet are asymmetric.

(17a) It is not legal to sell the chocolate “Kinder Egg” in the U.S.

(17b) It is illegal to sell the chocolate “Kinder Egg” in the U.S.

(18a) The old sofa was not comfortable.

(18b) The old sofa was uncomfortable.

(19a) I do not agree with you.

(19b) I disagree with you.

In such cases, it does not matter whether affixal or non-affixal negation is used. However, there are two constraints. First, great attention must be paid when 'gradable' adjectives are to be negated. This is where the distinction between contrary and contradictory opposition plays a major role. As already discussed in section 2.1.3., contrary (or gradable) opposites are not mutually exclusive and allow middle terms between two extremes. Consequently, contrary opposites "create nonsynonymy between pairs with affixal and nonaffixal negation" (Tottie 1991:50), which is given in example (20) below.

(20a) He is not happy about losing the game.

(20b) He is unhappy about losing the game.

This non-synonymy of gradable adjectives is illustrated in Figure 2 and Figure 3 below. The expression *not happy* excludes some part of the *happy*-area because it implies 'definitely not pleased'. Therefore, one end of the scale, i.e. *happy*, can be omitted. At the same time, however, it does not exclude the meaning 'completely sad'. In other words, the interpretation of *not happy* begins somewhere in the middle of the *happy*-area and may go as far as the *unhappy*-area, including the other end of the scale, i.e. *unhappy*. In contrast to this, the expression *unhappy* presupposes 'no happiness' at all and, thus, excludes the *happy*-area entirely. Interpretation of *unhappy*, therefore, begins at *unhappy* and may stop at the middle term, which in this example I will name *content*. Based on this, it can be said that *unhappy* equals *not happy* in the sense that there is 'no happiness' whatsoever. However, *not happy* does not equal *unhappy* because *not happy* still permits 'some happiness'. Therefore, it can be said that *he may be not happy, but he is not unhappy either*.

Figure 2. *He is not happy.*

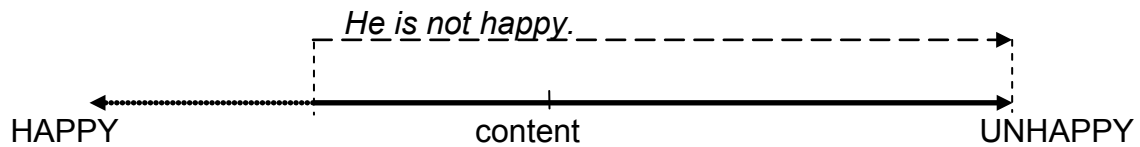
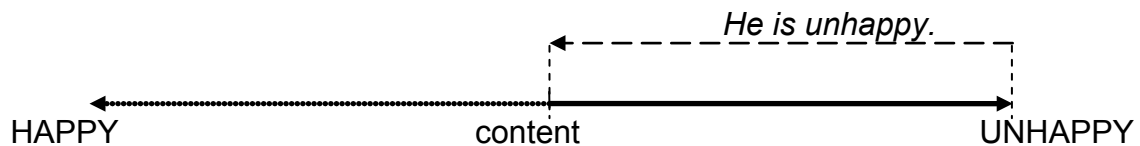


Figure 3. *He is unhappy.*



Second, when adverbial modifiers are involved, there is the possibility that meaning will change (Tottie 1991:64). As shown in the example below, sentence (21a) may be rephrased to either (21b) or (21c).

- (21a) This is totally untrue. (cf. Tottie 1991:64)
 (21b) This is totally not true.
 (21c) This is not totally true.

In how far is sentence (21b) different from sentence (21c)? In (21b), the negative element *not* has been placed after the adverb *totally*. As a consequence, the adjective *true* is the only element within the scope of negation. In (21c), on the other hand, negative *not* has been placed before the adverb and, therefore, both adverb and adjective fall within the scope of negation. Hence, (21b) conveys that ‘everything that has been said is false’, whereas (21c) expresses that ‘some of what has been said is false’.

Even though there is a slight difference in meaning between affixal and non-affixal negation, it is ultimately the speaker’s decision to choose one or the other. There are various factors, which establish affixal or non-affixal negation: spoken or written discourse, style (formal or informal), matter of hedging (in the sense of mitigating), or even the speaker’s preference – just to name a few. Nevertheless, both forms are acceptable. There are, of course, some cases where constraints “absolutely determine the choice of either affixal or nonaffixal negation” (Tottie

1991:62). In the following section, I will examine those which lead to obligatory affixal negation.

4.1.2. Obligatory affixal negation

Generally speaking, the constraints, which induce affixal negation, can be divided into two categories, namely (i) scope of negation and (ii) lexis.

One of the constraints, where scope of negation is at issue, is the **premodifying function** (Tottie 1991:63; Tottie 1998:243). In such cases, the adjective premodifies the noun and, thus, falls within scope of negation because of its negative prefix as shown in example (22a) below. Non-affixal negation as shown in (22b) would not be possible because an attributive adjective cannot be negated by *not*, unless it is already prefixed with a negative as demonstrated in (22c) (Huddleston and Pullum 2002:809) (see also section 2.1.). Even though acceptable, sentence (22c) changes meaning because the negated adjective falls within the scope of negation. Thus, sentence (22c) can be regarded as a negation to (22a), but certainly not as a paraphrase.

(22a) The unpleasant woman left. (from Tottie 1991:51)

(22b) *The not pleasant woman left.

(22c) The not unpleasant woman left.

For Tottie (1991:64), “[a]nother important constraint” is that of **adverbial modification**. Since this matter has already been discussed in the previous section, I shall now turn to lexical constraints.

According to Tottie (1991:66), it is a “well-known fact” that some negatively prefixed adjectives do not have a simplex⁶ counterpart and, thus, **lexical gaps** occur. Examples of lexical gaps include *unflagging*, *ineffable*, or *intact* (examples from Tottie *ibid.*). It goes without saying that, in such cases, affixal negation is mandatory because non-affixal negation is simply not possible: **not flagging*, **not effable*, **not tact*.

⁶ The term ‘simplex’ refers to lexemes, which are not derived from word-formation processes (Bauer 1983 [2002]:30), for instance *comfort* would be regarded as a simplex word, whereas *discomfort* and *uncomfortable* are regarded as complex words.

In other cases, both affixed and simplex forms are at hand, but there is **no semantic equivalence** (Tottie 1991:66). In other words, affixal negation is obligatory because non-affixal negation would not make any sense, as illustrated in the examples (23)-(25) below.

(23a) The political party was indifferent to the rejection of their proposal.

(23b) *The political party was not different to the rejection of their proposal.

(24a) After hearing what had happened, she felt uneasy.

(24b) *After hearing what had happened, she felt not easy.

(25a) Everybody noticed that she is unusual. (from Tottie 1991:66)

(25b) *Everybody noticed that she is not usual.

In the examples above, it can clearly be seen that both affixal and non-affixal negation are possible, yet in each case the latter does not make sense. In the example (23a) *indifferent* expresses the meaning 'to have no interest or feeling in regard to something', whereas *not different* suggests 'to be alike'. In the next example (24a), *uneasy* refers to a state of discomfort, while *not easy* expresses the opposite of *difficult*. As for the third example (25a), *unusual* conveys the meaning 'not common' in the sense of 'remarkable, exceptional', whereas *not usual* implies 'not common' in the sense of 'out of ordinary use'.

Unfortunately, I was unable to determine why the negatively affixed words differ semantically from the negated non-affixal form. Neither the OED nor Marchand (1969) discuss this phenomenon. A possible explanation, however, could be lexicalisation.

4.1.3. Obligatory non-affixal negation

Similar to obligatory affixal negation, constraints that lead to obligatory non-affixal negation can also be categorised into matters of (i) scope of negation and (ii) lexis. I shall discuss them in turn.

The first constraint in regards to scope of negation has already been discussed in the previous section, namely **adverbial modifiers** (Tottie 1991:64,

1991:72). For Tottie (1991:73-74) a subcategory to adverbial modification is what Welte (1978:209) refers to as **presupposition**. This is illustrated in the example (26) below.

(26a) She was not fortunate enough to lose her husband

(26b) She was unfortunate enough to lose her husband.

(both examples from Welte 1978:209)

Tottie (1991:73) remarks that the “correct presupposition” influences the choice between affixal and non-affixal negation. After all, (26a) implies that ‘she would have been lucky, if she had lost her husband’, while (26b) suggests that ‘she was unhappy that her husband passed away’ (Welte 1978:209).

Another constraint is where “the **scope of negation is restricted on the main verb**” (Tottie 1991:74) In such instances, it is impossible to move the negative element to the adjective “without a concomitant change of meaning” (Tottie 1991:75). Example sentence (27a) below conveys the meaning that ‘the people in question do not have any clear intentions’ and is, hence, equal to sentence (27c). Sentence (27b), on the other hand, expresses that ‘intentions are at hand, but they are not clear’ and is, thus, not synonymous to (27a).

(27a) ...they had no clear intentions...

(27b) ...they had unclear intentions...

(27c) ...they do not have clear intentions....

(examples from Tottie 1991:74)

Another example is listed in (28), where (28a) implies that ‘a person does not have a legal right’ and is, thus, equal to sentence (28c). However, in sentence (28b), the adjective is negated and expresses that the ‘right is illegal’.

(28a) ... has no legal right to...

(28b) ... has an illegal right to...

(28c) ... does not have a legal right to...

(examples from Tottie 1991:74)

In terms of lexical constraints, there are two important factors. First, there is often **no semantic equivalence** between affixal and non-affixal negation (Tottie 1991:71). This is shown in the following examples:

(29a) The story is not credible.

(29b) The story is incredible.

(30a) She is not famous for her acting.

(30b) She is infamous for her acting.

Even though both negatively affixed and negated simplex forms are possible, the meaning changes. Affixal negation in (29b) and (30b) is doubtlessly acceptable, but it no longer conveys the same as indicated in (29a) and (30a) respectively. In sentence (29a), *not credible* refers to a 'story that cannot be believed in', whereas *incredible* expresses 'something exceedingly great'. Further, *not famous* simply states 'to be little known', while *infamous* indicates 'to be well known for some bad quality or deed'. Similar to the examples (23) to (25) above, the speaker is obliged to choose either affixal or non-affixal negation in order to convey the correct message.

Second, what Tottie (1991:71) calls "an extremely common case" of lexical constraints, is that of **lexical gaps**, where many adjectives do not have an affixal counterpart. Examples include *not tiny* - **untiny*, *not bad* - **unbad*, *not poor* - **unpoor*, *not great* - **ungreat*, and such. In this respect, Zimmer (1964:15) proposes that "negative affixes are not used with adjectival stems that have a 'negative' value". This value is based on "evaluative scales" (Zimmer *ibid.*) of the types *good* – *bad* or *desirable* – *undesirable*. Therefore, it is possible to attach negative prefixes to 'positive valued' adjectives such as *well*, *healthy*, *comfortable*, *competent* to create *unwell*, *unhealthy*, *uncomfortable*, *incompetent* respectively. On the other hand, 'negative valued' words such as *bad*, *ugly*, *cruel*, *lazy*, *rude* cannot be negated locally: **unbad*, **unugly*, **uncruel*, **unlazy*, **unrude*.

There are, however, two difficulties with this proposal. First of all, how can the 'positive' or the 'negative' value of a word be established? For Zimmer (1964:16), 'positive' is something that "express[es] a favourable judgment, or describ[es] a state generally considered desirable". 'Negative value', then,

expresses the opposite of 'positive value', i.e. something unfavourable. Unfortunately, dictionaries, encyclopaedia and such do not list 'positive' or 'negative' value of entries. Thus, the difference between the two has to be based on intuition (Zimmer *ibid.*). This, however, may lead to disagreements, for instance with an adjective like *quiet* – some people may think of it as something 'negative', others may not. Since it can be locally negated to *unquiet* to mean 'restless', does this, then, mean it is 'positive'? In addition to this, what if words cannot be categorised into either of the two, but are treated as 'neutral' such as *neutral*, *regular*, *existent*, *conventional*, or even *quiet*? Affixal negation is possible in some of these 'neutral' words (e.g. *non-existent*, *unconventional*, *irregular*, *unquiet*), yet it is impossible in others (e.g. **unneutral*).

Second, there are many cases where the base is of 'negative' value and may still be negated with a negative prefix (Zimmer 1964:30-31). Examples include *incorrupt*, *inoffensive*, *unpainful*, *unguilty*, *unfaulty*, *unbroken*, *uninterrupted* (Zimmer 1964:30, 1964:35). In conclusion, it can be said that Zimmer's proposal is quite helpful, yet it does not hold for all adjectives.

4.1.4. Summary

Even though affixal and non-affixal negation are semantically equivalent, there are some limitations to them. In this section, I have discussed instances where it is possible to use both affixal and non-affixal negation without changing the utterance's meaning. Since both kinds of negation are possible and acceptable, it is the speaker's decision which one s/he uses. The speaker must be particularly careful when s/he is negating gradable adjectives because contrary opposition creates non-synonymy between affixal and no-affixal negation. In an example, I have shown that *unhappy* means *not happy*, but *not happy* does not necessarily indicate *unhappy*.

Further, I have discussed constraints that ultimately lead to either affixal or non-affixal negation. They can be categorised into constraints concerning scope of negation and concerning lexis. As far as scope of negation is concerned, the most important factor is adverbial modification. Even though both affixal and non-affixal negation are possible, the scope of negation may be shifted when using non-affixal

negation. It is, therefore, the speaker's choice which type of negation s/he uses as it depends on what s/he intends to convey.

In regard to lexical constraints, there is sometimes no semantic equivalence and in other times lexical gaps may occur. As a consequence, either affixal or non-affixal negation must be chosen to get the right message across. In these cases, the speaker has no free choice.

4.2. Which affix should be used?

In case of affixal negation, there are many different affixes to choose from. In this section, I will take a look at three different criteria which will hopefully help to determine the 'correct' affix.

4.2.1. Based on morpho-syntactic criteria

The first criterion I want to discuss is that relating to syntax. Syntactic categories are probably the most easily detectable elements. Therefore, the question arises: can certain syntactic categories be negated by certain negative affixes only? It seems as though some affixes are predominantly used with one syntactic category, for instance *non-* appears to be attached to nouns only as in *non-smoker*, *non-conductor*, *non-conformist*, *nonsense*, etc., while the prefix *in-* seems to prefer adjectives, e.g. *illegal*, *impolite*, *important*, *inadequate*, *intolerant*, *irresponsible*, etc. Would it, thus, be possible to say that all nouns can be negated by adding *non-* and all adjectives by attaching *in-*? In Table 4 below I have listed which syntactic category can take which affix. With that table in mind, the answer to the previous question is (un)fortunately 'no'. At this point, I would like to stress that the word-class of the outcome, i.e. the word-class of the derived word is not of interest at present.

Table 4. *Syntactic categories and negative affixes*

Affix	Verbs (finite or infinite)	Verbs (participle)	Adjectives	Nouns
a(n)-	-	-	✓	✓
de-	✓	✓	✓	✓
dis-	✓	✓	✓	✓
in-	-	-	✓	✓
mis-	✓	✓	✓	✓

non-	-	-	✓	✓
un-	(✓)	✓	✓	✓
-less	(✓)	-	-	✓

(based on Welte 1978:188)

Table 5. *Syntactic categories and negative affixes - examples*

Affix	Verbs (finite or infinite)	Verbs (participle)	Adjectives	Nouns
a(n)-	-	-	<i>asymmetric</i>	<i>asymmetry</i>
de-	<i>demilitarise</i>	<i>demilitarising</i>	<i>dehydrated</i>	<i>debus</i>
dis-	<i>disagree</i>	<i>disagreeing</i>	<i>disloyal</i>	<i>disagreement</i>
in-	-	-	<i>inconvenient</i>	<i>intolerance</i>
mis-	<i>misunderstand</i>	<i>misrepresenting</i>	<i>misminded</i> (ME)	<i>misfortune</i>
non-	-	-	<i>non-active</i>	<i>non-smoker</i>
un-	<i>undo</i>	<i>unchanging</i>	<i>unhappy</i>	<i>unhorse</i>
-less	<i>helpless</i>	-	-	<i>speechless</i>

The most striking feature shown in Table 4 is that nouns seem to be able to take all negative affixes, whereas verbs are limited to *de-*, *dis-*, *mis-*, and, to some extent, *un-* and *-less* (see discussion on this below). In terms of adjectives, they appear to function with all negative prefixes, but not with the negative suffix *-less*. At this point, it shall be noted that the prefix *mis-* is a somewhat special case. Even though there are no adjectives which can take *mis-* in Modern English, there are some instances recorded in Middle English (Marchand 1969:177; see also section 3.1.1.6).

Based on the table above, it is not possible to infer striking patterns, let alone establish rules of any kind. Therefore, I decided to change the point of view and rephrase the question to: can certain affixes be attached to certain syntactic categories only?

Unfortunately, even from the affixes' point of view there are no distinctive patterns. However, the negative affixes' attachments to word-classes seem to be less random from this viewpoint. The prefixes *de-*, *dis-*, *mis-*, *un-* appear to be able to attach freely to any word-classes. *A(n)-*, *in-* and *non-* are the only prefixes which cannot attach to verbs, neither (in)finite nor participles. And it seems as though *-less* is the only odd one out. This suffix attaches to nouns and, to some extent, to verbs, but definitely not to adjectives.

Even though the tables above give a nice overview, there are some difficulties that arise when discussing negative affixes in terms of morpho-syntactic categorisation. The problems mostly concern the prefix *un-* and the suffix *-less*. Welte (1978:187) argues that *un-* never attaches to (in)finite verbs and only appears with participles, e.g. *unexpected*, but not **to unexpect*. However, there are instances like *to untie*, *to unbutton*, or *to undo*. Should these examples be treated as substantival bases, i.e. *the tie*, *the button*, as Welte (ibid.) suggests, or is it legitimate to treat them as verbal bases, i.e. *to tie* 'to bind, to fasten', *to button* 'to fasten with button'?

A similar problem occurs with the suffix *-less*: at first, it seems as though this suffix is only able to attach to nouns, e.g. in *helpless*, *countless*, *hopeless*. However, at closer inspection, it is clear that most of these nouns may also function as verbs: *the help* > *to help*, *the count* > *to count*, *the hope* > *to hope*. I was not able to find an 'explicit' verb that can take the suffix *-less*, for instance *to write* (n. *writer*) > **writeless* is impossible. The question I wish to raise is whether zero-derivation (see section 2.2.1.3) plays a role in this? If it is a matter of zero-derivation, I may conclude that categorising negative affixes according to syntactic criteria is a dead-end because zero-derivation makes lexemes permissible to all syntactic categories. Thus, it is nearly impossible to even find any useful patterns.

In summary, it can be said that on the basis of morpho-syntactic criteria no rules are inferable and I shall continue with the discussion of negative affixes based on semantic criteria.

4.2.2. Based on semantic criteria

For a better overview, I decided to separate this section into four parts: (i) competition of affixes with all three meanings, (ii) competition of affixes with negative meaning, (iii) competition of affixes with reversative meaning, and (iv) competition of affixes with privative meaning. I will address each part in turn.

As already discussed in the previous chapter, one possibility to categorise negative affixes is based on negative, reversative, and privative meaning. From Table 1 in section 3.2., the most striking feature is that the prefixes *dis-* and *un-* are the only ones, which can take **all three meanings**. Thus, the question arises whether *dis-* and *un-* are rivals or not? Interestingly, this can be answered with a

‘not really’. Even though they have a lot in common (as shown in Table 7 below), they do not seem to interfere with each other. It appears as though words that can take the prefix *un-* are unable to join *dis-*; for example the adjective *happy* is unambiguously negated to *unhappy* rather than **dishappy*. This also works in the other direction: the adjective *honest* is being negated to *dishonest*, not **unhonest*. This cannot be explained by the different meanings of the respective prefixes because *un-* and *dis-* share one meaning, i.e. ‘not’ (see Table 6 below). However, etymology may be the influencing factor in the examples above. This will be discussed in section 4.3.

I could think of two cases, where there is direct rivalry between *dis-* and *un-*. First, instances where nouns are formed with *dis-*, but their respective adjectives are coined with *un-*, for instance *discomfort* – *uncomfortable*, or *disability*⁷ – *unable*. It should be pointed out that **discomfortable* did exist in the Middle English period (OED: s.v. *discomfortable*, *adj.*), and furthermore, the lexeme *disable*, meaning ‘unable, incapable’, still exists but is now hardly used (OED: s.v. *disable*, *adj.*). So, why did the adjectives change to *uncomfortable* and *unable*, respectively? Second, those instances where both *dis-* and *un-* prefixation is possible, but the derivations differ (slightly) in meaning, such as *dissatisfied* ‘deprived of satisfaction’ – *unsatisfied* ‘not satisfied’, *disease* ‘out of health’ – *unease* ‘lack of ease’. As far as the former case is concerned, the literature I consulted did not mention the phenomenon of *dis-*nouns with *un-*adjectives. Only the OED (s.v. *un-*, *prefix*¹, *sense 7b*) states that attaching *un-* to words ending in –*able* was very common in the 14th century. This would, to some extent, explain why *discomfort* has the adjective *uncomfortable*. In terms of the latter case, I was unable to find an answer, but I assume that it may be the same case as with words beginning with *in-* and *un-*: during the Middle English period, many *in-*words had by-forms with the prefix *un-* (OED: s.v. *un-*, *prefix sense 5b*). It may be possible that many *dis-*words had by-forms with *un-* as well, which survived in Modern English but are different in meaning.

⁷ In the sense of ‘lack of ability’ (OED, s.v. *disability*, *n.*, *sense 1a*), rather than ‘a physical or mental condition that limits a person’s movements, senses, or activities’ (OED, s.v. *disability*, *n.*, *sense 2*).

Table 6. *Rivalry between dis- and un-*

	negative un-	negative dis-	reversative un-	reversative dis-	privative un-	privative dis-
meaning	'not'	'not', 'refuse to, fail to', 'absence or lack of'	'undoing of an action'	'undoing of an action'	'deprive of', 'release from'	'deprive of', 'remove from'
Verbs	-	disagree dislike	untie unbutton	disconnect discharge	unnerve unsaddle	disarm disburden
Adjectives	unhappy unlimited	dissimilar dissatisfied	-	-	-	-
Nouns	untruth unease	discomfort disability	-	-	-	-

When looking at Table 1 in section 3.2., it is evident that six out of eight affixes have **negative meaning**. This, then, leads to the question: to what extent are the prefixes *a(n)-*, *dis-*, *in-*, *mis-*, *non-*, and *un-* rivals? With the prefixes *a(n)-* and *non-* we can safely assume that they are no 'threats' to the other negative prefixes. Since both prefixes are very limited in use and are often found in specialised lexicons, they seem to not interfere with the others (see sections 3.1.1.1. and 3.1.1.8.). Furthermore, it seems as though the number of words with *a(n)-* is finite. This is to say that most words with the prefix *a(n)-* have been borrowed and new formations are hardly found (Zimmer 1964:26). Based on this, it could be said that *a(n)-* is no longer productive as it is not readily available for new coinages (see section 2.3.).

As far as the prefix *non-* is concerned, it is regarded as productive (Zimmer 1964:32) as it attaches freely to any substantival and adjectival bases. However, it appears to be used slightly differently (Zimmer 1964:33) and is, thus, no direct rival to the others. According to Zimmer (1964:33), *non-* has a descriptive force, rather than an evaluative one (cf. also Plag 2003:100). That is to say that words with *non-* seem to be 'neutral', while other negative prefixes convey a bias. For example *non-Christian* implies that someone is not of Christian belief, whereas *un-Christian* refers to a Christian who does not follow Christian conventions (example from Zimmer 1964:33).

In terms of the prefix *mis-*, I believe it not to be in direct competition with any other negative affix. The reason for this is its meaning. Of all negative affixes, *mis-* is the only one to express "badly, wrongly, improperly, amiss" (Marchand

1969:176). As a result, *mis-* is not treated as a ‘true’ negative affix and cannot compete directly with the other negative affixes. This prefix has only been included to the category of negative affixes because it expressed negativity during the Old English period (see also section 3.1.1.6.).

Consequently, this leaves us with only three negative prefixes namely *dis-*, *in-*, and *un-*. Since the rivalry between *dis-* and *un-* has already been discussed above, I shall turn to *in-* and its competition to *dis-* and *un-* respectively. As far as the competition between *in-* and *dis-* is concerned, it can be said that there is no direct competition. The reasons for this are twofold. First, negative *in-* cannot be attached to verbs, thus, making a prefixation with *dis-* very likely. Second, with nouns both prefixes express ‘absence or lack of’ but it seems as though they do not interfere with each other. Nouns with *in-* appear to be unable to attach to *dis-* and vice versa, for instance *justice* is undoubtedly negated to *injustice* (not **disjustice*), and *belief* is negated to *disbelief* rather than **inbelief*. However, there is one instance that came to my mind, where both prefixes are acceptable: *inability* – *disability*. The former conveys the meaning ‘state of being unable to do something’, whereas the latter expresses ‘a physical or mental condition causing a person to be unable to do something’.

In terms of adjectives, however, there seems to be some competition. Even though their meanings vary, i.e. adjectives with *in-* only convey ‘not’, whereas adjectives with *dis-* express either ‘not’ or ‘refuse to or fail to’ (see examples in Table 7 below), it is (in theory) possible to exchange the negative prefixes. If, for instance, *honest* is negated to *dishonest* to convey ‘not honest’, it could as well be negated to **inhonest* expressing ‘fail to be honest’⁸. However, the ‘incompatibility’ of *in-* and *honest* may be explained by etymology. The prefix *in-* is of Latin origin, whereas the lexeme *honest* is French (OED: s.v. *honest*, *adj.*). The matter of etymology will be further discussed in section 4.1.3 below. Thus, based on what I have observed, it could be said that the prefixes *in-* and *dis-* are no real rivals.

Table 7. *Rivalry between dis- and in-*

	negative in-	negative dis-
meaning	‘not’ (adj)	‘not’, ‘refuse to, fail to’ (v, adj)

⁸ According to Marchand (1969:203), *unhonest* was among those words, which were used with the prefix *in-* instead. However, alleged **inhonest* was the only one to be replaced by a *dis*-word, i.e. *dishonest*. Unfortunately, Marchand (ibid.) does not state why.

	'absence or lack of' (n)	'absence or lack of' (n)
Verbs	-	disagree dislike dismiss
Adjectives	invisible intolerant inevitable	dishonest disgraceful dissimilar
Nouns	injustice inability inequality	disorder disbelief discomfort

In contrast to the competition between *dis-* and *in-*, there is strong rivalry between *un-* and *in-*. I have briefly mentioned this rivalry in section 3.1.1.5., where I discussed that during the 14th century some words with the prefix *in-* had “by-forms with the prefix *un-*” (Marchand 1969:170). From the 17th century onwards, speakers began to differentiate between the *un-* and *in-* prefixes and exclusively used one prefix or the other (OED: s.v. *un-*, *prefix1*, *sense 5b*). As a result, words formerly used with the prefix *un-* where now used with *in-*, for instance *unactive* became *inactive*, *uncapable* > *incapable*, *unperfect* > *imperfect* (Jespersen 1966:140-141). Of course, it also worked the other way around: words, where *in-* was formerly used, are now formed with *un-*, e.g. *incertain* > *uncertain*, *ingrateful* > *ungrateful* (from Jespersen *ibid.*) This trend, however, does not mark the end of the *un-* / *in-* rivalry. Jespersen (1942:469) remarks that

[i]t should be noted that while most of the *in*-words are settled once and for all, and have to be learned by children as wholes, there is always the possibility of forming new words on the spur of the moment with the prefix *un-*.

Marchand (1969:170) states that even today the prefix *un-* “is ousting” the prefix *in-* because it “has proved [to be] the stronger prefix” (Marchand 1969:203). However, so Marchand (*ibid.*) continues, “there are also cases where the *un-* words have passed out of use”. As a guidance, Jespersen (1942:468) states that “[p]retty often *un-* is preferred before the shorter word, and *in-* before the longer word derived from it, which is generally also of a more learned nature”, thus giving *unable* – *inability*, *unjust* – *injustice*, *unequal* – *inequality*, and the like. Similar to the 14th century, there are some instances in Modern English, where still both *in-* and *un-* prefixation is possible. The difference lies subtly in meaning: *inhuman*, for example, means ‘brutal, cruel’, whereas *unhuman* implies something ‘not pertaining to

mankind', or even 'superhuman' (example from Marchand 1969:170). The probably most cited example is that of *immoral* – *unmoral* (e.g. Zimmer 1964:29). While the former expresses the opposite of *moral*, i.e. 'not conforming to moral', the latter conveys 'not influenced by, or connected with, moral considerations'⁹. Generally speaking, it is extremely difficult to determine why *in-* was preferred in some instances and *un-* in others.

Competitors in regard to **reversative meaning** are the prefixes *de-*, *dis-*, and *un-*. Since prefixes with reversative meaning are only attachable to verbs and can only express one idea, i.e. the reversal of an action, there is, unfortunately, not more differentiation between the prefixes *de-*, *dis-* and *un-* (as shown in Table 8 below). As a consequence, it is impossible to determine any guidelines for the use of either reversative *de-*, or reversative *dis-* or reversative *un-*. Perhaps etymology may be of help (see section 4.3.).

Table 8. *Rivalry between reversative de-, dis- and un-*

	reversative de-	reversative dis-	reversative un-
meaning	'undoing of an action'		
Verbs	demilitarise deactivate decentralise	disarm disjoin disentangle	untie unbutton unpack

As far as **privativity** is concerned, there are only four affixes which can convey such a meaning, namely *de-*, *dis-*, *un-* and *-less*. Among these, the suffix *-less* is the only one to derive adjectives. In contrast, the prefixes *de-*, *dis-* and *un-* derive verbs (see Table 9 below). Similar to the category of reversative meaning, it seems as though there are no real patterns to distinguish between *de-*, *dis-* or *un-* prefixation. With privative *de-*, however, it seems as though it often attaches to verbs ending in *-ise*, *-ate* or *-ify* (OED: s.v. *de-*, *prefix senses 1f-2a*).

⁹ In section 3.1.1.5 (about the negative prefix *in-*), I have mentioned the difference between *immoral* and *amoral*. The main difference between *immoral*, *unmoral*, and *amoral* is where they are located in the sphere of moral sense. *Immoral* indicates the opposite of moral (OED: s.v. *immoral*, adj. and n.), *unmoral* suggests that it was not influenced by moral (OED: s.v. *unmoral*, adj.), and *amoral* conveys the overall lack of moral quality (OED: s.v. *amoral*, adj.).

Table 9. *Rivalry between privative de-, dis-, un-, and -less*

	privative de-	privative dis-	privative un-	privative -less
meaning	'to remove from, to deprive of'			'devoid of' 'free from'
deriving verbs	demagnetise de-ionate debus	disarm disqualify disjoin	unnerv unsaddle unhorse	-
deriving adjectives	-	-	-	hopeless useless cordless

In conclusion, it can be said that keeping negative, reversative, and privative meaning apart is useful when determining which affix can be used for negation. By doing so, it is possible to eliminate those affixes that are unable to attach. However, there is still more than one option left. For instance, if I were to negate the adjective *legible*, I can eliminate the prefix *de-* and the suffix *-less* as they do not express negative meaning. Further, I could also rule out *a(n)-* because *legible* does not belong to a specialised vocabulary. The prefix *mis-* could be put aside as I would be trying to express the opposite of *legible*. In the end, I would be left with three prefixes, namely *dis-*, *in-*, and *un-*. With the help of etymology, which will be discussed in the following section, I may be able to identify the correct negative prefix to *legible*.

4.2.3. Based on etymology

The English language consists of a number of borrowings most notably from Latin, French, Greek as well as Scandinavian languages. The general tendency, therefore, is that Latin affixes are usually attached to Latin bases, French affixes are usually combined with Romance bases, and so on (Plag 2003:84ff., Marchand 1969:160). Applying this to the example *legible* mentioned above, it is possible to say that its negation is formed with *in-* to coin *illegible*. The reason is that *legible* is of Latin origin, and so is the prefix *in-*. Even though this appears to be a simple and a very elegant method of finding the 'correct' negative affix, some difficulties arise.

First of all, this method may be extremely helpful for linguists, but what should laypeople do, first and foremost young(er) learners of English? It is very likely that they do not know the origins of the words they use. Further, I believe that most native speakers of English do not know word history either.

Second, there are many cases where foreign and native elements are mixed. That is to say that “either a foreign base is combined with a native affix or a native base is combined with a foreign affix” (Lutzky 2004:35); for instance in *disbelief*, where the prefix is foreign (French), whereas the base is native. This is, then, referred to as a ‘hybrid formation’ (Crystal 2008:232). Table 10 below shows which negative affixes can attach to bases of native, French, Greek, and Latin origin respectively.

Table 10. *Negative affixes with native and/or foreign bases*

	Native base	French base	Latin base	Greek base
a(n)- (Greek)	-	-	✓	✓
de- (French)	-	✓	-	-
dis- (French)	✓	✓	-	-
in- (Latin)	-	✓	✓	-
mis- (French)	✓	✓	-	-
non- (Latin)	✓	✓	✓	-
un- (native)	✓	✓	✓	-
-less (native)	✓	✓	✓	-

Table 11. *Negative affixes with native and/or foreign bases – examples*

	Native base	French base	Latin base	Greek base
a(n)- (Greek)	-	-	amoral	acardiac
de- (French)	-	decaffeinate	-	-
dis- (French)	disbelief	disenchant	-	-
in- (Latin)	-	intolerant	illegal	-
mis- (French)	misunderstand	misdemeanour	-	-
non- (Latin)	non-smoker	non-profit	non-scientific	-
un- (native)	unafraid	unsafe	uncertain	-
-less (native)	hopeless	faithless	senseless	-

What strikes most is that the prefix *a(n)-* appears to be the only one to combine with Greek bases. The reason for this may be that it is the only negative affix of Greek origin. Further, it seems to be the only one to be unable to attach to French bases. The French prefixes *de-*, *dis-* and *mis-* definitely take Romance bases, whereby *dis-* and *mis-* may also combine with native bases. Mazzon (2004:74), however, states that *de-* is actually not restricted to Romance bases and has also combined with Germanic and Latin roots during the Late Middle English period. In general, bases with French roots can combine with any negative affix, except *a(n)-*. As far as Latin is concerned, the prefix *non-* is attachable to either native, French or Latin bases, whereas *in-* is not ‘compatible’ with native words. The native prefix

un- can more or less attach freely to bases of any origin, with the exception of Greek. However, it should be pointed out that the prefix *in-* is a strong rival to *un-* when it comes to bases of Latin or French roots. This brings me to my third and final point: even though Jespersen (1942:469) has already said that many words with *in-* “are settled once and for all”, there is still the possibility to use *un-* instead. In addition to this, the reverse also holds: many words with *un-* may be replaced with *in-* (see discussion in 3.1.1.5 and 4.2.2.). In such cases, it seems as though etymology does not matter at all and the negative prefix can be chosen at random. This, in turn, results in less (or even no) transparent patterns and may cause more confusion.

In conclusion it can be said that negative affixes prefer to attach to bases that share their origin. However, it should be kept in mind that hybrid formations are possible. Unfortunately, this makes establishing rules which dictate what affix should be used quite hard, if not impossible. I, therefore, believe that many, if not most, of the negated words are learned, while others may be formed by analogy.

4.2.4. Summary

Unfortunately, it is not possible to establish rules with which the use of negative affixation can be specified. It is not easy to give a reason why (or why not) a base can take a particular negative affix. Fortunately, I have found a few rough guidelines, or ‘rules of thumb’, with which the choice of negative affix can be simplified.

In terms of morpho-syntax, it seemed quite helpful to know which affix can be attached to which word-class. However, at closer inspection, it turns out to be somewhat useless as too many negative prefixes coincide. In addition to this, zero-derivation makes lexemes permissible to any syntactic category, which in turn makes it impossible to find any readily identifiable patterns.

As far as semantics is concerned, it proved to be very valuable. If the distinction between negative, reversative, and privative meaning is kept in mind, it is possible to eliminate some negative affixes. With regard to negative meaning, it should be noted that the prefix *a(n)-* is rarely used, and if it is used, it usually occurs in specialised lexis only. Further, *non-* has, according to Zimmer (1964:33), a descriptive value rather than an evaluative one. In terms of the prefix *mis-*, it is

historically speaking a negative affix, yet it is not in direct competition with the others as it conveys different meaning, i.e. 'wrongly, badly'.

Attention must be paid when one needs to reach a decision between the prefixes *un-* and *in-*. In such cases, I would recall Jespersen's 'rule of thumb' where *un-* is usually reserved for 'shorter' words, while *in-* is usually attached to 'longer' ones (cf. *unequal* – *inequality*). Unfortunately, there are no real guidelines in terms of reversative and privative meaning.

I believe that the combination of semantics and etymology is extremely helpful when discussing the competition of the negative affixes. However, one needs to be aware of at least two pitfalls: possible hybrid formations and the seemingly endless rivalry between *un-* and *in-*.

5. Historical development of the competition between the prefixes *un-* and *in-*

In this section I will further examine the development of the prefixes *un-* and *in-* because they have been regarded as rivals (e.g. Jespersen 1966:140, Marchand 1969:169, Kwon 1996 quoted in Mazzon 2004:74). The basis of my investigation lies in Marchand's statement (1969:170) in which he claims that words with *in-* **had alternate forms with *un-* during the Middle English period**. According to the OED (s.v. *un-*, prefix¹, sense 5b) **one of the two forms had to be eliminated from the 17th century onwards. Preference was given to the prefix *in-*** (OED *ibid.*). However, **Marchand (1969:169) claims that nowadays the prefix *un-* is "ousting *in-* more and more"**. In addition to this, **Jespersen (1942:469) stated that in the "spur of the moment" *in-* may be replaced with *un-*** (see also sections 3.1.1.5. and 4.2.2.).

According to Marchand (1969:170), the OED (s.v. *un-*, prefix¹, sense 5b) and Mazzon (2004:74), there are many cases, in which both *un-* and *in-*-prefixation was possible during the Middle English period. Eleven words were directly mentioned in the literature above, and they are listed in Table 12 below. Out of these eleven, eight are used with the prefix *in-* in Modern English, two take *un-* and only one still allows for both *un-* and *in-*-prefixation.

Table 12. Words with *un-* and *in-*-prefixation during Middle English

		Middle English negation	Modern English negation
1	alienable	unalienable - inalienable	unalienable = inalienable
2	active	unactive – inactive	inactive
3	capable	uncapable – incapable	incapable
4	perfect	unperfect – imperfect	imperfect
5	practical	unpractical – impractical	impractical
6	exact	unexact – inexact	inexact
7	replaceable	unreplaceable – irreplaceable	irreplaceable
8	corrupt	uncorrupt – incorrupt	incorrupt
9	possible	unpossible – impossible	impossible
10	certain	uncertain – incertain	uncertain
11	just	unjust – injust	unjust

5.1. Research Methodology

The first objective of my investigation is to see **how the frequency of *un*-prefixation has declined in favour of the Latin prefix *in*-**. For this, two Early Modern English corpora, namely Parsed Corpus of Early English Correspondence (PCEEC) and the Lampeter Corpus of Early Modern English Tracts (Lampeter) will be used. The PCEEC consists of approximately 2.2 million words and covers the period from 1410 to 1695. The Lampeter, on the other hand, has texts recorded from 1640 to 1740 and consists of approximately 1.1 million words. This time period was chosen because with the desire to refine the English language during the 17th and 18th century (Fisiak 2005:117ff.) either the *un*- or the *in*-form had to be eliminated. The aim of this query was to observe, if *un*- or *in*-prefixation was favoured. As we shall see, the results from PCEEC and Lampeter are not representative enough to say whether the prefix *un*- has given way to the prefix *in*- (or vice versa).

As a result, two larger corpora, namely Corpus of Historical American English (COHA) and TIME Magazine Corpus of American English (TIME), will be consulted. The COHA corpus stretches over a period of 200 years (1810-2009) and includes 400 million words of text. On the other hand, the TIME corpus 'only' covers approximately 70 years (1920-2006), but consists of 100 million words. The main aim of this query was to observe the rivalry between *un*- and *in*- during Jespersen's and Marchand's lifetime. Even though the competition between *un*- and *in*- is not clearly visible with all words listed in Table 12 above, we shall see that the overall tendency is that *in*- was the preferred prefix.

The second objective of my investigation is to find out whether Jespersen's (1942:469) and Marchand's (1969:169) statements, in which they claim that *in*-prefixation is being ousted by *un*-prefixation, can be 'validated'. For this, the corpora COHA and TIME will be used once more as they both cover the beginning of the 20th century. Surprisingly, the query with COHA and TIME did not indicate any change from *in*- to *un*-prefixation in the first half of the 20th century.

5.2. Results

In terms of the PCEEC and Lampeter corpora, I expect to see a clear difference between the number of *un*-words and the number of *in*-words. Since the PCEEC

includes a little bit of the Middle English period, I presume that both *un-* and *in-* prefixation will occur but the number of *in-* words will be higher. As far as the Lampeter corpus is concerned, I expect to see a proportionally high number of *in-* prefixation and very few by-forms of *un-*. In both corpora, however, I presume the negated words *certain* and *just* to be more frequent with *un-* (see Table 12 above). At this point, I would like to stress that I will discuss the most significant numbers in the main text; detailed tables of all search queries can be found in the Appendix.

Unfortunately, the results from PCEEC and Lampeter were not quite what I had anticipated (see Table 13 below). Let me elaborate on this by looking at the outcome from PCEEC first.

It is clear that only five of the originally eleven words targeted were negated with a prefix, namely *capable*, *perfect*, *possible*, *certain*, and *just*. Only the last two words, however, were negated with *un-*. On the one hand, this is to be expected as their Modern English form takes the *un-* prefix only. On the other hand, it would have been interesting to know whether the alternate form with *in-*, that is *incertain* and *injust* respectively, actually existed. The word *capable* is the only one where the prefix *un-* is neck and neck with the prefix *in-*. At this point, it is not clear which prefix would eventually 'win'. In terms of the other two words, i.e. *perfect* and *possible*, they both occur with both *un-* and *in-* prefixation, whereby a tendency for *in-* is noticeable. The negation of *possible* should, however, be regarded with a pinch of salt. Since *impossible* is a hapax legomenon¹⁰, there is not enough 'evidence' that *possible* actually prefers the negative prefix *in-*.

In regard to the Lampeter corpus, it is evident that the words are negated with only one of the two prefixes. The only exception to this is the word *capable*, which was negated with both *un-* and *in-*. Against my expectation, it is obvious that preference was given to the prefix *un-*. The word *capable*, for instance, was used with *un-* one third more often than with *in-*. In terms of *certain* and *just*, they occurred 39 and 59 respectively with the prefix *un-*, which was to be expected. However, I was surprised to see that *active*, *practical*, and *corrupt* were negated with *un-*, whereby no alternate form with *in-* occurred. However, they need to be treated with caution as each one of them is a hapax legomenon. Consequently, no

¹⁰ A word, which can be found only once in a text or corpus, is referred to as 'hapax legomenon' (Crystal 2008:224).

‘real’ conclusion can be drawn. In terms of the prefix *in-*, only *perfect* and *possible* clearly prefer it with nine and 108 occurrences respectively. Yet, this does not allow us to conclude that *un-* was giving way to *in-* because *perfect* and *possible* only constitute two out of the eight Modern English *in*-words (see Table 12 above).

When comparing the outcome from the PCEEC corpus to the Lampeter, there is unfortunately only one pair worth mentioning, namely *uncapable* – *incapable*. Negation of this word with *un-* has risen from 0.227 occurrences per 100,000 words (PCEEC) to 0.818 occurrences per 100,000 words (Lampeter), which gives reason to believe that *un-* has become the preferred prefix. However, *incapable* also experienced a rise from 0.273 instances (PCEEC) to 0.545 instances (Lampeter) per 100,000 words. With this result, it is unfortunately not possible to draw a ‘real’ conclusion because it is uncertain whether the prefix *un-* or the prefix *in-* is in favour. This may be partly because of the low number of occurrences, even though PCEEC and Lampeter are fairly large for historic corpora.

Table 13. Results PCEEC and Lampeter (incl. normalisation per 100,000 words)

		PCEEC	Lampeter	PCEEC normalised	Lampeter normalised
1	unalienable	0	1	0.000	0.091
	inalienable	0	0	0.000	0.000
2	unactive	0	1	0.000	0.091
	inactive	0	0	0.000	0.000
3	uncapable	5	9	0.227	0.818
	incapable	6	6	0.273	0.545
4	unperfect	2	0	0.091	0.000
	imperfect	14	9	0.636	0.818
5	unpractical	0	2	0.000	0.182
	impractical	0	0	0.000	0.000
6	unexact	0	0	0.000	0.000
	inexact	0	0	0.000	0.000
7	unreplaceable	0	0	0.000	0.000
	irreplaceable	0	0	0.000	0.000
8	uncorrupt	0	1	0.000	0.091
	incorrupt	0	0	0.000	0.000
9	unpossible	1	0	0.045	0.000
	impossible	53	108	2.409	9.818
10	uncertain	29	39	1.318	3.545
	incertain	0	0	0.000	0.000
11	unjust	9	59	0.409	5.364
	injust	0	0	0.000	0.000

As one can imagine I was dissatisfied with this outcome and so I decided to turn to corpora with bigger collections of texts and a larger time-span, namely COHA and the TIME corpus.

The objective of this query is twofold. First, I would like to establish **whether the negated forms from Table 12 are attested**. That is to say that I would like to examine if both *un-* and *in-*negation have actually been used. The results from the COHA corpus, with its 400 million words of text, and the TIME corpus, with roughly 100 million words, will hopefully provide further insight into my question.

Second, **I assume that Jespersen (1942:469) and Marchand (1969:169) based their propositions on the rivalry between *un-* and *in-* from what they have ‘witnessed’ during their lifetime**, which is the beginning of 20th century. For this, the COHA and TIME are suited for this examination as they consist of texts ranging from the time period 1810-2009 and 1923-2006, respectively. From these corpora, I expect to see that (i) there is a high number of *in-*prefixation and that there will be some by-forms with *un-* and that (ii) especially in later years, *in-*prefixation has an overall declining trend, whereas *un-*prefixation will rise. Similar to the PCEEC-Lampeter-examination, I will only mention the most significant results in this thesis. For detailed tables on search results for COHA and TIME, I kindly refer to the Appendix.

In terms of attestation of the eleven words from Table 12, I will look at the results from COHA first. As can be seen from Table 14 below, every search term occurs at least once in this corpus. However, two words, namely *unperfect* and *unexact*, are somewhat problematic as they are both hapax legomena in a 400 million word corpus. The question that arises is whether they are typos or formed on purpose. In this respect, I have checked in which kinds of text they appear. The word *unperfect* was used in an article from 1913 in *The Atlantic Monthly*, a US-American magazine. Since publications are usually revised, I do not believe it to be a typo. The word *unexact*, on the other hand, was used in a fictional text called *Philo Gubb, Correspondence-School Detective* (1918) by Ellis Parker Butler. According to the source text, the main character, Philo Gubb, uses this word in direct speech. Therefore, I assume that *unexact* is formed on purpose, maybe indicating that the character did not know how to negate *exact*.

Returning to the results as shown in Table 14, it is clear that there is a tendency towards the prefix *in-*. The words *active*, *capable*, *practical*, *replaceable* and *possible* all are negated with this prefix, which is expected. On the other hand, the words *certain* and *just* clearly take the prefix *un-*, which does not come as a surprise either. What is surprising, however, is that the word *corrupt* seems to prefer *un-* as it occurs 22 times, whereas negation with *in-* appears sixteen times in the corpus. According to the COHA source texts, the word *uncorrupt* was used eleven times in fiction, three times in non-fiction and eight times in magazines. From these entries, twenty were recorded before or in the 1900s, while only two appear in or after the 1960s. In terms of the word *incorrupt*, it was used five times in fiction, three times in non-fiction, seven times in magazine, and one occurred in a newspaper article. Similar to the word *uncorrupt*, the majority of *incorrupt* can be found before the 1870s (twelve instances), while the rest was used only after the 1900s (four instances).

When looking at the results in TIME, it can be seen that some negations have no instances at all. This is not surprising as this corpus covers a slightly later period than COHA. This, in turn, corresponds to the statements of OED (s.v. *un-*, *prefix1*, *sense 5b*) where one form was dropped in favour of the other. Similar to COHA, the prefix *in-* is clearly the preferred choice with all words from Table 12 above, with the exception of the word *certain*. It is interesting to see that only three words, namely *alienable*, *perfect* and *practical*, occur with both *un-* and *in-* in this corpus. Astonishingly, the word *just* is negated with the prefix *in-* only and has absolutely no occurrences with *un-*, whatsoever.

Comparing the COHA corpus to the TIME corpus, it is obvious that the prefix *in-* is clearly preferred. All *un-*prefixations which occurred in COHA, except for the words *certain* and *just*, hardly occur or no longer appear in TIME. This corresponds to the statement by the OED (s.v. *un-*, *prefix1*, *sense 5b*) in which the **Latin based *in-* was the preferred prefix**. This can especially be seen in the development of the negated words *practical* and *alienable*, respectively. The negation of *practical* with *un-* occurs 0.045 instances per 100,000 words (COHA) and declines to 0.033 instances per 100,000 words (TIME). On the other hand, *practical* negated with *in-* rose from 0.193 instances per 100,000 words (COHA) to 0.327 instances per 100,000 words (TIME). As far as the word *alienable* is concerned, both *un-* and *in-* negation occur in COHA as well as in TIME. In general it can be said that the

tendency in both corpora is towards the *in*-prefixation with the two exceptions mentioned above.

Table 14. *Results COHA and TIME*

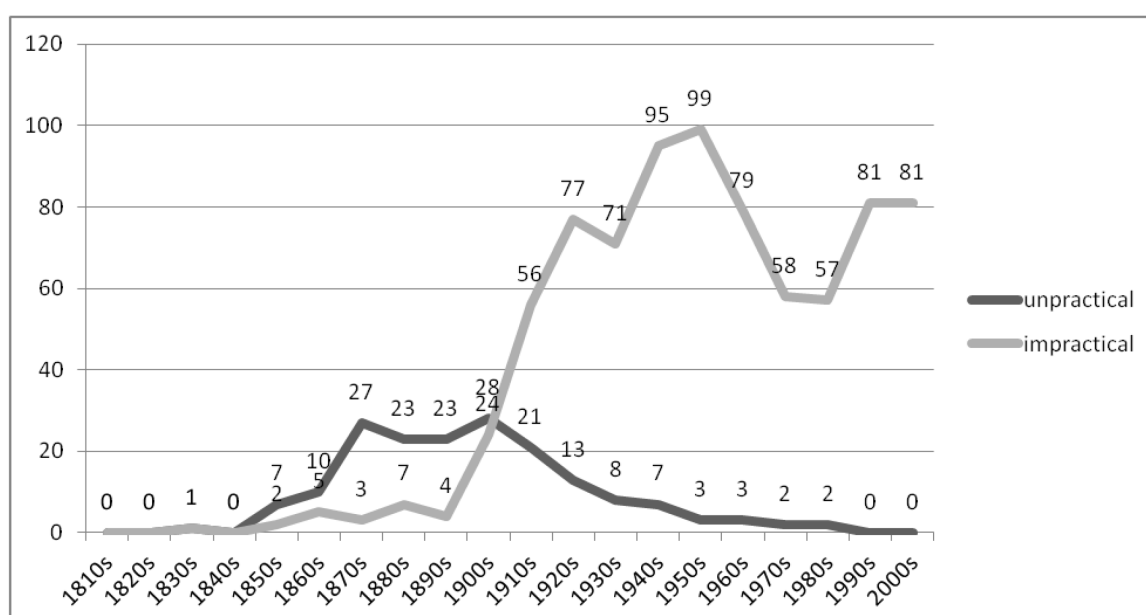
		COHA	TIME
1	unalienable	99	12
	inalienable	637	126
2	unactive	4	0
	inactive	912	299
3	uncapable	4	1
	incapable	4792	659
4	unperfect	1	4
	imperfect	3758	320
5	unpractical	178	33
	impractical	770	327
6	unexact	1	0
	inexact	140	79
7	unreplaceable	6	0
	irreplaceable	211	134
8	uncorrupt	22	1
	incorrupt	16	3
9	unpossible	22	0
	impossible	39618	5885
10	uncertain	8688	1883
	incertain	5	0
11	unjust	4392	424
	injust	3	0

Even though there is ‘proof’ that words with the negative prefix *in*- co-occurred with forms using *un*- , I wonder whether it is accurate to speak of a ‘rivalry’? From this query, I have shown that the bottom line is that the prefix *in*- was the preferred choice. However, in how far did they influence each other? Was it a neck and neck race? Looking at the timeline (rather than the overall outcome) of each of the eleven pairs, I noticed something very interesting. From the eleven words listed in Table 12, only two pairs seem to fluctuate strongly, namely *un*- / *inalienable* and *un*- / *impractical*.

From Figure 4 below it is visible that up until the end of the 19th century, the word *practical* was negated with either *un*- or *in*-, whereby *un*- was favoured with up to six times more instances, e.g. in the 1890s. The negation with *un*- reached its peak in the 1900s where 28 instances are recorded. From this point onwards, however, the word *unpractical* suffers a slow yet steady decline which leads to no

attestations in the 1990s and 2000s. The word's negation with the prefix *in-*, on the other hand, shows a slow increase beginning in the 1890s. It skyrocketed from four to 24 occurrences in the 1900s and was almost even with *unpractical*. While negation with *un-* decreases, negation with *in-* continued to fluctuate until the 2000s, reaching its peak in the 1950s with 99 instances. Suffering a decline in the following three decades, *impractical* levelled at 81 occurrences in the 1990s and 2000s.

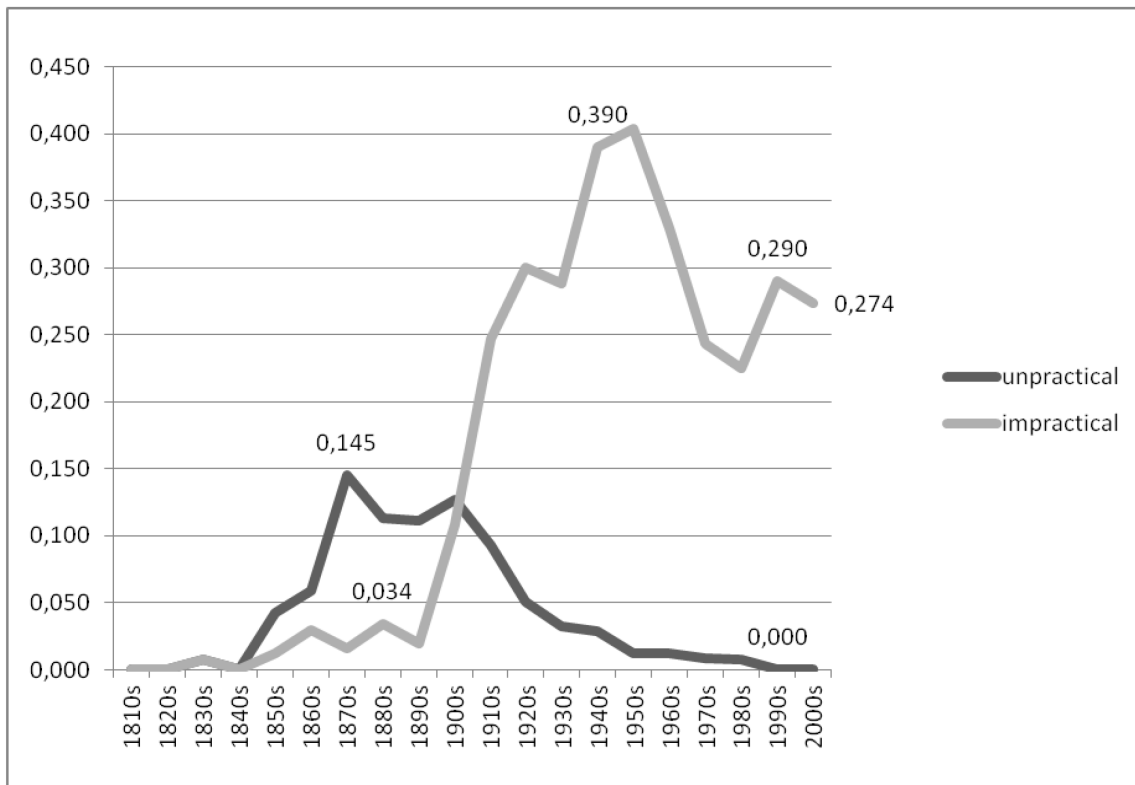
Figure 4. *Unpractical vs. impractical in COHA – raw results*



It could be argued, however, that the figure above is not quite accurate because the number of occurrences are not normalised. Each decade in the COHA has a different amount of texts and, hence, a different amount of words. I have, thus, added Figure 5 below¹¹ which shows the normalised results from COHA. It is evident that the outcome is more marked. From the normalised perspective, it can be seen that the use of *impractical* in the 1990s and 2000s dropped slightly from 0.290 to 0.274 occurrences per 100,000 words. Whether the use of *impractical* will decline in the future is not yet known. However, we can assume that the negation with *un-* has lost.

¹¹ Please note that Figure 5, Figure 7, and Figure 9 were created in the German version of MS Excel 2007. Therefore, the punctuation is German. The numbers with a comma (,) should, thus, be read as decimals (.).

Figure 5. *Unpractical vs. impractical in COHA – normalised*



The results from the TIME corpus (Figure 6 below) illustrate a similar picture. Even though negation with *un-* increased from three to seventeen occurrences at the beginning of the 20th century, it plummeted in the 1950s to only one instance. From this point onwards, *unpractical* has not been recorded at all, except for one time in the 1970s. As a result, negation of *practical* with *un-* is no longer productive. This would mean that the negation with *in-* has clearly won. However, it should be noted that in this corpus the word *impractical* has continued to decline since the 1950s. Does this mean that writers for the TIME magazine use *impractical* less often? Or may it indicate that *unpractical* could revive in the future? These are questions which I am unable to answer, though I believe that *unpractical* has given way to *impractical* permanently as it has not been used since the 1980s.

Similar to the discussion of *un-* / *impractical* in COHA above, the numbers from the TIME corpus shown in Figure 6 are not normalised. The normalised results, i.e. the number of occurrences per 100,000 words, are illustrated in Figure 7 below.

Figure 6. *Unpractical vs. impractical in TIME – raw results*

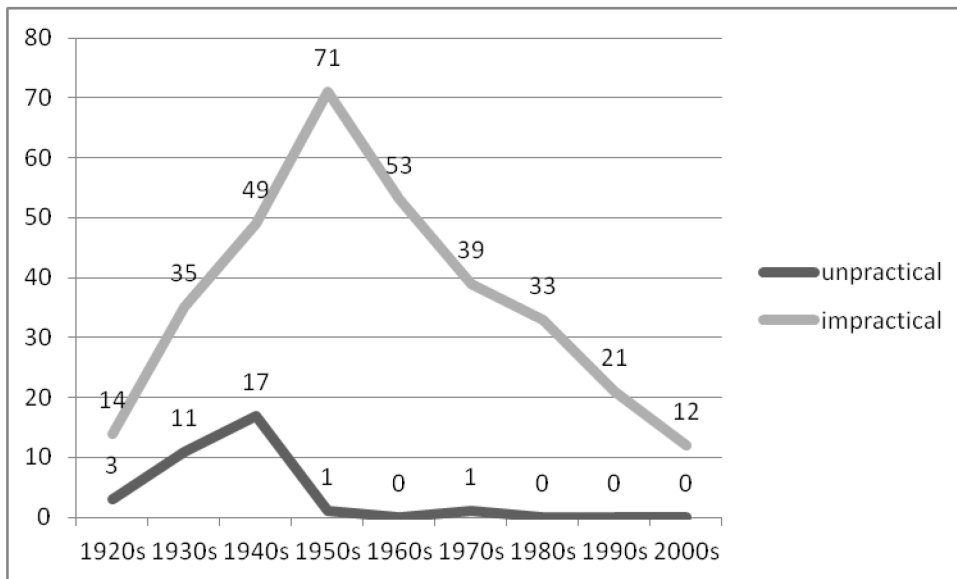
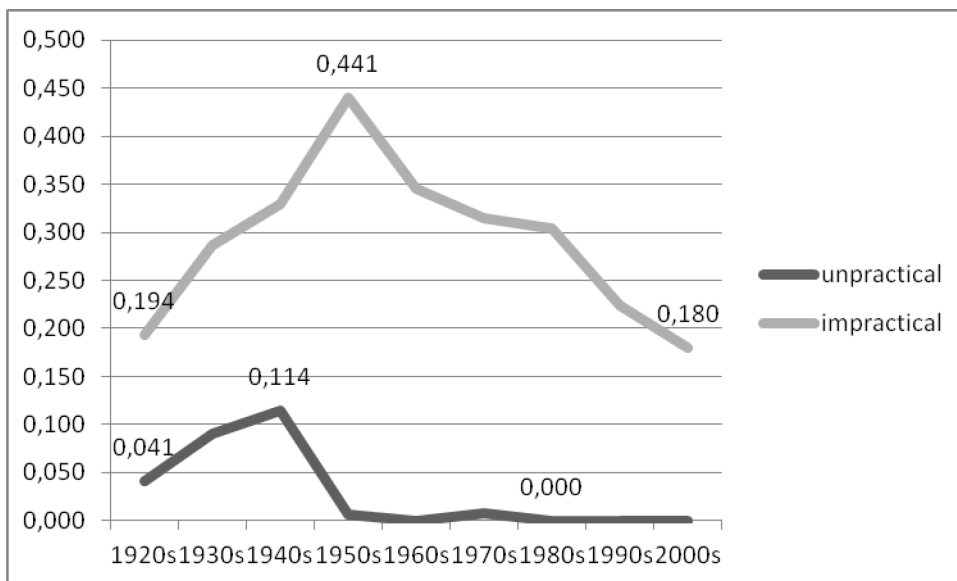
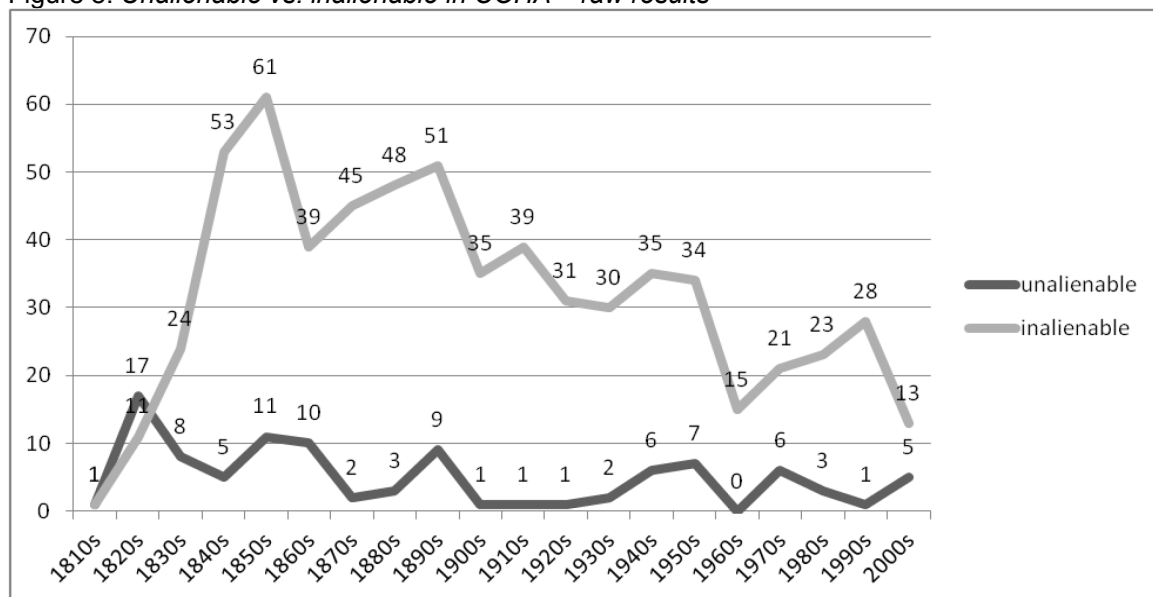


Figure 7. *Unpractical vs. impractical in TIME – normalised*



In regard to the word *alienable*, the OED (s.v. *un-*, *prefix*¹, *sense 5b*) claims that nowadays it may be negated with both *un-* and *in-*. Figure 8 below shows that both prefixes were indeed used, but the prefix *in-* is more prevalent. There is only one period where *unalienable* and *inalienable* seem to be direct rivals, namely in the 1820s when eleven occurrences with *in-* and seventeen occurrences with *un-* were recorded. Other than that *in-* seemed to be the preferred choice.

Figure 8. *Unalienable vs. inalienable in COHA – raw results*

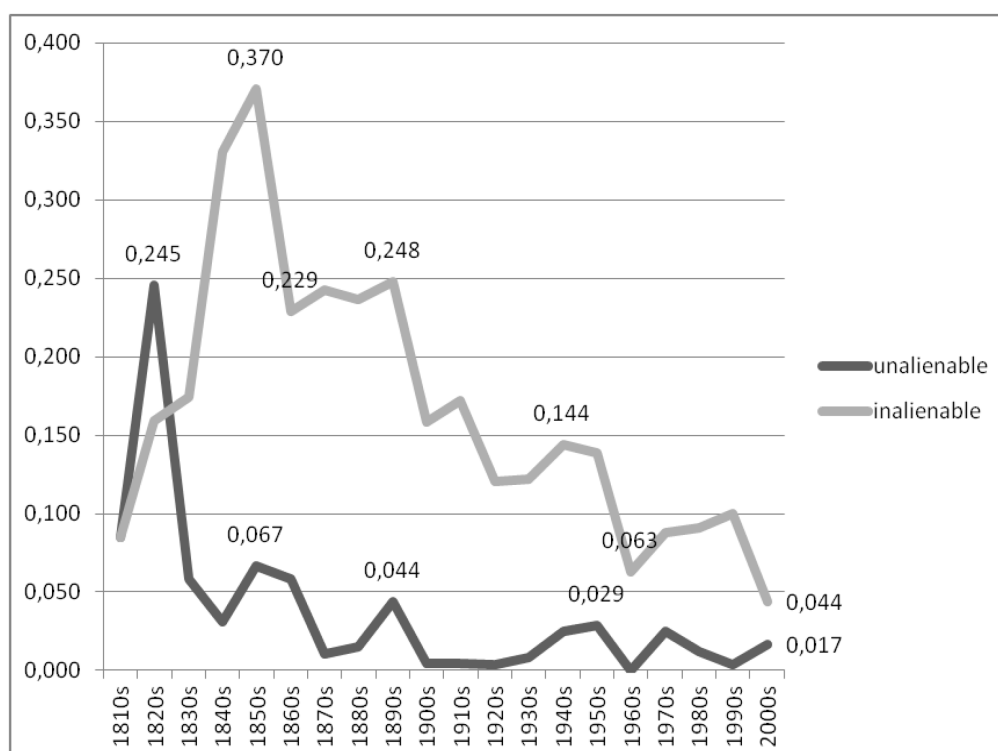


Negation with *in-* reached its peak in the 1850s with a total of 61 occurrences. From this point onwards, the use with *in-* fluctuates greatly over the next 150 years. At first it dropped drastically to only 39 occurrences in the 1860s, but increased again over the following three decades. From the 1900s to the 1950s, it settles down around the 35-mark. However, in the following decade the use with *in-* sloped steeply to fifteen occurrences. After a slight increase until the 1990s, *inalienable* drops once again and reaches thirteen occurrences only in the 2000s, giving it an all-time low.

The use of the prefix *un-* with *alienable*, interestingly, shows a completely different picture. While the amount of the prefix *in-* changes drastically over the years, the use of *un-* seems to be rather stable. There is only a handful of records of *unalienable* in each decade, where its peak was in the 1820s with seventeen occurrences followed by the 1850s (eleven occurrences), the 1860s (ten occurrences), and the 1890s (nine occurrences). What I found most interesting, however, is the decline of *inalienable* and the increase of *unalienable* at the end of the 20th century. Given the results from the 1970s to the 1990s, the numbers of *inalienable* continued to rise (from 21 to 28), while the number of *unalienable* kept falling (from six to one). This would indicate that negation with *un-* is on the verge of becoming unproductive. However, the numbers of the 2000s suggest that *unalienable* may be ousting *inalienable* in the future.

Once again the discussion above is based on the raw results of the TIME query. In Figure 9 below the normalised numbers, i.e. average occurrences per 100,000 words, are shown. The overall trend is similar to Figure 8, but there is one visible difference. In the normalised figure, it is evident that the decline in the use of *inalienable* is much steeper.

Figure 9. *Unalienable vs. inalienable in COHA – normalised*



As already mentioned above, I believe that *impractical* has replaced *unpractical* once and for all. In terms of the negation of *alienable*, however, I believe that nothing is decided yet. Even though both *un-* and *in-* may still be used (OED: s.v. *un-*, *prefix*¹, *sense 5b*) it is so far not quite clear which one will triumph. Taken into account the claim by the OED (s.v. *in-*, *prefix*³), where “the modern tendency is to restrict *in-* to words obviously answering to Latin types, and to prefer *un-* in other cases”, *alienable* is predetermined to take negative *in-*. Then again, *practical* is nowadays negated with *in-*, even though it is of Greek¹² origin.

¹² According to the OED (s.v. *practic*, *adj. and n*²), the word *practical* derives from ancient Greek *praktikos* and denotes “concerned with action, practical, active, effective”. In English, the suffix *-al* was attached “freely to nouns ultimately of Greek origin” (OED s.v. *-al*, *suffix*¹).

Generally speaking, the results this query has given me so far are quite satisfying. However, it needs to be noted that COHA and TIME both consist of texts written in American English. In regard to this, I also consulted a corpus with British English texts, namely the Freiburg-LOB corpus, also referred to as F-LOB. This corpus is, with approximately 1.1 million words, much smaller than COHA or the TIME corpus. In Table 15 below, the results from F-LOB are compared to the Frown corpus, i.e. the Freiburg-Brown corpus, which is the American English equivalent to F-LOB.

The reason why I included Frown is twofold. First, F-LOB and Frown have the same timeframe, i.e. they both consist of texts from the 1990s. And second, they have roughly the same number of words. From this query I hope to see that the results in British English texts do not differ (much) from the American English texts.

Table 15. *Results F-LOB and Frown*

		F-LOB (BrE)	Frown (AmE)
1	unalienable	0	0
	inalienable	3	2
2	unactive	0	0
	inactive	0	5
3	uncapable	0	0
	incapable	9	4
4	unperfect	0	0
	imperfect	7	4
5	unpractical	0	0
	impractical	3	3
6	unexact	0	0
	inexact	0	0
7	unreplaceable	0	0
	irreplaceable	2	1
8	uncorrupt	2	0
	incorrupt	1	0
9	unpossible	0	0
	impossible	79	60
10	uncertain	22	22
	incertain	0	0
11	unjust	10	11
	injust	0	0

The outcome in F-LOB is similar to the one in the COHA-TIME-query: the negative prefix *in-* is clearly favoured. Exceptions to this are, once again, the words *certain* and *just*, which are both negated with *un-*. In terms of rivalry between *un-* and *in-* forms, there is only one pair worth mentioning, namely *corrupt*. Surprisingly, *uncorrupt* appears twice as much than *incorrupt*. The question that arises here is whether negation with *un-* was intended or not as *incorrupt* only appears once. Other than that, this query did not illustrate any rivalry between *un-* and *in-*, not even between *unalienable* and *inalienable*.

Up to this point, I have been able to show two things in regard to the words listed in Table 12. First of all, some words which were negated with *un-* did have an alternate form with *in-*. And second, that – when it was time to eliminate one of the two – the preferred choice was the prefix *in-*, except in the two cases mentioned above. The question that I now want to address is **whether I am able to ‘validate’ Jespersen’s (1942:469) and Marchand’s (1969:169) statements** in which they propose that the trend nowadays is to replace the negative prefix *in-* with *un-*. The discussion about the negation of *alienable* above has shown that, at least in this case, *un-* seems to be pressing upon *in-*. However, this development is still ongoing and I wonder, if there are other cases where the prefix *in-* has definitely been replaced by *un-*.

In his work, Jespersen (1942) does not mention any specific words that changed from *in-* to *un-*-negation. Marchand (1969:169), however, does provide a list:

[...] words such as *incereemonious*, *incertain*, *inchangeable*, *incharitable*, *inchaste*, *incomfortable*, *inconscionable*, *ingrateful*, *inimaginable*, *inorganical*, *impleasing*, *impopular*, *improfitable*, *intenable*, *inutterable*, etc. have given way to *un-* adjectives.

Having this list in mind, I turned to the COHA and the TIME corpus to see if these words have been used at the beginning of the 19th century and, as Marchand (1969:169) suggests, have later been negated with *un-*. The reasons why I chose the COHA and the TIME corpora again are threefold. Even though they consist of texts written in American English, (i) they are very large corpora (400 hundred million and hundred million words respectively), (ii) they include a great time-span

(twenty decades and nine decades respectively), and (iii) because of the great time-span, it is easier to see their developments.

Unfortunately, I was not very successful. In the COHA corpus, only four of the 15 words mentioned above were found, namely *incertain* and *ingrateful* with five occurrences respectively, and *intenable* and *inutterable* with one occurrence each. The frequency of the word *incertain* in COHA is somewhat problematic. Three out five occurrences appear in French passages within English written texts. As a consequence, there are only two ‘real’ instances of *incertain* in COHA. They are both recorded in a scientific text from 1904. In terms of the word *ingrateful*, it appears in three fictional texts all of which written in the 1820s, another one was recorded in a magazine article from 1880, which recites a prayer, and the last instance can be found in a newspaper article from 1965 with a ecclesiastic topic. Even though this shows that *incertain* and *ingrateful* were used, there is no possible way of determining some kind of development.

With regard to the TIME corpus, the results were even worse: there were no hits with any word from above. Then again this could indicate that the transition from *in-* to *un-*prefixation was completed by the 1920s. As a result, I turned to the PCEEC and Lampeter corpora. In the PCEEC corpus only one word listed above was mentioned, namely *ingrateful*. The Lampeter, on the other hand, did not have any hits with any of the words mentioned above. As a last resort, I consulted the online version of the OED. The OED lists all these words as “obs. rare”, which does not come as a big surprise, yet it does not reveal when these *in-*words ceased to be.

I am in no position to disprove Jespersen’s (1942:469) and Marchand’s (1969:169) propositions. However, I am also unable to find any indications for the change of *in-* to *un-*prefixation. So, what did they base their statements on? This conundrum made me develop two hypotheses.

First, the corpora, that I looked at, consisted of written sources only. This leads me to the question, if Jespersen (1942) and Marchand (1969) based their observations on spoken discourse. It is easier to (either accidentally or intentionally) use a different negative prefix in spoken discourse, especially when the listener is not correcting the speaker – for whatever reason. In this respect, Tottie (1991:57) points out that “[s]peech is normally unprepared, i.e., thought and

speech occur more or less simultaneously, or at least with very little lapsing between thought and utterance.” As far as written texts are concerned, they are usually prepared and undergo some kind of revision, especially in cases of publication. This, in turn, means that it is less likely to use a different prefix. In addition to this, Jespersen (1942:469) spoke of a “spur of the moment” when changing *in*-prefixation to *un*-. This indicates some sort of spontaneity. In written discourse, spontaneity is not really given (except maybe in letters or emails) as they need to be drafted and well-structured in order to be effective and to get the message across.

And second, I wonder whether the mother tongue played a role in their propositions. As far as I know, neither Otto Jespersen, a Dane, nor Hans Marchand, a German, was a English native speaker. Could it be that, when they interacted with people in English or when they observed other people talking in English, there was a tendency to use negative *un*-? It may be possible that, at one point or other, a (non-) native English speaker was unsure about which negative prefix to use and used negative prefix *un*- by default. After all, *un*- is an English negative prefix. Furthermore, I know from my own experience that German-speaking people have the tendency to use the negative prefix in English that is also used in German. I work at the British Council Austria, where mostly German-speaking staff is employed but our working language is English. At some occasions, I caught my colleagues saying *unpolite*. Since *unhöflich* is used in German to refer to someone who is ‘not polite’, it is perfectly understandable why my colleagues turned to *un*-. Therefore, could it be that our mother tongues might influence the choice in negative prefixes?

Unfortunately, the latter hypothesis does not explain why the OED lists the *in*-words above as obsolete. After all, the OED would not change words because some foreigners ‘decided’ to use the prefix *un*- instead of *in*-. Clearly, the *in*-words have been used by native English speakers and, further, it was native English speakers, who have discarded them in favour of *un*-prefixation. I may have found a reason why the use of *un*- has risen: the expansion of the British Empire and, thus, the spread of the English language (Fisiak 2005:137ff.). According to Fisiak (2005:149-150), the English language became more prestigious at the beginning of the 20th century. Could it be that the native English prefix *un*- has been regarded as more appropriate than its Latin opponent *in*-? And that, as a consequence, words

that were formerly negated with *in-* were then formed with *un-*. This would certainly explain Jespersen's and Marchand's propositions. In this respect, one could also ask in how far productivity, more precisely its subset frequency, is involved? Did a higher frequency in the use of negative *un-* influence the change from *in-* to *un-* prefixation?

Based on this, I wonder if the change of *in-* to *un-* prefixation is a fairly recent phenomenon. Could it be that the process is still going on? Nevertheless, at this stage it is not quite possible to determine when *in-* prefixation became *un-* and it is impossible to tell for sure what had been the influences for that change.

5.3. Summary

In this section, I have examined the rivalry between the prefixes *un-* and *in-* by means of a list with eleven words, which were allegedly used with both *in-* and *un-* prefixation in the Middle English period. At first, I used the two corpora which included the Early Modern English period, i.e. PCEEC and Lampeter. Unfortunately, the results from this query were quite disappointing because there were hardly any occurrences. With a new search using the COHA and the TIME corpora, I was able to show that the words in question were attested. Further, it has shown that the negative prefix *in-* was preferred to negative prefix *un-*.

Real rivalry between the prefixes *un-* and *in-* was clearly visible with the words *practical* and *alienable*. While *un-* seems to be no longer used with *practical*, the favoured negative affix for the word *alienable* seems to be *in-*. However, it needs to be pointed out that usage of *inalienable* has declined and *un-* is now on the rise. Based on these results, only the future will tell us, if *alienable* will remain to be used with both *un-* and *in-*, or if one of the two prefixes will be ousted.

In terms of the *un-* words that were formerly negated by *in-*, the OED has labelled them as 'obs. rare'. Unfortunately, the corpora I have used for this thesis hardly showed any indication that these words had been in use. In conclusion it can be said that I am in no position to disprove Jespersen's or Marchand's propositions. However, I have taken the liberty to draw up two hypotheses: first, maybe the change from *in-* to *un-* prefixation is more prominent in spoken data. And second, maybe Jespersen and Marchand observed non-native English people in their times.

The latter, however, does not explain why the OED lists former *in*-words as obsolete. Did the English prefix *un*- experience a rise because the English language became more prestigious during 20th century? Unfortunately, I was not able to give a definite answer.

6. Conclusion

The aim of this thesis was to discuss the properties and distinctive features of negative affixes. In a nutshell, it can be said that negative affixes are more complex than meets the eye.

In the theory part of my thesis, I discussed some notions, which go hand in hand with negative affixes. I have shown that 'negative' refers to the reversal of the value of a proposition, and its operation is called 'negation'. In this respect, one type of negation, namely local negation, includes the use of negative affixes. It stands in clear contrast to clause negation as only one element is negated, rather than an entire clause. With the chapter about affixation, I intended to clarify that the group of negative affixes only constitutes a small part in the field of word-formation. However, as seen in the following chapters, negative affixes are quite multifaceted. The discussion on productivity completes the theory chapter. Productivity is the space between possible and actual words. It can be regarded as the potential for coining new words on the basis of already existing ones.

With the background information on negative affixes in mind, I was able to discuss them in detail. The Distribution section (chapter 3) lists all negative affixes known in the English language. I have briefly discussed their etymologies, their meanings, their abilities to attach to words of all syntactic categories and their ability to express contradictory or contrary opposition. Some of these affixes had to be dropped from further discussion because they either did not meet the requirements to be considered 'negative' or because lack of information made it impossible to talk about them. From this, we were left with seven negative prefixes, namely *a(n)-*, *de-*, *dis-*, *mis-*, *non-*, *in-*, and *un-*, and one negative suffix, namely *-less*. The prefix *mis-*, however, must be treated with caution as this is technically no longer a 'negative'.

Having established that there are so many negative affixes in the English language, it was then time to examine their competition. Chapter 4, has dealt with constraints that lead to either affixal or non-affixal negation. In some cases, the speaker is obliged to choose one or the other, otherwise the message will change in meaning. In other cases, it does not matter whether affixal or non-affixal

negation is used, it is basically the speaker's choice. However, when gradable adjectives or adverbial modifiers are involved, the speaker's choice is limited.

I, then, tried to establish rules with which it would become easier to find the 'correct' negative affix. An investigation based on morpho-syntactic criteria turned out to be a dead-end because the affixes seem to be able to attach to almost any syntactic category.

In terms of semantic analysis, the notions negativity, reversativity, and privativity became matters of discussion. We have seen that only the prefixes *dis-* and *un-* can convey all three meanings. Those with only negative meaning are the prefixes *a(n)-*, *in-*, *mis-*, and *non-*. The prefix *de-* and the suffix *-less*, on the other hand, do not have negative meaning at all. Those with reversative and privative meaning are the prefixes *de-*, *dis-*, and *un-*. Based on this, it was possible to determine that no single negative affix is in direct competition with all the others. Rather negative affixes, which share meaning, are competing directly, for instance all negative affixes with reversative meaning are rivals.

In the end, I was unable to determine definite rules – this may be especially disappointing for learners of English. However, the distinction between negative, reversative, and privative meaning can be regarded as rough guidelines. Since there are no established rules on the 'correct' choice of negative affixes, I assume that the majority of words with affixal negation is learned, e.g. from usage guides, grammar books, dictionaries or other readings, from hearsay, or simply because someone corrects the speaker. The others are formed by analogy, e.g. coining affixal negation on the basis of what has already been learned and stored in the lexicon or – in cases of speakers of other languages – maybe even on the basis of the mother tongue.

Having discussed the negative affixes' competition with one another, one thing was most striking: the alleged rivalry between negative *un-* and *in-*. For the chapter on historical development, I then decided to focus on this negative pair in the hopes to see a development on the uses with *un-* and *in-* over the centuries. Even though both affixal negations were possible, the prefix *in-* was said to be in favour. I was, therefore, intrigued by Jespersen's and Marchand's propositions in which they claim that *un-* is being favoured in recent years.

Taking these statements as well as a list of words, which were negated with *un-* and *in-* in the Middle English period, as a starting point, I began researching

with linguistic corpora. At first, I made a query with the PCEEC and Lampeter, but the results were disappointing as there were hardly any occurrences. From a second query with COHA and TIME, I was able to see that both *un-* and *in-* prefixation was indeed used. However, there was hardly any rivalry between the two affixes. In fact, in many cases *in-* was clearly preferred. There were only two cases where rivalry between *un-* and *in-* was evident, namely with the words *practical* and *alienable*.

With Marchand's list of former *in*-words, which became *un*-words, I was hoping to see a development of how *un-* was pushing on *in-* over the years. I based my query on Marchand's list because these words had definitely changed from *in-* to *un-* prefixation. Therefore, I assumed that a development should be possible to see. Further, such a development would have indicated a period of time where *in-* was replaced by *un-*. Unfortunately, a query with corpora could not generate any useful results. So, I am wondering what grounds Jespersen and Marchand based their propositions on?

As already discussed in the previous section, I am in no position to falsify Jespersen or Marchand. I, therefore, began to wonder why the results from my queries were not in agreement with the scholars. Would a change from *in-* to *un-* prefixation be more evident in spoken data? Or did the scholars observe speakers with mother tongues other than English? If the latter was true, why did the OED list former *in*-words as obsolete?

With my queries I have shown two things. First, *in-* prefixation was preferred, and second, the *un-* / *in-* rivalry was evident in, at least, two cases (*practical* and *alienable*). However, I was unable to show that *un-* is ousting *in-* as both Jespersen and Marchand suggested. Since change from *in-* to *un-* seems to be a fairly recent phenomenon, I hope that future research with native and non-native English speakers may shed some light on the rivalry between the two prefixes.

I set out to write this thesis in a way that it not only introduces the topic of negative affixes, but also establishes ground on which future research may build. For instance, in terms of the negative affixes' competition it would be interesting to find out in how far the mother tongue influences the choice of negative affix when a non-native English speaker uses affixal negation in English? Another possible research topic could be further investigation on the pair *unalienable* and *inalienable*. Based on my query with COHA both *un-* and *in-* prefixation is used with

the word *alienable*. It would be interesting to look at the geographical distribution of the pair, for instance if *unalienable* is predominantly used in British English or American English?

Although I do not claim completeness I hope to have fulfilled both of these objectives to the degree possible in the format of a Master thesis.

7. Bibliography

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8. Appendix

This appendix includes a list of all tables and figures found in this thesis, and the detailed results from my research with the following corpora: *Parsed Corpus of Early English Correspondence* (PCEEC), *The Lampeter Corpus of Early Modern English Tracts* (Lampeter), *The Corpus of Historical American English* (COHA), *TIME Magazine Corpus* (TIME), *The Freiburg-LOB Corpus of British English* (F-LOB) and *The Freiburg-Brown Corpus of American English* (Frown). Please note that these tables were created in the German version of MS Excel 2007. Therefore, the punctuation is German. The numbers with a comma (,) should, thus, be read as decimals (.).

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8.2. PCEEC and Lampeter

The Parsed Corpus of Early English Correspondence (PCEEC) consists of approximately 2.2 million words, while the Lampeter Corpus of Early Modern English Tracts consists of approximately 1.1. million words. Normalisation was calculated as follows: (number of instances / total number of words) x 100,000.

		PCEEC raw results	Lampeter raw results		PCEEC normalised*	Lampeter normalised*
1	unalienable	0	1		0,000	0,091
	inalienable	0	0		0,000	0,000
2	unactive	0	1		0,000	0,091
	inactive	0	0		0,000	0,000
3	uncapable	5	9		0,227	0,818
	incapable	6	6		0,273	0,545
4	unperfect	2	0		0,091	0,000
	imperfect	14	9		0,636	0,818
5	unpractical	0	2		0,000	0,182
	impractical	0	0		0,000	0,000
6	unexact	0	0		0,000	0,000
	inexact	0	0		0,000	0,000
7	unreplaceable	0	0		0,000	0,000
	irreplaceable	0	0		0,000	0,000
8	uncorrupt	0	1		0,000	0,091
	incorrupt	0	0		0,000	0,000
9	unpossible	1	0		0,045	0,000
	impossible	53	108		2,409	9,818
10	uncertain	29	39		1,318	3,545
	incertain	0	0		0,000	0,000
11	unjust	9	59		0,409	5,364
	injust	0	0		0,000	0,000

*Normalisation per 100,000 words

8.3. COHA and TIME

The Corpus of Historical American English (COHA) consists of approximately 400 million words, and the TIME Magazine Corpus consists of approximately 100

million words. Normalisation was calculated as follows: (number of instances / total number of words) x 100,000.

		COHA raw results	TIME raw results	COHA normalised*	TIME normalised*
1	unalienable	99	12	0,025	0,012
	inalienable	637	126	0,159	0,126
2	unactive	4	0	0,001	0,000
	inactive	912	299	0,228	0,299
3	uncapable	4	1	0,001	0,001
	incapable	4.792	659	1,198	0,659
4	unperfect	1	4	0,000	0,004
	imperfect	3.758	320	0,940	0,320
5	unpractical	178	33	0,045	0,033
	impractical	770	327	0,193	0,327
6	unexact	1	0	0,000	0,000
	inexact	140	79	0,035	0,079
7	unreplaceable	6	0	0,002	0,000
	irreplaceable	211	134	0,053	0,134
8	uncorrupt	22	1	0,006	0,001
	incorrupt	16	3	0,004	0,003
9	unpossible	22	0	0,006	0,000
	impossible	39.618	5.885	9,905	5,885
10	uncertain	8.688	1.883	2,172	1,883
	incertain	5	0	0,001	0,000
11	unjust	4.392	424	1,098	0,424
	injust	3	0	0,001	0,000

*Normalisation per 100,000 words

COHA: Timeline (raw results)

		1810s	1820s	1830s	1840s	1850s	1860s	1870s	1880s	1890s	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	total
1	unalienable	1	17	8	5	11	10	2	3	9	1	1	1	2	6	7	0	6	3	1	5	99
	inalienable	1	11	24	53	61	39	45	48	51	35	39	31	30	35	34	15	21	23	28	13	637
2	unactive	0	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	4
	inactive	6	44	61	80	41	27	65	30	32	24	34	47	70	70	64	34	51	32	47	53	912
3	uncapable	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	4
	incapable	34	165	299	321	359	337	333	308	281	242	269	258	205	198	219	208	216	179	194	167	4792
4	unperfect	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	imperfect	25	261	336	463	321	310	279	249	258	183	192	138	120	79	94	94	99	81	78	98	3758
5	unpractical	0	0	1	0	7	10	27	23	23	28	21	13	8	7	3	3	2	2	0	0	178
	impractical	0	0	1	0	2	5	3	7	4	24	56	77	71	95	99	79	58	57	81	81	770
6	unexact	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	inexact	0	0	3	3	6	4	9	9	5	2	6	15	11	10	7	13	8	13	3	13	140
7	unreplaceable	0	0	0	0	0	0	0	1	0	0	2	2	0	0	0	1	0	0	0	0	6
	irreplaceable	0	0	1	0	0	0	0	0	0	0	2	6	9	25	21	15	40	21	41	30	211
8	uncorrupt	1	4	2	5	2	3	0	1	1	1	0	0	0	0	0	1	0	0	0	1	22
	incorrupt	0	0	3	6	2	1	0	0	0	1	0	0	0	1	0	1	0	0	0	1	16
9	unpossible	2	1	6	3	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	2	22
	impossible	157	980	1437	1487	1796	1884	2630	2561	2514	2752	2708	2757	2461	2214	2102	1933	1769	1898	1781	1797	39618
10	uncertain	36	163	343	390	367	434	465	500	508	564	492	560	579	506	429	477	531	461	456	427	8688
	incertain	0	0	1	0	0	0	0	0	1	2	0	0	1	0	0	0	0	0	0	0	5
11	unjust	39	196	380	340	403	338	360	383	303	291	243	238	196	126	117	115	94	77	63	90	4392
	injust	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	3

COHA: Timeline (normalised results)

	1810s	1820s	1830s	1840s	1850s	1860s	1870s	1880s	1890s	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s
unpractical	0,000	0,000	0,007	0,000	0,042	0,059	0,145	0,113	0,112	0,127	0,093	0,051	0,033	0,029	0,012	0,013	0,008	0,008	0,000	0,000
impractical	0,000	0,000	0,007	0,000	0,012	0,029	0,016	0,034	0,019	0,109	0,247	0,300	0,289	0,390	0,403	0,329	0,244	0,225	0,290	0,274
unalienable	0,085	0,245	0,058	0,031	0,067	0,059	0,011	0,015	0,044	0,005	0,004	0,004	0,008	0,025	0,029	0,000	0,025	0,012	0,004	0,017
inalienable	0,085	0,159	0,174	0,330	0,370	0,229	0,242	0,236	0,248	0,158	0,172	0,121	0,122	0,144	0,139	0,063	0,088	0,091	0,100	0,044

TIME: Timeline (raw results)

		1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	total
1	unalienable	0	0	0	3	1	1	2	2	3	12
	inalienable	17	8	17	16	27	13	7	16	5	126
2	unactive	0	0	0	0	0	0	0	0	0	0
	inactive	27	64	70	41	29	31	17	7	13	299
3	uncapable	0	0	1	0	0	0	0	0	0	1
	incapable	59	57	71	99	105	100	83	65	20	659
4	unperfect	0	0	0	0	4	0	0	0	0	4
	imperfect	22	29	39	39	38	35	45	45	28	320
5	unpractical	3	11	17	1	0	1	0	0	0	33
	impractical	14	35	49	71	53	39	33	21	12	327
6	unexact	0	0	0	0	0	0	0	0	0	0
	inexact	9	10	6	8	18	7	9	5	7	79
7	unreplaceable	0	0	0	0	0	0	0	0	0	0
	irreplaceable	2	6	44	17	19	12	12	19	3	134
8	uncorrupt	0	0	1	0	0	0	0	0	0	1
	incorrupt	0	1	0	0	0	0	0	2	0	3
9	unpossible	0	0	0	0	0	0	0	0	0	0
	impossible	552	634	822	739	849	749	597	588	355	5885
10	uncertain	114	162	251	195	298	393	235	161	74	1883
	incertain	0	0	0	0	0	0	0	0	0	0
11	unjust	55	53	57	52	73	69	22	26	17	424
	injust	0	0	0	0	0	0	0	0	0	0

TIME: Timeline (normalised results)

	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s
unpractical	0,041	0,090	0,114	0,006	0,000	0,008	0,000	0,000	0,000
impractical	0,194	0,287	0,329	0,441	0,345	0,315	0,305	0,224	0,180
unalienable	0,000	0,000	0,000	0,019	0,007	0,008	0,018	0,021	0,045
inalienable	0,235	0,066	0,114	0,099	0,176	0,105	0,065	0,171	0,075

8.4. F-LOB and Frown

Both the Freiburg-LOB Corpus (FLOB) and the Freiburg-Brown Corpus (FROWN) consist of approximately 1.1 million words, respectively. Normalisation was, thus, not necessary.

	F-LOB	Frown
unalienable	0	0
inalienable	3	2
unactive	0	0
inactive	0	5
uncapable	0	0
incapable	9	4
unperfect	0	0
imperfect	7	4

unpractical	0	0
impractical	3	3
unexact	0	0
inexact	0	0
unreplaceable	0	0
irreplaceable	2	1
uncorrupt	2	0
incorrupt	1	0
unpossible	0	0
impossible	79	60
uncertain	22	22
incertain	0	0
unjust	10	11
injust	0	0

German Abstract

Die vorliegende Masterarbeit befasst sich mit allen Präfixen und Suffixen der englischen Sprache, die eine Form von Negation ausdrücken. Da beim Thema der Negation der Fokus hauptsächlich auf Satznegation gelegt wird, war es für mich von Interesse das weniger stark bearbeitete Feld der lokalen Negation zu untersuchen. Ziel dieser Arbeit ist es ein Gesamtbild der sogenannten ‚negativen Affixe‘ im Englischen zu erfassen. Zur besseren Übersicht ist diese Arbeit in vier größere Abschnitte eingeteilt.

Im ersten Teil werden die Begriffe ‚negativ‘, ‚Negation‘, ‚Affigierung‘ und ‚Produktivität‘ beschrieben, welche die Grundbegriffe für diese Arbeit bilden. Nach diesem theoretischen Teil werden die einzelnen negativen Affixe im Englischen aufgelistet und in ihrer Anwendung beschrieben („distribution“). Insgesamt werden in der Literatur neun negative Präfixe (*a-*, *anti-*, *de-*, *dis-*, *in-*, *mis-*, *no-*, *non-*, *un-*) und zwei negative Suffixe (*-less*, *-out*) aufgezählt.

Im folgenden Kapitel wird untersucht ob und inwiefern negative Affixe gegeneinander konkurrieren („competition“). Zunächst wird erörtert, ob man überhaupt zwischen Affix-Negation und Nicht-Affix-Negation frei wählen kann. Es wird deutlich, dass es linguistische Umstände gibt, die zwingend zum einen oder dem anderen führen. Bei Negation mit Affigierung stellt sich dann zusätzlich die Frage, welches Affix verwendet werden soll. Es werden daher morpho-syntaktische, semantische und etymologische Kriterien untersucht, die die Auswahl der negativen Affixe einschränken könnten. Ziel ist es Regeln zu finden, die es besonders Englisch-Lernenden erleichtern sollen das ‚richtige‘ negative Affix zu finden.

Abschließend wird erörtert wie sich die Rivalität zwischen den Präfixen *un-* und *in-* im Laufe der Zeit entwickelt hat („historical development“). Mithilfe von linguistischen Korpora (PCEEC, Lampeter, COHA, TIME) möchte ich diese Entwicklung veranschaulichen. Die erste Untersuchung befasst sich mit Wörtern, die im Mittelenglischen Doppelformen dieser beiden Affixe aufwiesen, zum Beispiel konnte *exact* sowohl zu *unexact* als auch zu *inexact* negiert werden. Hier zeigte sich, dass sich *in-* als dominanteres Präfix im Frühneuenglischen durchsetzte. In einem zweiten Ansatz wurden Aussagen von Jespersen (1942) und Marchand (1969) als Ausgangspunkt genommen, in denen diese behaupten, dass Wörter, die

vormals mit *in-* negiert wurden, heutzutage die Tendenz haben mit *un-* gebildet zu werden. Unter Verwendung der oben genannten linguistischer Korpora konnte ich ihre Aussagen zwar nicht bestätigen, fand jedoch mögliche Erklärungen für die Diskrepanz zwischen ihrer Beobachtung und den in Korpora gefundenen Daten.

Curriculum Vitae

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Ausbildung

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2004 –2005 **Diplomstudium Molekulare Biologie** und **Diplomstudium Biologie**, Universität Wien
2005 –2009 **Diplomstudium Anglistik & Amerikanistik**, Universität Wien
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Tagalog (Filipino) Muttersprache
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