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*English word-formation: suffix competition
in nominalization*

Relatore

Prof. Davide Bertocci

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Laureando

Selene Coren

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Riassunto

La presente tesi tratta della formazione delle parole in inglese, in particolare della creazione di sostantivi con l'utilizzo di suffissi e della conseguente competizione che può emergere tra processi morfologici nella realizzazione di un'operazione. La morfologia rappresenta quindi il quadro in cui si sviluppa tutto lo studio.

Il primo capitolo fornisce un'idea generale sulla morfologia inglese e sulla formazione delle parole, ponendo l'accento sulle differenze tra i concetti di flessione, uso di affissi e conversione, ma anche sulla rilevanza di aspetti storici e che riguardano la produttività. Questo è utile perché inquadra i concetti base che serviranno per sviluppare i diversi punti presentati nello studio.

Viene poi fornita un'esaminazione dei suffissi non nativi che creano nomi che indicano stato/evento/risultato. I suffissi coinvolti in queste operazioni di nominalizzazione sono *-ation*, *-ment*, *-al*, *-ure*, *-ance* e *-ing* (anche se non nativo), che selezionano principalmente basi verbali, anche se si possono incontrare alcune eccezioni. Questi suffissi sono entrati nella lingua inglese a partire dal quattordicesimo secolo come prestiti da altre lingue, principalmente dal latino e dal francese, e hanno presto cominciato a funzionare come elementi morfologici riconoscibili e a sé stanti all'interno dell'inglese, anche con regole che si allontanavano dalla loro lingua d'origine.

Nel capitolo viene posta particolare attenzione alla descrizione delle caratteristiche morfo-sintattiche delle basi che selezionano questi suffissi. I suffissi non sono intercambiabili gli uni con gli altri anche se realizzano la stessa operazione morfologica e questo significa che sono selettivi delle basi che scelgono. Suffissi e basi non si combinano in maniera randomica, ma la base deve presentare alcune caratteristiche specifiche, che possono riguardare la classe di appartenenza e altre proprietà morfologiche, fonologiche, etimologiche, e anche semantiche. Questo è ciò che fa capo alla 'condizione della base singola', che spiega le restrizioni peculiari che i suffissi hanno nella selezione delle basi.

In questo contesto emerge il fenomeno della competizione, un qualcosa di esteso e comune alle lingue del mondo. Se due o più elementi morfologici presentano alcune caratteristiche in comune, in alcuni casi, si diranno in competizione per la realizzazione di uno stesso processo morfologico. Questo significa che quando più di un suffisso presenta delle funzioni simili o uguali, è potenzialmente in grado di realizzare una stessa

operazione, come potrebbe essere selezionare una stessa base per creare un sostantivo. Esistono diversi criteri che permettono di stabilire perché un suffisso prevale su un altro o perché cristallizza o cambia una propria funzione nel tempo, affermandosi come la scelta principale di un'operazione o perdendo produttività. Questi possono essere fattori che dipendono dalle caratteristiche morfologiche, fonologiche, sintattiche o etimologiche delle basi, o, in alcuni casi, anche dalle sfumature di contenuto semantico che un suffisso con una specifica funzione assume. Ma la distribuzione di suffissi in competizione può dipendere da altri fenomeni 'chance-level', più difficili da prevedere, che possono non essere puramente linguistici e presentarsi in modo piuttosto randomico. Alcuni esempi verranno presi in considerazione singolarmente nel secondo capitolo, come il fenomeno del 'blocco', la produttività, la variazione diacronica o diafasica.

Il 'blocco' è un fenomeno che ferma un processo morfologico che porta alla creazione di una nuova parola, perché esiste già una parola con lo stesso significato, creata attraverso un processo morfologico differente.

Per quanto riguarda la produttività, si può affermare che in caso di competizione tra processi morfologici, il vincitore sarà il suffisso più produttivo, cioè quello a cui i parlanti sono più esposti e con il quale produrranno con più facilità nuove forme.

Inoltre, la variazione diacronica e diafasica rappresenta un fattore chiave: la distribuzione di suffissi rispecchia l'evoluzione di una lingua e i contesti sociali e i registri in cui questa si manifesta.

Il secondo capitolo guarda da più vicino il fenomeno del polimorfismo, un concetto che ammette la possibilità dell'esistenza di più di un processo morfologico per una stessa operazione. Vengono presi in considerazione diversi approcci, come quello tipologico ma si accenna anche a studi più formali.

L'approccio tipologico al polimorfismo presenta molto potenziale, ma anche alcuni limiti. Consiste nella raccolta e nell'analisi di dati provenienti dai corpora, con l'obiettivo di trovare le somiglianze e le differenze in una stessa lingua o tra lingue, in modo da stilare una lista di pattern linguistici universali, senza la pretesa di trovare le regole sottostanti a ogni fenomeno linguistico. La grande quantità di dati porta a confrontarsi con materiale molto complesso e soggetto a variazione diacronica e diafasica, quindi difficile, in alcuni casi, da maneggiare. A proposito di questo approccio nel secondo capitolo viene riportato uno studio di Thornton (2019) che utilizzando i criteri introdotti dalla Canonical Typology

ha lo scopo di determinare i pattern della ‘sovrabbondanza’, definita come la competizione tra due o più elementi che possono realizzare uno stesso paradigma grammaticale. Questi criteri che tengono in considerazione la frequenza, la distribuzione e la simmetria di fenomeni morfologici possono descrivere la forza e la rilevanza della competizione tra due elementi, risultando utili anche per studiare il fenomeno e la portata della competizione tra suffissi, quindi di processi morfologici di derivazione. Nella tesi verrà fornita una spiegazione teorica di come questi possono essere applicati a specifici casi di competizione tra *-ation* e *-ment*, per scoprire la portata e l’estensione di questi fenomeni. Prendendo in considerazione il criterio della frequenza, si nota che la competizione tra più possibili realizzazioni di un’un’operazione morfologica non sarà forte se tali realizzazioni sono distribuite nella lingua con una frequenza diseguale. Per esempio, se una forma è molto più frequente di un’altra, difficilmente sarà in reale competizione con la forma alla quale il parlante non è esposto frequentemente. Mentre tenendo in conto la distribuzione, si può affermare che la competizione sarà più rilevante quanto più avviene in maniera casuale. Se i parlanti sono abituati a possedere nella loro competenza un’alternanza che non è una regola fissa e generalizzata che compete con un altro processo morfologico generalizzato, la ‘sovrabbondanza’ si dirà più forte.

Quando due processi morfologici competono, con il tempo, uno dei due vincerà sull’altro, confermandosi come il più produttivo o il più adatto in uno specifico contesto. Questo accade perché le lingue tendono sempre a stabilizzarsi, riducendo le regole e i fenomeni che richiedono uno sforzo cognitivo troppo alto per il parlante. Le lingue funzionano secondo il principio di massima efficienza ed efficacia, cioè nella maniera più economica e più vantaggiosa per il parlante. Perciò, risulta difficile spiegare fenomeni come il polimorfismo, alternanze imprevedibili e l’esistenza di apparenti sinonimi. Perché questi fenomeni non vengono cancellati del tutto? Una spiegazione viene fornita dal Principio della Tolleranza, che giustifica l’esistenza nella nostra competenza linguistica di forme definite ‘junk’, informazioni linguistiche che non seguono le strutture e le regole generali della lingua. Di solito poche regole vengono generalizzate perché siano il più ‘efficaci’ possibili, e queste coesistono con altre che sono regole indipendenti, che vengono apprese quasi ‘a memoria’ dal parlante.

Il terzo capitolo offre una revisione più dettagliata di *-ation* e *-ment*, soffermandosi sulla loro evoluzione all’interno dell’inglese. Prendendo in considerazione diversi periodi

storici, vengono forniti dati sui cambiamenti riguardo la produttività dei due suffissi, sulla loro distribuzione, sulle loro forme e sui contesti di utilizzo attraverso i secoli. Questo sarà utile per analizzare le possibili cause della competizione tra i due suffissi, che ora risulta stabile e non più produttiva: *-ation* si è affermato come un suffisso molto produttivo, per il suo essere flessibile; mentre *-ment* è quasi del tutto non operativo nell'inglese moderno. Nell'ultima parte del capitolo verranno avanzate diverse ipotesi sul perché di questa condizione. Per esempio, si ipotizza che da un lato *-ation* sia sempre stato usato in un numero più alto di contesti, guadagnandosi il titolo di suffisso 'elsewhere'. Questo significa che a differenza di *-ment*, che viene utilizzato in contesti estremamente specifici, può essere utilizzato flessibilmente.

Introduction

The framework of this thesis is an important branch of linguistics, namely morphology, that throughout the years has fostered the proliferation of many approaches, studies and theories on the conformation, the formation, and the patterns of words. This study concentrates on the creation of words, namely of nouns with the use of suffixes. Many aspects emerge from the study of word formation: in particular, the subject of matter of this thesis will be competition between morphological processes, such as suffixation, which can be regarded as a crucial and extensive phenomenon that arises from word formation. Suffix competition will be investigated as something relevant in the realization of morphological processes in English, especially in nominalization processes.

Before I get to the heart of Chapter 1, which deals more in the specific with nominalization by suffixation and suffix competition, I will provide some basic notions on morphology, that are necessary in the investigation of word formation and that represent a framework that will contain most of my work. The initial section of Chapter 1 is inspired mainly by Bauer (1983), Carstairs-McCarthy (2002) and Bauer, Lieber, Plag's (2013) contribution on the topics. In order to give a more exhaustive context in which collocate this work, notions like 'word', morpheme, allomorph, root and affix, will be briefly taken into examination, to then move on to more specific aspects of English word formation, such as the fundamental distinctions between inflection and derivation, and conversion and affixation. Some significant historical aspects of derivational processes will be quickly presented too. These, as well as some notion on productivity, will help to provide a more exhaustive description of suffixes and noun formation later on in the chapter.

In the second part of Chapter 1 a brief overview and description of non-native suffixes that create nouns from verbs will be presented. I will mention their productivity as something fundamental to understand their distribution and their frequency in Modern English. More specifically, what is relevant for this study, is the fact that productivity may determine processes that are in competition. In Modern English, a suffix like *-ation* is extremely productive, while the status of *-ment*, *-ure*, *-ance*, *-al* is that of little prolific suffixes. Such information will be mainly taken from the Oxford English Dictionary (OED), that represents a resourceful tool to investigate the etymology, the function, the

history, the frequency and the literary testimonies of words and, useful to my case, of suffixes.

In addition to the illustration of suffixes, it is fundamental to mention the characteristics of the bases that such suffixes select. Therefore, I will provide a brief description of their characteristics, namely if they are native or non-native, free or bound, and their syntactic implications. This will lead to the fundamental concept of ‘single base condition’, which allows to explain the reasons why suffixes with the same function are not interchangeable, behave in ways that diverge one from the other and do not choose the same bases. When two or more suffixes share some of their characteristics and domain, potentially they can select the same base, so in this case they compete to realize the same morphological process. The prevalence of one suffix on the other can be determined by the syntactic, morphological, phonological, and etymological characteristics of the base, and in some cases also on the peculiarities in meaning of such suffixes.

The notion of competition can be collocated in a wider concept, that of polymorphism, which explains the existence of more than one morphological process that realizes the same operation. Chapter 2 will specifically furnish a brief review of different approaches to the phenomenon of polymorphism. I will briefly discuss the potential and the issues of typological studies, that by collecting data from big corpora, compare languages and aim to find out their similarities and their differences in order to establish a list of universal patterns. Typological studies do not display the pretension of finding out the theories underlying each phenomenon, they just observe and describe them. In particular, the typological approach will be discussed as something useful to introduce different criteria that can determine the patterns of suffix competition. In this regard, I will report a relevant study by Thornton (2019) that explores the phenomenon of ‘overabundance’, defined as the situation in which two or more elements compete to realize the same cell in an inflectional paradigm. Such study uses the Canonical Typology framework to establish the patterns of ‘overabundance’, namely different criteria like frequency, distribution and symmetry that are useful to determine the extent and the relevance of ‘overabundance’ cases. These criteria can be regarded as relevant also for the study of suffix competition because they can be applied also to specific cases of nouns that can be realized with more than one suffix.

From all these observations, the need of at least trying to determine a distribution among suffixes emerges. Suffix distribution is not just influenced by a range of factors that are merely morphological, phonological or syntactic, but, in some cases, the alternance of suffixes is merely ‘chance-level’, the causes are not easily predictable and depend on peculiar circumstances. These ‘chance-level’ factors can be ‘blocking’, socio-linguistic and diachronic factors, and productivity, and will be discussed individually in Chapter 2. Every language seems to work in the most economical way, so it may result quite odd explaining phenomena like polymorphism, that require an elevated cognitive effort for the speaker. The Tolerance Principle represents an attempt to explain the existence of these phenomena. Such theory recognizes the existence, in the speakers’ competence, of some piece of information that are not generalized rule, but forms that stand on their own. This can explain the presence of polyfunctional suffixes and non-predictable alternations. Chapter 3 takes a closer look at suffixes *-ation* and *-ment*. Some valuable information on their history, productivity and context of use will be provided. These piece of information, taken from the OED, will be useful to explain the features of their competition, which is not productive nowadays. The last part of the chapter will investigate the reasons and the hypothesis that have brought to the proliferation of *-ation* and to the little productivity of *-ment*. I will also explain how the criteria of the Canonical Typology framework can be applied in order to determine the most canonical patterns, as well as the relevance and the extent of the competition between *-ation* and *-ment* in specific cases.

Chapter 1

1. English word-formation, nominalization, and competition

1.1 Word, lexeme and word-form

Starting from the concept of word seems natural, even though furnishing a definition of such notion has been a problem for a long time now. There are many clues suggesting that a ‘word’ can be regarded as a basic unit of meaning that differs from other units within a sentence. As Carstairs-McCarthy (2002) argues, words are building-block of syntax which meaning is fairly unpredictable, and so they must be listed in dictionaries. However, these two characteristics, namely being building-blocks and unpredictable, may not present themselves in the same moment. Consequently, he suggests a useful distinction between two terms: lexical item, for items with unpredictable meanings, and word for building-blocks of language.

Phonologically speaking, generally, in between words a small pause in the chain of voice emission is produced, because a word is what is clustered around a strong accent. If we make this assumption, we must consider that more than one ‘word’ can be considered just as one, since a unit, in the chain of voice, could not have its own accent and be attached to another unit.

Even though words can be considered phonological units and are regarded by the speakers as basic units of language, they are syntactic structures, they are structured and semantically compositional (e.g. *childishness* is composed by the base *child* and the suffixes *-ish* and *-ness*) (Carston, 2022).

If we admit the existence of words as units, the way they are perceived is really different in every language. Bauer (1983) seems to believe that an exhaustive definition of ‘word’ does not exist, but this term is still useful because every native speaker of a language has an idea of what a word is and

« the rules that must be established for forming words depend on what counts as a word in any given language ». (Bauer, 1983: p9)

What is interesting for my study is that ‘words’ are the result of morphological operations, that follow specific and very strict rules. For example, suffix *-ment* cannot be attached to adverbs, since it is mainly deverbal, so a noun such as **alwaysment* do not exist. This

concept will be further discussed later, when I will talk about the rules of word-formation, especially the way that each suffix seems to select a specific base.

A further distinction must be made in order to give a more exhaustive idea of what a word is. A word takes specific shapes and forms depending on the syntactic context in which it appears, this means that most times words have phonological and orthographic shapes. In these contexts, such forms may be referred to as word-forms. A word-form is the realization of a lexeme, which is a more abstract notion, it contains all the possible shapes that a word can take (Bauer, 1983). If considering the sentence *She bought flowers* and we do not understand the verb *bought*, the word that we will look up in the dictionary would be *buy*, because it contains all the inflectional categories of the lexeme. So, we can conclude that *bought* is a word-form of the lexeme *buy*.

1.2 Morphemes, morphs and allomorphs

After having provided a brief, even if not exhausting, idea about the notion of word, we need to focus on the smaller parts that form words, which are fundamental for the subject of matter of this work.

« Morphemes are basic units of analysis recognized in morphology » (Bauer, 1983: p13), in other words, morphemes are minimal units endowed with meaning that are distinctive. They cannot be divided in smaller parts that have a meaning. They are considered distinctive because each morpheme has a meaning that approximately stays the same in different context.

It is now useful to define morphology as:

« the area of linguistics concerned with the structure of words and with relationships between words involving the morphemes that compose them» (Carstairs-McCarthy, 2002: p16),

Therefore, such study is intimately tied with word-formation.

Morphemes are abstract elements that can be deduced from an analysis, and they are not to be mistaken for morphs, which are:

« a segment of a word-form that represents a morpheme». (Bauer, 1983: p15)

In other words, they are the phonetic or orthographic realization of a morpheme. For example, in the Italian word *bravo*, *-o* is a single morph that realizes both the morphemes that indicate masculine and singular. Bauer (1983) argues that in languages like English, it is less common for a single morph to express more than one morpheme, so to carry

more than one meaning. While this is more usual in languages like Italian, Spanish or Russian. These are called fusional or inflected languages.

Now, the notion of allomorph must be introduced. Allomorphs can be considered distinct realizations of the same morpheme that have a complementary distribution (Bauer, Lieber, Plag, 2013). They are determined by the context: they can be phonologically, lexically or grammatically conditioned.

A typical example of allomorphs phonologically induced is the distribution of English plurals. The plural is realized /ɪz/ after a sibilant sound (e.g. *horses, bushes*); when the preceding sound is voiceless the /s/ occurs (e.g. *cats, books*); and it is realized /z/ everywhere else (e.g. *dogs, bags*).

An interesting case is the one of nouns that end in voiceless consonants and that realize their plurals with the suffix /s/. The voiceless sounds *f*, *s* or *th* in the plural form are changed to their voiced counterparts, respectively *v*, *z* and *ð*, only in front of plural suffix *-s* (e.g. *wife > wives, knife > knives*), not even in front of the sound that indicates the genitive. In this case, the allomorphy is lexically dictated, because it occurs only in specific words, and it is also grammatically determined, since it appears in only a specific grammatical context (before plural suffix *-s*) (Bauer, Lieber, Rochelle, 2013).

1.3 Bound, free, root, affix

Once we have divided words into their smaller parts, we need to make a further distinction between bound and free morphemes. This is also useful to introduce concepts like roots and affixes.

A morpheme that can occur even if it is not attached to another morpheme is called free, strictly speaking it is a morph that can occur on its own. On the other hand, a morph that cannot occur on its own, and therefore needs to occur with at least another morph, is called bound. I will better explain this distinction using an example: if we consider the word *untouchable*, we notice that it is constituted by a number of morphemes that differ one from the other. The division of the word is *un-touch-able*, in this case only the morpheme *touch* can stand on its own, meaning that it could also occur as a word-form (Bauer, 1983); while *-un* and *-able* can occur only because they are attached to another morph. Carstairs-McCarthy (2002) notices that an elevated number of English words contain a free morpheme at their core, especially words that have a morpheme that was

not borrowed from another language (e.g. in *read-able*, *hear-ing*, *perform-ance*); while most of the morphemes that are inherited from Latin or via French are bound (e.g. *leg-ible*, *audi-ence*, *rend-ition*).

I have said that in *untouchable* the morph *touch* is the core of the word, technically speaking it is the root. The root has precise semantic content and it is a morph that can be either bound or free. It cannot be further divided in subparts, since it is the element that remains when all the other derivational or inflectional elements are removed (Bauer, 1983).

On the other hand, affixes are necessarily bound morphemes that must attach to roots. If an affix attaches before the root, it is called prefix (like *-un* in *untouchable*); if it follows the root it is called suffix (like *-ment* in *statement*).

Because this work deals with word-formation, especially by affixation, a definition of the term base is also needed and crucial. A base is an element to which any derivational or inflectional affix can be added in order to create a new lexeme. In English it is possible to attach affixes to a form already containing affixes. For instance, the word *touchable* can perform as a base to attach the suffix *-un* to create the word *untouchable*. However, *touchable* cannot be considered a root, because it can be further analyzed in terms of derivational morphology (the derivational suffix *-able* is added to the unanalyzable root *touch*) (Bauer, 1983).

1.4 Inflection vs derivation

After the preliminary discussion of basic terminology used in morphology, this paragraph moves on to more specific aspects concerning word formation. A first fundamental distinction between derivation and inflection must be made. Giving a definition of these two types of morphology can result problematic, since they largely depend on the definitions of lexeme and word-form, which in turn depend on the definitions of inflection and derivation, so there is the danger of creating a circularity in the definitions (Bauer, Lieber, Plag, 2013). Here I will simply report few general characteristics and attempts of definitions of the two types of morphology, that are useful to understand the processes of word formation.

Inflection produces new forms of a lexeme, by adapting such lexeme in a particular sentence. Let's take into consideration the words *performs* and *performed* in the sentences:

(1) *The actor performs at the theater this weekend.*

(2) *John told us that the actor performed at the theater that weekend.*

We observe that they are conditioned by the grammatical context: in (1) the *-s* suffix is required because the subject of the verb is in the third person singular; in (2) the *-ed* suffix is needed because of the presence of *told*, so the verb in the reported sentence must be in the past tense. We can conclude that *performs* and *performed* are possible grammatically conditioned variants of the lexeme *perform*. Therefore, we can affirm that inflection produces all the word forms of a lexeme that can occur in syntactically determined environments (Lyon, 1977). Keeping in mind what was said at the beginning of the paragraph, we must be careful with such definition because it can become circular, since it presupposes a definition of lexeme and word form.

Another characteristic of inflection, which makes it differ from derivation, is that it presents high commutability within the word-form (Bauer, 1983). This means that if a word-form is removed from its syntactic context many inflectional affixes can be replaced by one another. For example, in verbs like *states*, *walks*, *calls* and *entertains* the suffix *-s* can be always replaced with *-ing* and *-ed*, but not with *-ment* because it cannot be attached to all of the bases. Therefore, we can deduce that unlike inflection, derivational processes are characterized by low commutability within the word-form. However, if we insert the verbs mentioned above in sentences, we notice that the suffixes cannot be replaced as freely. For example, in the sentence:

(3) *I am calling the doctor.*

-ing cannot be replaced interchangeably with *-s*, *-ed* or with no suffix, because it is conditioned by the syntactic context (Bauer, 1983).

On the other hand, derivational affixes do not require a grammatical factor in order to occur. If we consider *performance*, in the sentence:

(4) *The performance of the actor was memorable.*

We notice that it is not grammatically induced, we add the derivational suffix *-ance* regardless of the grammatical context. *Performance* is not an inflect form of *perform*, it is a noun derived from the verb *perform*, and so it acts as a lexeme. Therefore *performance*

(singular) and *performances* (plural) will be two inflected variants of the new lexeme *performance*.

Bauer (1983) defines derivation as:

«the morphological process that results in the formation of new lexemes». (Bauer, 1983: p27)

This means that derivational processes create new lexemes from already existing ones. Differently from inflection, derivation can change the word class of a lexeme and it also provides an input for inflection, because on derived words inflection can occur. For example, if *-ation* is attached to the verb *create*, we create the noun *creation*, which has its own singular inflected variant *creation* and its plural one *creations*.

Carstairs-McCarthy (2002) suggests that the term derivation could be used for all forms that involve affixation that is not inflectional, but we must keep in mind that derivation can also occur without affixation, so without any changes of the starting form. In order to refer to this process the terms ‘zero-derivation’ or conversion can be used. With this operation a lexeme can shift to another word class without the use of any affixes (v. *hope* > n. *hope*).

Generally, in English if both inflectional and morphological elements are found on a base, the derivational element appears closer to the root than the inflectional one (Aronoff, 1976, who refers to Greenberg’s Universal 28). For instance, in the word *performances* the derivational suffix *-ance* is directly attached to the root *perform*, while the inflectional morpheme *-s* is further away. This means that once a ‘complex’ base is produced, meaning a base on which affixation has already occurred, inflection can occur.

Matthews (1974) notices that the distinction between inflectional and derivational morphology is not always clear. For instance, while taking into account English past participles, which are inflectional forms of verbs, we notice that in almost every case they can be also used as an adjective, so they act as lexemes that belong to another word class. So, the same paradigm can be both inflectional and derivational.

1.5 Affixation vs conversion

From now on I will leave inflectional affixation aside and take into consideration derivational affixation, since it is central to this work. In English affixation can be considered the most common way in which new words are derived. It’s a word formation process that by means of prefixes and suffixes can produce a lexeme. We must keep in

mind that in English there are more suffixes than prefixes. We will see later that each affix seems to have its own function, characteristics and meaning in the derivation of words and is selective of the base to which it attaches. However, there are some cases in which suffixes functions overlap, and the same or similar meaning of a lexeme can be derived with the use of more than one suffix.

Affixation often changes the word class of a lexeme. Affixes can be grouped according to the word class of the forms they produce (Bauer, 1983). For example, adverbs can be derived from adjectives with the use of the suffix *-ly*; also nouns can be derived from adjectives (using the suffixes *-ity*, *-ness* and *-ism*); there are also many suffixes used to derive nouns from verbs (see paragraph 1.2.1); and also adjectives can be derived from verbs (with suffixes *-ed*, *-en*, *-ing*, *-able*, *-ent/ant*, and *-ive*) and from nouns (*ful*, *-less*, *-al*, and *-ish*).

However, not all affixational processes change the word class of the base. For example, nouns can be derived from nouns: if we add the suffix *-ship* to the noun *friend* we obtain another noun *friendship*. Or an adjective can be derived from another adjective: this can be the case of some adjectives that are negated with the prefix *in-* or *un-* (*unnecessary*, *unusual*, *indecisive*).

As we saw in the last paragraph, derivational affixation differs from conversion, which is another word formation process notably productive. Conversion consists in deriving a new form by changing the word class of the base without changing its form. The nouns *hope* and *fear* are derived from the verbs *hope* and *fear* without any affix, so that we could say they are ‘zero-derived’ (*hope-∅*, *fear-∅*) (Bauer, Lieber, Plag, 2013). Conversion is often called zero-derivation, and even if these two terms appear to be synonyms, their theoretical implications are different. The term zero-derivation implies that this operation must not be considered differently than ‘normal’ derivation. There is a process that using a ‘zero-affix’, makes the derived form identical to the form of the base (Bauer, 1983). Conversion derives words, that just like forms derived by affixation, can be inflected.

1.6 Productivity: formal generality and regularity, semantic regularity

«A process (not strictly a word formation one) is said to be productive when it can be used synchronically in the formation of new forms» (Bauer, 1983: p18).

In English some word-formation processes are clearly productive. For example, the suffix *-er* can be attached to each verb to produce a noun that indicates a person who does the action of the verb (*write* > *writer*), or as we will see later, *-ation* is the most productive suffix when it comes to deriving new nouns from verbs.

Bauer (1983) warns us that confusion between productivity from a diachronic or synchronic point of view can be made. There are rules through which the speaker has the ability to form new lexemes in synchrony, but such lexemes do not always become established in the language. Only time can reveal if a lexeme has become in common use in a language. Therefore, the process of creating new lexemes is not something that has stopped: new forms can occur in everyday language, in the press and in many other fields. Much could be said about productivity, but I will mainly concentrate on Carstairs-McCarthy's (2002) distinction between productivity in shape and productivity in meaning, that he intimately ties with regularity. This will be useful for the later analysis of suffixes and bases that will be provided. Carstairs-McCarthy (1992) mentions Corbin's contribution to the definition of regularity:

« a morphological process may be more or less regular, that is, the shape and, more especially, the meaning of its products may be more or less predictable on the basis of the shape and meaning of the bases to which it applies » (Carstairs-McCarthy, 1992: p37).

We can say that a process that is not regular is unlikely to produce new lexemes, or if it produces them, they hardly ever become established.

Speaking about productivity in shape, there are different ways in which a process can be productive. Let's take for example the suffix *-ation*, which is used to derive nouns from verbs. It can be said that it is formally general, because in most cases it creates a noun that is established in the language (*creation*) or a term that the speaker would understand, even if it is not a common word. This is possible because the meaning of the new word is predictable since the speaker knows the meaning of the verb and has a sense of what the suffix *-ation* implies.

The suffix *-ation* is also formally regular, meaning that it selects specific bases. Specifically, it can attach to most verbs and the result will be a possible noun, even if not a really common one (any native speaker of English would understand the word **governation*, even if they use *government* instead). Therefore, the bases must present certain syntactic characteristics in order for a suffix to attach, and in some cases also

morphological ones. This is the case for *-ation*, which generally attaches to verbs ending in *-ify* or *-ize*.

Formal regularity can also involve phonology. The suffix *-al* usually attaches to bases whose accent is on the last syllable (*survival*, *proposal*, *committal*). We must keep in mind, that even though some suffixes display formal regularity, they are not totally general. Also in this is the case suffix *-al* can be cited (**conversal*, **derival*).

On the other hand, while talking about productivity in meaning we are concerned with semantic regularity. A process is semantically regular if in producing new words it is consistent with its meaning, so that its meaning does not change from one word to another. Consequently, the new forms will have a sense that do not really differ from one another: for example *-ation* always creates nouns of state.

Carstairs-McCarthy makes the example of the formally regular suffix *-ly*, that creates adverbs from adjectives. It is also semantically regular because it creates meanings that are predictable.

There are also cases in which formal and semantic regularity diverge. The suffix *-ion* is not semantically regular, but it shows formal regularity with the root *-mit*: every verb containing *-mit* has a corresponding noun in *-mission* with a meaning that is not predictable (*commission*, *permission*, *remission*).

Overall, we can affirm that the frequency of a certain morphological process can indicate its productivity. Whenever a certain pattern occurs frequently and regularly in a language, it is likely to be productive since it is employed by the speakers in the creation of new forms and probably it is hold in the speakers' competence as a generalized rule.

In the case of suffixes, it is crucial to consider their frequency from a statistic point of view in order to determine their productivity. Both the frequency of a noun created with a certain suffix and the frequency of nouns realized with that specific suffix in general can reveal much about the status of a morphological process and allow to categorize suffixes as prolific or non-prolific in a certain language, or more specifically, in a certain domain.

1.7 Historical sources: native and non-native

This paragraph briefly deals with some points concerning the history of English that are relevant for some aspect of derivation. English is a West Germanic language, but it

presents a very rich vocabulary. Many words were borrowed mostly from French, Latin and in some cases also from Greek. Throughout the centuries, the borrowings from other languages have been so substantial that we can categorize the English vocabulary and word-formation processes as native (Germanic) or non-native (non-Germanic) (Bauer, Lieber, Plag, 2013). It is implied that a non-native word or process has come into English from another language.

What is relevant for my study, since it will concern nominalization processes, is the fact that many new words, in Early Modern English, started to be produced with borrowed affixes from other languages. This means that the presence of derivatives containing such affixes has increased during the fifteenth and sixteenth century (Palmer, 2014), so that they started to act as an integral part of English and started to be productive within English, also with their own new rules that diverged from the source language. This kind of English word formation processes are said to be non-native.

Another point can be made on native and non-native affixes: Germanic affixes seem to mainly choose free bases, while non-native ones frequently also occur on bound bases. (Carstairs-McCarthy, 2002).

1.2.1 Nominalization: state/event/result nouns

Now that some useful and necessary tools about morphology and word-formation have been provided, the next part of the chapter concentrates on nominalization processes, especially on the formation of state/event/result nouns by suffixation. I will also provide an examination of the verbal bases that such suffixes mainly select, including if they are native or non-native, free or bound, and the syntactic implications of such processes. The examples presented in this section are taken from the Oxford English Dictionary (OED) and from Bauer, Lieber, Plag, 2013, that were previously collected from COCA.

Nominalizations of verbs are one of the most common types of derivation, and the kinds of nouns that are formed in such processes differ one from the other. For example, nouns denoting state/event/result differ from agent/patient nouns, which indicate participants in events (*writer, confidant, respondent*).

Nouns indicating event/state/result are derived both by suffixation and conversion. This work especially considers nouns derived by the use of suffixes, but a brief mention of

conversion is necessary. The suffixes that are involved in deriving event/state/result nouns are:

- (1) *-ation* (and its variants)
- ment*
- al*
- ure*
- ance* (and its variants)
- ing*

These are non-native affixes (except for *-ing*), that in most cases select non-auxiliary verbal bases, even if some of them can be found on some adjectives and some nouns (*candidature, surement, illusionment, discretion, intellection*). Non-native verbs seem to prefer nominalization through affixation, while conversion is more common for native verbs. Of course, there are some cases in which the suffixes mentioned above are found on native bases (Bauer, Lieber, Plag 2013).

Carstairs-McCarthy (2002) explains that these suffixes have overall the same function,

« they create abstract nouns meaning ‘activity or result of Xing’ », (Carstairs-McCarthy, 2002: p51)

but they are not interchangeable. This means that a suffix cannot be attached freely to every base, but only to those that display specific characteristics of various kind. So, as I have already mentioned, suffixes are selective of the bases they attach to. It is true that a number of suffixes may be attached to the same base, and this happens when two or more morphological processes are in competition, but generally nominal suffixes, and suffixes in general, have constraints in the bases they select. Later on in the chapter I will provide a more comprehensive explanation of this topic, using the ‘single base condition’ as a crucial aspect to clarify the selection of bases made by suffixes.

These processes have different levels of productivity. We will see that *-ation*, is the only suffix distinctly productive in creating deverbal nouns in modern English, especially when the base presents the suffix *-ize*; while *-ment*, as Bauer (1983) defines it, is almost ‘dead’. Also *-al*, *-ance*, and *-ure*, show little productivity and they are now exemplified by a set of words in the contemporary vocabulary. There might be several reasons and

approaches that may explain these differences in productivity, here I report some suggestions.

Different degrees of productivity may be explained by the theory of general regularity that I have mentioned few paragraphs back: even if one of these suffixes is attached to a verb, it is not that likely to create a noun that already exists or a term that the speaker would easily understand. So nowadays they are little prolific and employed in very specific contexts.

Another framework that could explain why such suffixes are so little productive may be Dressler's (2010) Natural Morphology. In this theory, transparency is a concept that refers to the connection between the structure of a word and its semantic or grammatical context. According to this model, while creating new words, speakers tend to select elements, such as suffixes, in a way that the meaning of the whole word can be understood based on the meanings of its constituent parts. This means that speakers prefer transparent morphological processes because they constitute an economic and straightforward way of creating words. If we apply this idea to *-al*, *-ance*, *-ment* and *-ure*, we may assume that nowadays they do not represent an effortless morphological process, namely they do not respect the idea of maximum efficiency and effectiveness. Therefore, throughout the centuries, they may be substituted by more economic and recognizable processes, like suffixation of *-ation*.

Affixation is not the only process available for nominalizations, but also conversion is commonly used to derive nouns from verbs. Although in the past it seemed to be very productive, nowadays it is not so frequent in the creation of nouns (OED). Some examples from the 19th century are attested, such as *a commute* or *a hijack*, indicating that conversion can still be productive. (Bauer, Lieber, Plag 2013). As I was saying at the beginning of the paragraph, conversion is frequent especially for native verbs (*answer*, *help*, *laugh*, *play*, *wait*,). However, it is not rare for non-native bases (*act*, *comfort*, *cruise*, *move*, *study*). Some of these bases (*act*, *move*, *reserve*, *measure*) also select suffixes, and the nouns that they produce can have in some cases the same meaning of the converted bases, in others a difference in meaning.

A particular case is that of *-ing*, that differs from the typical behavior of other suffixes: since the 14th century it may be attached to every non-auxiliary verb in English to create actual or possible nouns of action (but also of process, practice and habit). Bauer, Lieber,

Plag (2013) remind us that some verb bases have only a nominalization in *-ing*, most of these are verbs that are themselves derived from nouns by conversion or by prefixation. Of course, we must keep in mind that affixation and conversion are not the only possibilities for deriving nouns in English. It is worth mentioning few of these processes. Nominalization can occur by changing the position of the stress (e.g. v. *cóntrast* > n. *contrást*); some processes change the final consonant of a non-native verb in order to derive a noun (e.g. v. *believe* > n. *belief*), and others change the vowel of the starting verb (e.g. v. *sing* > n. *song*).

1.2.2 *-ation -ment, -al, -ure, -ance*

In this paragraph I will provide a brief description of some of the properties of *-ation -ment, -al, -ure, -ance*, which is fundamental to introduce the phenomenon of competition. Some etymological information will be provided too. Such information is taken from the OED and Bauer, Lieber, Plag, 2013. A more detailed review of suffixes *-ation* and *-ment* will be presented in Chapter 3, where notions on their historical development and on the sociolinguistic environments in which they started to be productive will be provided. These concepts, as well as a closer look to the competition between such forms, will offer a more comprehensive review on the characteristics and functions of such processes.

The suffix *-ation* can be considered, as I already mentioned, the most productive suffix in modern English in the formation of abstract nouns. It was inherited in English via French words containing *-ation* and directly from Latin ones containing *-(ā)tiōnem*. It presents different variants, *-cation, -ion, -ition, -iation, -sion, -ution, -tion* and selects primarily verbs, but also it can be found on some bound roots, like in *ambition, duration*. We talk about bound roots because forms like *amb-* and *dur-* are not attested in English. These are Latin nouns that were derived from verbs, that later entered Old French and English. What is striking is that the corresponding verbs of these nouns did not make their appearance in English, so that we can affirm that the root of such nouns are bound because they do not have an attested correspondent verb in the language. So, in this case the suffix *-ation* is less transparent, it is likely to not be perceived by the speaker as an independent morphological element that creates a noun, but the word tends to be perceived as a whole. Suffix *-ation* can also be found on adjectives (e.g. *erudition, explicitation*) and nouns (e.g. *artefaction, intellection*). It is not uncommon to find it on both native and non-native

bases, even if the latter are much more frequent. The nouns that such prefix produces will have their stress on the penultimate syllable, the one preceding the suffix.

It displays most productivity on verbal bases containing the suffixes *-ize* and *-ify*. This is not surprising, these two suffixes are the most common way of deriving new verbs in modern English, therefore they provide many bases for nominalizations in *-ation*, when the base contains the *-ize* element (*aristocratization*, *vascularization*), and nominalizations with the variant *-cation*, when the *-ify* element is present in the base (*parentification*, *townification*). This tendency may be due to the fact that in French many verbs in *-ifier* and *-iser* were associated to corresponding nouns in *-ation*. So many of these verbs, once they entered the English language, had already a derivative French noun in *-ation*, and this rule continued within English, this means that the nominalization of verbs that ended in *-ize* and *-ify* tended to be in *-ation*. However, across time such suffix became a morphological process standing on its own, with its own rules, and it started to result flexible in different contexts. It can be applied, as I have already mentioned, to non-native verbs that have their own characteristics, or to words inherited directly from Latin. When attached to a verbal base it produces nouns of action, that have the same meaning of the corresponding forms ending in *-ing*.

On the other hand, suffixes *ment*, *-al*, *-ure*, *-ance* can be grouped as processes that do not display clear productivity in English.

The noun forming suffix *-al* comes into English through borrowings of French and Latin adjectives (French *-al*, Latin *-ālis*) and starts to be productive within English in late Middle English, when formation as *refusal* and *supportal* are attested. It can be found almost exclusively on non-native bases, especially of Latin and French origins, most of them having the stress on the last syllable (*proposal*, *survival*). It produces nouns of action from verbs, and occasionally it forms adjectives

«in the sense ‘of or relating to that which is denoted by the first element’ » (OED).

In this second case the bases selected can be of various kinds (e.g. *global*, *societal*, *optimal*, *rotational*).

Suffix *-ance* is a borrowing from the French *-ance*. which itself comes from the Latin *-antia/-entia*. In some cases, it is not clear whether the borrowings into English were in the first place from French or Latin. Along the same line, when French verbs came into English, they usually had a correspondent nominal in *-ance*. Often it is hard to establish

whether such derivatives were formed in French or within English, but what is sure is that both processes were plausible.

The suffix *-ance* has many variants *-ence*, *-ancy*, *-ency*, *-ce* and *-cy*, that are mostly dictated by the morphological characteristics of the base or that are fairly unpredictable. Here I cite this suffix reporting the form *-ance* because it is the most frequent in Modern English. The suffix produces abstract nouns denoting quality, state or action, mainly from verbs and adjectives. Since *-ance* seems to be particularly productive on adjectives ending in *-ant* and verbs ending in *-ate*, it can result unclear whether the base of the derived noun is the adjective or the verb (*alternate*, *alternant*, *alternance*). It mostly picks non-native bases, but from the 15th century it occasionally started to appear on verbs of Germanic origins (*festinance*, *utterance*).

Suffix *-ure* was inherited in English in part through borrowings from French (*-ure*) and in part through borrowings from Latin (*-urus*). It can select a number of different bases: it can be found on verbs (*departure*, *signature*), on bound bases (*culture*, *lecture*) and less frequently on nouns (*candidature*, *architecture*). Non-native bases are involved in this process, especially forms of French or Latin origins. It became productive within English from the 16th century, in the creation of nouns that indicate action or process, result and office.

Lastly, *-ment* is the suffix that displays less productivity in modern English. It has various origins; it comes from words borrowed both from French (*-ment*) and Latin (*-mentum*) and creates abstract nouns denoting result or product of the action of the verb.

It mainly selects non-native bases, many of these being verbs. However, it can also be found occasionally on a few adjectives from the 16th century (*oddment*, *surement*), on nouns (*illusionment*) and on bound roots (*compartment*, *ornament*).

Bauer, Lieber, Plag (2013) notice that such suffixes tend to select disyllabic bases, meaning bases that are formed by two syllables, especially those that have an iambic foot (a stressed syllable followed by an unstressed one). The reason for this may be the fact that non-native verbs, that are the main bases that non-native noun-suffixes select, usually display this structure.

1.2.3 The ‘single base condition’

The analysis of the previous paragraph reveals that non-native suffixes seem quite selective of their bases. This leads to describing what can be defined as the ‘single base condition’, meaning that a suffix cannot be freely attached to any base. This concept is also tied with the notion of regularity given in 1.6. The combination of bases and suffixes is not totally random: a suffix enforces constraints in the selection of bases. This implies that if the ‘single base condition’ requires a verbal base, the suffix cannot be attached on adjectives, nouns or pronouns. In many cases the selected base itself must have specific characteristics: the word class may not be the only requirement for a suffix to attach, but it is also relevant its meaning and the syntactic structure. Therefore, bases must display specific morphological, syntactic and phonological characteristics to be selected by a suffix.

What was just said suggests that suffixes mentioned above do not completely overlap, they may have similar function and meanings, but they do not always act in the same way in the selection of bases. For example, suffixes *-ation* and *-ment* could be considered to be the exact same. It is true that they have the same function, namely deriving abstract nouns of action or result, but some differences can arise in the choice of bases. We already said that *-ation* favors verbs containing suffixes *-ife* or *-ify*; on the other hand *-ment* prefers verbal bases consisting in an iambic foot (*investment*, *resentment*).

In various cases, the preferences, that such derivational suffixes display in selecting the bases, are difficult to predict. They can be deduced from a diachronic point of view, or by studying their frequency and statistics. Few idiosyncrasies can still be encountered, meaning that some processes do not follow the general rules of the language. Therefore, it is hard to establish the predictability of some suffixes and which base they select. However, many authors still consider a word the product of a word-formation rule despite its idiosyncrasies (Carstairs-McCarthy, 1992).

1.2.4 Syntactic and semantic consequences of nominalization

This paragraph is concerned with the various semantic interpretations of nominalizations, in particular it deals with how the external syntax of derived nouns interacts with their meaning. The syntactic context is fundamental to understand the meaning of any derived noun.

A definition of argument is required in order to understand what follows: an argument is a syntactic element that completes the meaning of a verb, such as the subject and the object. Therefore, this section tries to establish if a deverbal noun behaves exactly as a verb and takes an argument structure. Alexiadou (2001) argues that not all derived nouns act in the same way. On one hand, nouns denoting an event have the ability to take an argument structure exactly like verbs. These are called process/event nouns. On the other hand, nouns indicating just an entity, or the output of an event take no arguments, are labelled as result nouns. This is what Grimshaw (1990) and other theorists, distinguish between an eventive reading and a result reading, and this can be further associated with the distinction between a complex event and a simple event. In the former all the arguments of the verb are preserved in the sentence in which its derivative appears. If we consider the sentence *the teacher's examination of the paper*, we notice that the derived noun appears with a determiner and takes a prepositional phrase, and it could also occur with aspectual modifiers. In simple events there is a lack of verbal arguments, like in *the quick examination of the paper*. This distinction between complex and simple events can be made only by determining if any verbal argument is present in the syntactic structure in which the deverbal noun appears.

Grimshaw (1990) seems to believe that the affixes supply the possibility for the argument structure to appear, and so determining if the derived noun has an eventive reading or a result one. For example, all nouns in *-ing* have an eventive interpretation. Moreover, they represent the only eventive reading for all those verbs that do not have other nominalizations other than conversion, which tends to have result or aspectual readings. According to Bauer, Lieber, Plag (2013) most affixal nominalizations have eventive readings too. Such readings are made easier when

« the nominalization displays a the full argument structure of the corresponding verb,; as in the professor's demonstration of the technique ».(Bauer, Lieber, Plag, 2013: p207)

When a nominalization process occurs, the resulting noun will have in most cases a meaning related to that of the verb. This is especially true for derived nouns that have a state aspectual reading. These are usually derived from verbs of instantaneous contact (*beat, hit*), of mobility motion (*blink, chew, hop*), of sound or light emission (*howl, click*) (Bauer, Lieber, Plag, 2013). We must keep in mind that it is possible for a noun to have a

meaning that differs from that of the corresponding verb, meaning that it is quite unpredictable (e.g v. *commit* > n. *commission*).

1.2.5 Competition and polymorphism

After having provided an analysis of various aspects of nominalization and suffix behavior, the phenomenon of competition must be introduced as something that is relevant and extensive in many languages and that has been widely studied throughout the years. This section represents the core of this work, it deals with the phenomenon of suffix competition that arises from the study of derivational processes by affixation. Of course, competition is something common also in inflectional morphology.

So far, it has emerged that each morphological process seems to follow rules of some sort in deriving new forms. As mentioned, this is the case of nominalizations: each suffix chooses a specific base to derive a noun with a meaning that in most cases is related to the corresponding verb or that in others is quite unpredictable. Therefore, it was made clear that generally a word is derived by following the only morphological operation that seems available for that base. The ‘single base condition’ states exactly this concept and goes further in adding something else. For example, if a noun is derived from a verb, we must consider only the suffixes available for such operation, namely suffixes that select verbs to derive nouns. We must keep in mind that these cannot be freely and interchangeably attached to whatever verb, but only to the verbs that display specific characteristics. Therefore, in the choice of suffixes it is not only relevant the word class of the base but also other morphological and phonological characteristics, as well as etymological ones. However, in many cases for the same morphological operation is possible more than one process, and this can lead to competition.

We have also encountered some bases that allow a number of suffixes (this was the case of v. *commit* > n. *committal*, *commitment*, *commission*). The meanings of the resulting nouns differ one from the other and also from the correspondent verb in a way that is not predictable, but what is relevant for my study, is that these nouns can be derived through different morphological operations from the same verb, meaning that more than one suffix can realize the same derivational process. The possibility of using more than one morphological strategy for the same operation goes by the name of ‘polymorphism’. Suffix competition fits right into this concept. In the following paragraph the mechanisms

of competition in derivation will be explained and will be further analyzed through some theoretical approaches in Chapter 2.

1.2.6 Suffix competition

Competition can arise between alternative ways of realizing a particular operation (Gardani, Rainer, Luschützky, 2019). Morphological processes can be in competition in filling the same slot in a derivational paradigm (Bauer, Lieber, Plag 2013) when they share some characteristics and functions. For example, suffixes *-ation* and *-ment* (although nowadays *-ment* is hardly ever productive in derivational processes, so this example is given from a diachronic perspective) are described as suffixes used to derive abstract nouns from verbs, so that they are related semantically, this means that they have the same meaning. Although we saw that they do not always behave in the same way, such suffixes generally have the same function, therefore, they will be in competition. In some cases, we will have a noun realized by the affix *-ation*, in others a *-ment* noun will occur, and in others, if acceptable, nouns in which both suffixes appear could be attested. From this we can deduce that, commonly, the derived forms that emerge from competition will not have such different senses, since they are derived from suffixes that are semantically related. However, this is not always the case, the semantic aspect of such phenomena is not to underestimate: even when the suffixes display the same meaning and the same function, for instance, forming abstract nouns from verbs, the resulting nouns can display slightly differences of meaning. Trips (2009) in studying suffixes *-hood*, *-dom* and *-ship*, that derive nouns from nouns, argues that such suffixes have all the function of creating nouns that indicate the 'state of N', but each of them seems to have a peculiarity in their meaning that make them differ one from the other. For example, *-ship* also indicates 'skill of N' (Trips, 2009: p165). So, he studies competition from the perspective of the suffixes, their meanings explain why a suffix is not possible for a base, but it can be for another. Of course, it is crucial to take into account also the characteristics of the bases while talking about the topic of competition, and many studies have mainly concentrated on this aspect. In fact, the bases may explain why competition arises in the first place.

Amutio Palacios (2013) sums up what I said up until now by giving an exhaustive definition of affix competition:

«a situation (...) in which several affixes overlap in the expression of the same or a very similar meaning». Amutio Palacios (2013)

What is interesting for my study is precisely that in some cases when two suffixes are in competition, they can be both attested on the same base. They can create words that are somewhat ‘synonyms’ (*renouncement* vs *renunciation*), and sometimes words that have differences in meaning (*revealment* vs *revelation*). In the following chapter such phenomenon will be explored.

In many languages, including English, competition between two or more morphological processes is very common and can be consistent for a long time before one of the two processes becomes established. What is notable is that both productive and unproductive competitions can be stable. Nowadays the competition between verb-forming suffixes *-ify* and *-ize* is stable because of the productivity of both. Suffix *-ify* selects bases with the last syllable stressed, while *-ize* prefers an unstressed syllable preceding it (Plag, 1999). On the other hand, the stability of words containing the suffix *-ment* is given by its lack of productivity, meaning that it does not compete with another suffix in the creation of new forms (Bauer, Lieber, Plag 2013). Some competitions now seem to be static, they have been attested in the past, but now they do not form new words anymore. For the reasons just mentioned, in many cases, competition seems to lead to uniformity in the distribution of affixes. An example could be that of *-ity*, that has become less productive than its rival *-ness*, so that *-ity* seems much more productive in the formation of new nouns from adjectives. Another example is precisely the fact that many suffixes that are no longer productive are present in words that are still used today. But Bauer, Lieber, Plag (2013) claim that if on one hand regularization can be affirmed when we look at the single cases, on the other there is no regularity when we look at a list of established words.

Chapter 2

2. Approaches to polymorphism

2.1 Introduction: different approaches to polymorphism

This chapter takes into account different perspectives that are functional to analyze the phenomenon of polymorphism. In the specific, this section is a brief review of approaches that are useful to analyze single cases and that also provide a general idea of the patterns, consequences, associated phenomena and issues. What is presented here also concerns affix competition, already described as something crucial and extensive in languages. Its most striking feature is that it leads to the possibility of finding various forms in the same cell of an inflectional or derivational paradigm. This is a natural phenomenon of linguistic systems but seems to work as something ‘anti-economic’ for the speaker, since more than one realization is available for the same slot, so the speaker must make a greater cognitive effort. From a diachronic point of view, time can lead to a certain distribution of morphological processes, meaning a reduction of competition between rival realizations. This is something comparable to the Darwinian conception of ‘natural selection’ (Gardani, Rainer, Luschützky, 2019), only the most suitable suffix will survive and become established. This is exactly what happens with polyfunctional suffixes in derivational processes: time will crystallize their function, make them select or specialize a function over another, or change it. Generally, when suffixes have the same function and are in competition, eventually a suffix will prevail in realizing a certain operation over another one, for example a suffix could be only applied to non-native bases, while another could require a base with specific morphological characteristics.

Some questions arise from this reflection: do we have to consider polymorphism from a perspective of repeatable processes as an explanation for the evolution of derivatives? Or are the patterns of morphological processes fairly unpredictable and there are no repetitive rules that domain them? Might some rules of a language be isolated cases that can be only predict from a diachronic and statistic point of view and that the speaker learns by heart? As I was saying at the beginning of the paragraph different approaches to polymorphism provide a different perspective on the nature and causes of polymorphism, and can be

grouped in three main ideas, each of them having their own peculiarities and characteristics.

The first group includes formal generative studies (e.g. Embick), in which the expectation is that the competence functions as a system in which everything can be predicted. The expression linguistic competence indicates the unconscious knowledge that native speakers have of their language. So, given a function, a predetermined operation in the mind of the speaker is expected, since everything is mathematic and predictable. Every operation follows a rule that the speaker unconsciously knows. When competition between two elements is attested the most suitable will be selected according to several factors. The speakers scan in their minds the elements available to express a certain word formation: some suffixes cannot be selected since they enforce some constraints in the selection of the bases. In some cases, some suffixes apparently seem to have the same function, but they behave in different ways and can be attested on bases that differ from one another. The explanation for this may be the fact that originally some suffixes attached to structures with certain characteristics, but then their characteristics have evolved and changed across time.

The next group of theories concerns typological studies, that will be discussed later in detail. These studies deal with competition per se, they are not interested in finding out what should be the always predictable rules that govern certain functions, but their aim is to find out the patterns of phenomena, such as polymorphism in a language or in a set of languages. This means that this approach to polymorphism considers morphological competitions as a sort of a given in the languages of the world. Starting from the assumption that competition can occur, different languages are compared to find any habits or trends that would make us understand how generally this phenomenon works. There can be different elements, with the same function, we just need to understand when we prefer one or the other. Sometimes the reasons that make us select an operation are not just strictly morphological, but they may depend on the lexicon, the historical memory, the structure and the associated registers. This approach studies the 'usage' of competition in a strict sense and is based on statistics and frequencies, which can command certain choices for operations. So, typologists just observe phenomena and do not attempt to provide theoretical interpretations for them.

The last group collects studies that affirm that on one hand in the linguistic competence there are operations that the speaker acquires by heart, so they can be considered single occurrences that do not follow a general rule; on the other hand, there are processes that follow generalized and specific rules. Sometimes these two ways of learning processes may clash into each other. Therefore, phenomena like polymorphism can be explained. One of the greatest exponents of this branch of studies is Yang (2000), that argues that in the linguistic systems overlaps of functions, polymorphism, among others phenomenon are not that rare and may not be completely eliminated even if they do not follow the idea of maximum efficiency and effectiveness.

2.2 Typological studies vs ‘formal grammar’

As I have already pointed out in the previous paragraph, typological studies are quite relevant when it comes to polymorphism. Typology is based on statistics and frequencies and compares different languages trying to find out the similarities, and in particular, the differences that they share, finding universal tendencies and correlations among various languages. By making a simplification, it can be stated that the research question that typologists ask may be: ‘what makes natural languages so different from each other?’ (Polinsky, 2010). What is striking is that typology does not set any kind of constraints in the correlations that occur, it simply looks at phenomena and analyzes them, without demanding to find a theory for each of them. This approach has the ability in some cases to exclude possible correlations based on the observation of data and determine some universal phenomena among languages.

This kind of studies differs in a significant way from what can be referred to as ‘formal grammar’, which considers rules something crucial and shared between languages. Its goal is to find out the rules behind each phenomenon in order to construct a theory that is the same in all languages, so ‘a theory of language’. Chomsky (1995) explains that formal grammar considers:

« the apparent richness and diversity of linguistic phenomena [to be] illusory and epiphenomenal, the result of interaction of fixed principles under slightly varying conditions» (Chomsky, 1995: p8).

It needs to be pointed out that these two orientations have been depending largely on each other. Typological studies rely on structural generalizations (Polinsky, 2010); while

‘formal grammar’ ones have taken into consideration a more cross-languages approach, because of the influence of typology. Polymorphism has been approached both as a typological and a formal phenomenon.

2.3 Typological studies: Thornton and Corbett

This section takes a closer look to the typological approach, reporting a relevant study by Thornton (2019) that sheds light on the phenomenon of competition. The paper explores the phenomenon of ‘overabundance’, which is defined as:

« the situation in which two or more inflectional forms are available to realize the same cell in an inflectional paradigm». (Thornton, 2019).

This means that there are multiple forms to express the same grammatical meaning. This variety can be a productive and efficient way for a language to express meanings with greater precision and being more flexible. The expression ‘overabundance’ can be accounted in the same sense as competition since it refers to two or more morphological elements in competition in realizing the same slot of an inflectional paradigm. The expression overabundance is specific for multiple forms that cooccur for realizing a same grammatical category and not a derivational one.

Thornton argues that the multiple forms available for a single paradigm may expose distinctions in meaning and usage. As a matter of fact, the elements in competition are really unlikely to be completely interchangeable and have the same frequency, so that the resulting lexemes will never be ‘synonymous’ (e.g. the Italian paradigm *vado/vo*).

Thornton, by observing data from numerous languages, notices that the patterns of ‘overabundance’ are molded on a range of factors, which can be phonological, syntactic, semantic, morphological elements, as well as factors due to variation (diaphasic, diastratic, diatopic) and historical factors. Therefore, numerous criteria allow to establish when a form is more ‘canonical’ than another, meaning more frequent and common. In other words, the paper aims to determine a canonical typology of the phenomenon of ‘overabundance’. In order to understand such statement, an explanation of Canonical Typology is required, since it provides a framework in which the research is inserted. This concept was introduced by Corbett (2006) and consists in comparing and studying languages in order to find out the most typical patterns in which they express grammatical meanings, meaning the most common ways in which a meaning is expressed. In other

words, Canonical Typology provides a set of cross-linguistic patterns that are observed in the morphological and syntactic systems of languages, that are really useful to compare languages structures and to understand their diversity and complexity. Therefore, canonical typology does not use linguistic theories, but it concentrates on the criteria that are used to associate a specific phenomenon of a language with cross-linguistic categories (Brown, Chumakina, Corbett, 2013). This means that the main goal is not to find the underlying principles that govern phenomena in languages, but the patterns that canonical typology establishes still provide interesting insights for outlining theories. Specifically, it must be noted that the patterns individuated by Canonical Typology across languages can be irregular or present deviations one from the others, but they remain a valuable tool for cross-linguistic studies. Concretely, identifying canonical patterns means identifying the behaviors that -on a typological basis- are most expected in a given phenomenon. The phenomena of a language can respect canonical patterns with different degrees, they can merely show recognizable tendencies.

Thornton using the Canonical Typology framework, tries to establish patterns of 'overabundance' among languages. The criteria provided by the Canonical Typology in order to identify common trends in a language or among languages are multiple, among these the most relevant can be considered frequency, distribution, and symmetry. What is interesting for my study is that such criteria can also determine the patterns and the selection of derivational processes. In Chapter 3 an explanation of how such criteria can be applied to suffix competition in order to establish its patterns will be provided, specifically by taking into consideration competition between *-ation* and *-ment*. For now, a brief description of such criteria is required.

Frequency can be determined through the analysis of data, and it can reveal the prevalence of a particular grammatical or derivational pattern in a language. We may assume that the more a particular structure is observed in a language the more canonical it can be considered.

Distribution refers to the extent and the regularity with what a certain pattern occurs within a language. A pattern may be considered canonical where the same principles or rules are generalized in different contexts.

Lastly, for symmetry we refer to a condition of balance in the expression of grammatical categories. From this it may be said that each grammatical meaning should be always

expressed in a similar manner, the one that is considered canonical, but, of course, this is not always the case.

Thornton using these criteria tries to identify the patterns of ‘overabundance’: grammatical categories can be marked or unmarked, meaning that an element that carries grammatical information can be added to the base. When a category is marked, there may be cases of overabundance, because the same grammatical meaning can be realized by more than one form (not only by the most ‘canonical’ one). The choice of one of the forms falls on the influence of one of the factors that I have previously mentioned, so at least one of the forms that cooccur is subject to some grammatical, morphological, historical, or variational conditions.

This example of typological study leaves derivational competition aside. However, while considering the factors that tend to determine, or at least influence the appearance of an inflectional element over another among languages, we notice that some of them, if not all, can also influence the choice of a derivational element. In the previous chapter I have mentioned that the choice of a suffix depends on the characteristics of the base, that can be morphological, phonological, syntactic. Generally, when competition between morphological processes arises there are two possibilities: the competition is explained by criteria that justify their distribution (e.g. phonology, lexical stratum, base properties, type of features they realize, register, among others); another possibility is that of considering the alternance of suffixes as merely ‘chance-level’. This section will specifically concentrate on how the patterns of suffix competition are explained by taking in consideration the historical, statistic, literary, socio-linguistic factors, among others. This may lead to the idea that the alternance of suffixes, in some cases, can be considered ‘chance-level’.

2.4 Typological studies: the problem of complex corpora

Corpus-based studies are at the root of the typological approach, but corpora can often lead to some challenges due to their complexity. In the last decades digital corpora and lexical database have been having an enormous impact on the analysis of languages and their comparison. They have meant a significant advancement in the theoretical and empirical approaches of many branches of linguistics, including morphology. Large corpora have allowed linguistics to determine the properties, the trends, the patterns, the

distribution of many elements and have led to make generalizations, using an extremely wide range of cases and examples from all languages. Of course, in many cases determining a certain characteristic or tendency in a language or among languages represents a challenge. The complexity of such corpora makes it difficult to isolate the effects of different variables and to identify the underlying patterns, this is due to several kinds of variation that can interact with each other in complex ways.

Complex corpora have been widely used to determine the characteristics of polymorphism, including of affix competition. Sometimes it is difficult to establish exactly the patterns of derivational competition, in particular explaining the reasons and the variables that make an affix win over another one or the possibility of multiple forms. However, corpora have been really useful in furnishing explanations that can be made in retrospect. These explanations can be statistic, historical, in many cases the use of a suffix was dominant in the literature or in a more elevated style; we can also mention the principle of blocking; these may all be factors that may justify the distribution of affixes. In the specific, the complexity of corpora makes it hard to establish the causes and the patterns of polymorphism because they display socio-linguistic and diachronic variation. If on one hand complex corpora allow to study one or more languages across time, really large corpora may present significant diachronic variation, whenever they collect information from very long spans of time. The frequency, the distribution, and the functions of a language can be exposed to this kind of variation, so it is hard to find and generalize patterns across different periods because of the changes that a language undergoes. In particular, in order to establish polymorphemic patterns, a large and various amount of data is required, since some forms occur very rarely or are specific of some time periods or places. Additionally, it can be said that the quantity of data collected from different eras is not always the same, therefore, the material from a certain period may be insufficient for establishing patterns of polymorphemic phenomena, or at least to draw exhaustive conclusions.

Also, socio-linguistic variation may make hard to isolate polymorphemic patterns in complex corpora. Such variation can determine different levels in a language since an idiom is used in different ways by different people and in different social context. Therefore, when it comes to morphological operations, the data collected in complex corpora may be influenced by factors such as age, gender, education level, ethnicity, and

the place of origin of the speaker. Also, a formal or informal use of the language is a crucial factor that makes hard to generalize the patterns of polymorphism.

However, although we must keep in mind that looking for the general principle underlying variation itself is important in order to isolate the patterns of many phenomena, among which polymorphism, we have to recognize that variation is an important aspect, that provides useful insights on the usage of language (Floridic, 2023). Therefore, while dealing with language variation in complex corpora and the issues that may arise from it, the significance of variation itself must be kept in mind as something resourceful to understand specific phenomena.

2.5 Attempts to identify suffix distribution

After having provided a general idea on the typological approach to polymorphism and its associated phenomena, an overview on the attempts to individuate a distribution among suffixes is required. The expression distribution refers to the occurrence of a certain element in one or more linguistic systems. What it is relevant for this work is the fact that when two suffixes are in competition in realizing the same meaning, each element will have its own occurrence, that is influenced by a range of factors. In order to identify the patterns of suffix distribution we can consider the influence of different criterion that are not merely morphological, syntactic or phonological, but that are more difficult to predict. This section reports the efforts of identifying the patterns of use and frequency of different suffixes by considering ‘blocking’, socio-linguistic and diachronic factors, and productivity. Overall, these criteria provide insightful perspectives on the causes and the characteristics of polymorphism.

2.5.1 Blocking

Blocking refers to the phenomenon that occurs when the formation of a potential word through a derivational process is blocked by the existence of a word with a similar meaning, which is derived through another derivational process. The speakers perceive that in their competence there is an already established accessible derivational operation and this stops the choices of other morphological processes. This sometimes may influence the distribution of a suffix or of a derivational process in a certain language:

their occurrence in a specific domain depends on the presence or the absence of an already existent process. In the specific blocking could be defined as:

« the phenomenon whereby the existence of a word (whether simple or derived) with a particular meaning inhibits the morphological derivation, even by formally regular means, of another word with precisely that meaning». (Carstairs-McCarthy, 2002: 91)

An example may be the word *invention* that prevents the creation of the noun **invention*, using the suffix variant *-ation*. Or *glory* stops the possibility of the noun **gloriosity* for the adjective *glorious*. In these examples, the terms that block the creation of other potential nouns are created on the same base. However, we must keep in mind that a word could block another one even if they are not morphologically related. This is the case of the word *despise*, all the derivational operations for creating a noun from it are blocked by the word *contempt*. They do not have the same root, they are different lexemes that do not share any morphological connection. Lieber, Bauer, Plag (2013) notice that blocking does not work in a number of specific contexts. A morphological process that creates a new potential form is not blocked by another established one, when it displays a totally different meaning. For example, this allows the existence of terms like *committal* and *commitment*, since their meaning diverge almost completely from that of *commission*.

It must be specified, that blocking do not disables the creation of words through derivational processes that potentially may occur, it prevents that such words become established and in common usage in a language (Aronoff, 1976: 56). As a matter of fact, blocking analyzed from a diachronic point of view, could also explain the disappearance of terms in favor of others (Lieber, Bauer, Plag, 2013).

2.5.2 Productivity

Productivity is another factor that can have an influence on the distribution of suffixes. A derivational process, such as adding a suffix, is said to be productive when it can be used in the creation of new forms. From this concept two questions arise: in which cases can a morphological process be used? And to what degree can it be used? We have already seen that suffixes have constraints on the bases they select, that are of various kind: morphological, phonological, syntactic, etymological, among others. These characteristics determine if a specific suffix can be used to create new forms and therefore

being productive. In some cases, multiple morphological processes share these constraints, so that they all may be attached to the same base, creating several possible outcomes. So, in the language systems there are some overlaps. This is where competition arises. From here two suppositions can be made: one is that all bases, with the required characteristics for a morphological process to occur, can be selected by either suffix; another is that suffix are distributed rather randomly among the bases (Lieber, Bauer, Plag, 2013: 580). What emerges from this is that suffixes that are in competition are hardly never equally productive. So, the most productive suffix will be present on more bases and be more widespread in the language.

The different degree of productivity of competing forms can be influenced by various factors. For example, suffixes with a clear and consistent meaning, that the speakers can isolate and understand, will be more productive, since they will be more likely to be employed in new formations. Overall, suffixes that conform to the general expectations of a language structure will be more productive, and therefore have a more widespread distribution. Furthermore, speakers tend to learn and assimilate the variant to which they are more exposed, so the most productive one that will have more outcomes. It could be considered a matter of statistics: if a corpus shows that formations with suffix *-ation* occur a significant larger number of times more than formations with *-ment*, it is probable that speakers will more commonly use *-ation* in the creation of new words. However, as Burani (2011) points out:

« although very related to suffix productivity, suffix frequency and numerosity do not necessarily correspond to productivity » Burani (2011).

This means that even if suffix frequency and numerosity are related to productivity, they do not always overlap perfectly. It is possible for a suffix to be very frequent and numerous but be less productive because it is restricted to a certain domain or has limited semantic or syntactic flexibility. On the other hand, a suffix with lower frequency or numerosity can still be highly productive if it is used to create new words in a consistent and systematic manner.

Here a question arises: in order to determine productivity, is it more important to take into consideration the occurrences of a word with a specific suffix, or the number of words to which a specific suffix can be applied? Can these two perspectives determine the productivity of a suffix differently? Considering both occurrences and applicability in the

analysis of suffixes allows a deeper evaluation of their productivity, because in this way both their current usage patterns and the potential new formations that they can realize are taken into account.

We must keep in mind that the productivity of suffixes can change overtime. The use of a suffix can decline across time periods; in another cases other suffixes become more commonly used; or occasionally a suffix replaces its own function with another one, so that it is not productive anymore in a particular domain (Lieber, Bauer, Plag, 2013).

For example, suffix *-ment* used to be highly productive in the production of nouns, while now it does not take part in the formation of new words.

2.5.3 Social-linguistic and diachronic factors

In many cases, corpus-based studies reveal that frequency and distribution of suffixes are shaped by social-linguistic and diachronic factors, namely variation plays an important role in the patterns of distribution among suffixes.

In particular, sociolinguistic variation refers to the ways in which the features of a language vary and change according to social factors. Variation creates different levels of complexity in a language, since social factors, such as age, gender, education level, social group, cultural background, among others, may interact with linguistic structures. Furthermore, some suffixes may be common in specific registers; others are associated with a formal or academic use of language and some others with an informal and colloquial style. As I have already mentioned, many suffixes are used very frequently and therefore have a wide distribution in a language. Sometimes this is due to social and cultural factors, not only to linguistic ones.

Everything just mentioned could be crucial in the choice of two competing suffixes. If we take into account the really productive verb-forming suffixes, *-ize* and *-ify*, we notice that the former is substantially used to create terms with a technical and academic meaning (e.g. *fossilize*, *oxidize*, *sterilize*); while the latter tends to form colloquial or informal verbs (e.g. *beautify*, *gratify*). In this case, other social factors can influence the distribution of these suffixes in the creation of new terms, like the education level and the social status of the speakers. Educated speakers working in academic fields may be more likely to create words with *-ize*, while speakers with a lower education level or that work in more

informal contexts may be using *-ify* in the creation of new words (Carstairs-McCarthy, 2010).

So, we see how the distribution of suffixes reflects the social contexts in which they are used: speakers, based on their characteristics, are driven to use different suffixes.

Suffix distribution may also have historical explanations. Specifically, the frequency and the use of a suffix may be influenced by the development of the language, and productivity of such morphological processes can be compromised or changed. Occasionally, data show that speakers tend to choose a more ancient operation, which may prevail over others. In other cases, if new suffixes display characteristics that are useful and intuitive for the speakers, they will emerge and gain ground on their rivals. It is particularly interesting because this kind of variation shows how language can change over time.

It must be said that sometimes morphological processes that have been widely used in the literature or in an elevated style in the creation of new words, are likely to be used by speakers that recognize them as the most prestigious form.

2.6 Tolerance Principle

Everything discussed up until now is an observation of the phenomena and not a claim of finding theoretical explanations that underlies them. Now, polymorphism and suffix competition need to be framed in the linguistic competence: this section investigates a functional principle to understand how such phenomena work in the speakers' competence.

Polymorphism seems to work in an 'anti-economic' way. If languages tend to function according to the principle of maximum efficiency and effectiveness, in what ways can polyfunctional suffixes and polymorphism be explained? Why such phenomena are not totally 'cleaned up' by the language? Choosing between two morphological processes require an elevated cognitive effort, since the speaker must select operations that involve multiple levels of linguistic analysis. The Tolerance Principle explains that these phenomena are not absurd or inexplicable since languages can work also following non-economic patterns. This principle takes into consideration child learners' language acquisition, and it is based on objective data. It confirms that not everything in the language consists in systematic and univocal correspondences, but some pieces of

information that stand on their own exist. They do not follow the general rules or structure of the language. In the linguistic competence few productive rules and patterns tend to be generalized in order to be as 'economic' as possible, but occasionally a linguistic generalization will not be encoded as productive by the child learner in some contexts. Therefore, linguistic contexts in which there are no productive generalizations exist and they can be predict on statistical grounds (Gorman, Yang 2019). It is assumed the existence of default forms, that can be referred to as 'junk', that are acquired as independent rules, it may be said that they are learnt 'by heart'. Thus, statistical learning and the acquisition of generalized rules cooperate in the linguistic competence. The Tolerance Principle can explain why suffix competition is maintained in a language. Concretely, 'non-regular' structures can be maintained in our competence if their weight within the input is high. A generalized rule can be created only if it applies to a critical number of cases within the input. Therefore, if the input is very complex or fragmented, children can actually 'maintain' many forms with non-predictable alternations, apparent synonyms, polyfunctional suffixes, so that they can be reasonably found in our competence.

Chapter 3

3. Competition between *-ation* and *-ment*

3.1 Introduction

This chapter takes a closer look at derivational suffixes *-ation* and *-ment*, that create nouns from verbs. As I have already mentioned, it may be said that these suffixes are semantically related, so they have the same meaning, namely the outcomes of their realizations will be, generally, nouns of action, result, state or process. For this reason they could be in competition in the formation of words since they are both available for realizing the same morphological processes. This kind of competition has been attested in the past, but nowadays it cannot be regarded as productive.

The distribution of such suffixes now displays some kind of uniformity since it seems to have become stable. This is determined by a number of factors. One of the most relevant is that suffix *-ment* has become almost not prolific in the creation of new words; in the present vocabulary its distribution is limited to a closed list of established forms, and the number of new formations is much lower than in the past. On the other hand, suffixation of *-ation* seems to be the most frequent in the formation of nouns, especially on non-native bases that have specific morphological characteristics (verbs ending in *-ate*, such as *create*, *moderate*; also, verbs ending in *-ize* and *-ify*), but, overall, it results fairly flexible when it comes to selecting bases. Consequently, now the competition of such suffixes is not productive and is analyzable only from a diachronic point of view.

This chapter explores the differences between *-ation* and *-ment* that have brought to the almost 'death' of the latter and the extreme current productivity of the former. I will take into account the historical development of such non-native suffixes, concentrating on the different time periods of their evolution within English, as something functional to determine also their characteristics and how their functions have changed across time.

These suffixes have entered English because they were contained in many words borrowed from other languages, especially from Latin and French. Later, once established in the language, they have become productive in the creation of new words within English, with their own rules and criteria that were different from their source language.

Therefore, it is relevant to mention the sociolinguistic environments in which they were used for the creation of new forms. I will also address their presence in the literature as something crucial for the stabilization of one over the other, since literature plays a key role in lending prestige to a form or a strategy. Such information will be taken from the OED, which provides a comprehensive and detailed view on these topics.

In the second part of the chapter, I will provide a theoretical approach on how the Canonical Typology framework criteria can be applied to determine the patterns, the frequency, and the alternation of *-ation* and *-ment* in English.

3.2 Suffix *-ation*

In Modern English words ending in *-ation* are more than 1500, many of them being whole-word loans from French or Latin rather than original English formations, this is generally the case of forms on adjectives and nouns. In Modern English such form is particularly productive because for a native speaker *-ation* seems to be immediately attached on verbs, so it represents an extremely economic way of creating nouns. This idea is grounded on the concept of perceived productivity (Bauer, 2001). It is possible to predict whether a borrowed word is perceived by the speaker as a whole or whether it can be decomposed in morphemes, so that the borrowed suffix can be recognized as a productive element. Usually, if a base occurs more frequently than its suffix, that word will be easily decomposable. The crucial idea is that:

« the higher the number of decomposable derivatives of a particular suffix type, the higher the productivity of that suffix» (Palmer, 2014).

This is the case of *-ation*, which was sensed as recognizable. Up until the fifteenth century its perceived productivity continues to grow, gaining ground on its native rivals (in particular on suffix *-ness*, although it still continued to display the highest decomposability and productivity).

From the seventeenth century there are attestations of *-ation* used instead of native suffix *-ing* in the creation of nouns also on native bases (*starvation*, *flirtation*). So, some examples of formation within English on bases that did not occur in the source language can be attested. Morphologically speaking this is important: native English speakers had isolated such suffix and started to use it as a completely independent morphological process, that did not follow the rules of the source language.

When it seems to be merely added to the base, it can be considered a synonym of the deverbal noun in *-ing* (e.g. *observation/observing, investigating/investigation*). This idea may make us doubt that nouns in *-ing* are the result of conversion processes from verbs: if *-ing* overlaps with *-ation*, it could be an independent element.

It may be said that *-ation* (as well as *-ment*) has restricted productivity (Palmer, 2014), meaning that generally it is found on non-native bases.

Originally its etymological function was that of indicating ‘the state or condition of being’. This first meaning referred to condition represented by the past participle, meaning the condition of being *completed, related, inflected* and so on, therefore a result of the verb was implied. But already in Latin it started to refer to the condition of *relating, completing, suspending*, starting to indicate more and more the idea of a process. Generally, in English, it is used to denote the action or the process of a verb, or the result or state of that action or process (OED).

Here I report *-ation* as the allomorph of such suffix that displays major productivity in English, starting from Middle English, so it is the most representative variant of this nominalization.

Originally, such *suffix* was formed by a *t* element, that indicated the past participle, and suffix *-ion*. When the verb had the conjugation in *-are*, such suffix took the thematic vowel *a*, forming the variant *-ationem* (OED). In the romance languages most verbs were in *-are*, it is the most productive structure, therefore most of the correspondent deverbal nouns ended in *-ation*. If we consider that the majority of verbs that entered English from Latin and French had the conjugation in *-are*, it is not surprising that English generalized the form that was most frequent, namely *-ation*.

3.2.1 Different time periods

Suffix *-ation* has its roots in the Latin *-atione(m)*, which was an element used to create the past participle form of verbs in *-are* (*-ate* + *-ion*). The first forms of such suffix can be attested already in Old English, it appeared in some words in theological writings (e.g. *passion, saluacion*, meaning *salvation*). However, it seems to have made its first massive appearance in Middle English, a period of time between the 11th and the 15th century, as a borrowing from French. It mostly did not enter English directly from Latin: *-ation* had developed into Old French mainly with the forms *-aisum, -aisun*, and such words were

later introduced into English, which kept the spelling *-ation*, that was preserved from the Latin model. Of course, there are some exceptions, and some forms were directly borrowed via Latin (e.g. *liberation, investigation, examination*). We must acknowledge that Latin was the language of the cultural, therefore the presence of many Latin words in English, which is a Germanic language, is not that odd. During this period many forms of such suffix were attested in English (e.g. *-acionne, -aciown, -asyone, -acione*, among others).

By observing the trends of use of borrowed suffixes in English, from the mid twelfth through the early fifteenth century, *-ness* was used significantly more often than all borrowed affixes. The only exception to this was *-ation*, which at the end of the fourteenth century started gaining ground on its rival *-ness* (Palmer, 2014). It exhibits a wider range of new types than all other suffixes in Middle English.

Data from large corpora show that such form has the highest rate of growth in the fifteenth and sixteenth centuries. By the sixteenth century *-ation* had become a common, well-established suffix in the formation of nouns denoting state or condition, and overtime, its usage broadened to include the creation of nouns of action or process.

In addition, from the fifteenth century, the success of Petrarchism in England led to the spread of a fashion that consisted in imitating Italian poetry. The Renaissance, meaning the time span between the fifteenth and seventeenth century, was characterized by the constant claim of retrieving the language and style of classics. This probably has played an important role for the affirmation of suffix *-ation*, that was probably really common in classical works and, therefore, it started to be used as a prestigious element in the formation of nouns. The turning point for suffixes *-ation* and *-ment* seems to have come after the end of the Middle English period.

Eventually, around the eighteenth century the form *-ation*, spelled as we know it today and its variants, became the most stable and widely used.

Such suffix comes down to us as a living and evolving suffix, it is likely that its usage will continue to change and adapt to the needs of English speakers.

3.2.2 Sociolinguistic tag and the literature

In order to make a reflection on the areas of usage of *-ation*, we must keep in mind the time period in which it massively entered the English language as a borrowing from

French and Latin. At the time, these two languages were the languages of the culture, widely used in prestigious environments, which used classical languages or French as elevated varieties. Therefore, such suffix, in English, may be commonly associated with the formation of words in poetical, religious or academic contexts, where a formal use of the language was required. This seems to be confirmed by the HC, a large corpus collecting texts of multiple formal genres, including literature and religious material. Dalton-Puffer (1996) provides the number of occurrences in the HC of borrowed suffixes in a time period between 1120 and 1420. Genres like poetry and religious writings seem to display high frequency of borrowed suffixes (mainly Latinate), in the formation of new words, especially of *-ation*. Palmer (2014) compares these data to those of another corpus, the CEEC, that collects personal letters from the same period. Texts from all social classes are collected, though the upper classes' ones are more copious. In the CEEC suffixation of *-ation* shows lower frequency than in the HC, confirming that such suffix was used more in formal contexts. However, we must specify that also in the letters, which reflect a more informal and everyday language, such suffix was becoming more and more frequent, much more than native *-ness*, which was starting to decline. Frequently, letter writers made use of *-ation*, specifically because it was employed in religious, political and legal contexts (Palmer, 2014), and this meant that they were more and more exposed to it. Palmer (2014) notices that the new words formed with *-ation* in such letters, are twice more present than new formations with other non-native suffixes. From these documents we notice that in religious contexts many forms with *-ation* and its variants occur (e.g. *damnation, temptation, confession, absolution*); but it could be attested also in many legal and political terms (e.g. *deposition, citation, allegation, administration*); lastly many letters also contained political terms constructed with such suffix that conveyed violence (e.g. *insurrection, revolution, invasion*). These were not the only fields in which suffixation of *-ation* appeared. New lexemes that referred to mental processes, thoughts and emotions can be attested (e.g. *affection, imagination, compassion, comprehension*).

The vast range of lexical fields in which *-ation* could be attested, may have been a significant factor that drove its use in personal correspondence (Palmer, 2014).

3.3 Suffix -ment

In this section suffix *-ment* and its evolution across the centuries are presented in detail. Such suffix belongs to the long list of non-native suffixes that realize deverbal nominalizations in English, namely it forms abstract nouns that indicate the state, condition, or product of the original verb.

Nowadays, as I have already mentioned, generally, its status is that of a non-productive suffix. The OED includes some formations from the 20th century, such as *bemusement*, *encirclement* and *upliftment*. From this we can deduce that suffixation of *-ment* is not totally 'dead', so that it may be still employed in the creations of new nouns, but not at the same extent as it was once. In Modern English new nouns of action or process tend to be created by suffixation of *-ation*.

This does not mean that in the past such suffix has not displayed important productivity. In the period between the fifteenth and seventeenth century it reached its peak in the creation of new forms (Hilpert, 2013). Hilpert does not seem to identify the certain reasons why behind this phenomenon; weighing on the situation is also the fact that an extensive number of studies on the perceived decomposability of such suffix does not exist. However, already in Latin *-mentum* had a narrower usage than *-tionem* because its function was mostly to indicate an outcome, something concrete, and more rarely to indicate an action. For this reason, it may have been disadvantaged compared to its rival. So, we can speculate on the fact that the statistic possibilities of finding borrowed words in *-mentum* in classical works were lower, and therefore such element may have not been consistently implied in new English formations.

Furthermore, if we consider the phonetics of Old French, we notice that the outcomes of *-mentum* were less transparent than those of *-tionem*. Verbs in *-tionem* had a vowel support when they were attached to regular verbs, so such suffix may have resulted more flexible and had more success in its history.

Usually *-ment* attaches to non-native bases, even though some hybrid forms (i.e. non-native suffixes that attach to native bases) are attested. Miller (1997) finds almost hundred examples of hybrid forms with various types of non-native suffixes already in Middle English. However, it remained much more common for non-native suffixes to attach to non-native bases. As Palmer (2014) points out the existence of hybrid forms does not mean that a suffix like *-ment* (as well as *-ation*) is productive in the selection of native

bases, but it certainly indicates that such suffixes during Middle English had already become productive in the creation of new words within the language, namely words that did not have a source or a correspondent in French or Latin.

3.3.1 Different time periods

Like *-ation*, suffixation of *-ment* has its origin in the Latin *-mentum*, which was a suffix used to create deverbal nouns denoting result, product, or action of the verb (e.g. *fragmentum*, meaning *fragment*) or to indicate the means or the instruments of the action (e.g. *ōrnāmentum*, meaning *ornament*). It occasionally could be found on adjectives, the OED reports some cases like *ātrāmentum* (*atrament*), *palūdāmentum* (*paludament*).

It has later developed in Old French as *-ment*, always maintaining the same functions, but also with the possibility of denoting the action itself, as in *abrégement* (meaning *abridgment*), or *accomplissement* (meaning *accomplishment*).

It entered English as a borrowing from Latin and Old French, and during Middle English it became productive within the language in the creation of new nouns, especially with the forms *-mentt*, *-mente*, *-ment*. This may have been possible because writers of the Middle English period used a greater quantity of borrowed suffixes with the passing of each century, including *-ment* (Palmer, 2014). The analysis of the CEEC reveals something significant: the use of *-ment* seems to become stable between the fifteenth and sixteenth century (Palmer, 2014), but it does not show a constant growing rate of usage up until the present day. During the Middle English period there are many formations on native verbs (e.g. *eggment*, *hangmen*, *onement*), and others on verbs borrowed from Latin and French. Actually, the latter could be both whole-word loans or formation within English: enough clues do not exist to affirm one or the other possibility.

Generally, during Middle English we may say that *-ment* was moderately used. Among the reasons for this fact, it seemed to show a moderate decomposability, which is a key feature for a suffix to be productive, since the speaker needs to perceive the suffix and the base as two different morphological units. As already mentioned, Hay (2003) believes that:

« derivatives of productive suffixes tend to occur far less frequently than their bases, while derivatives of unproductive suffixes tend to appear far more frequently than their bases » (Palmer, 2014).

Through a token analysis (i.e. the number of occurrences of a lexeme in a corpus), made with data from the CEEC, Palmer (2014) finds out that *-ment* has a major percentage of decomposable tokens compared to *-ation* and *-age* in Middle English, so it appears to be the suffix with the higher level of perceived productivity after native *-ness*. Despite all these, its rate of growth seems to show variable trends throughout the centuries. This may be explained by considering the number of occurrences of lexemes in *-ation*, rather than the number of lexemes in *-ment*. The former resulted of more frequent usage in the language, so this may explain why such form has been used more frequently throughout its history.

The first certain attestations of formations within English are in the sixteenth century, that occur both on native (e.g. *acknowledgement*, *amazement*, *wonderment*) and non-native (e.g. *enhancement*, *banishment*) verbs. The OED underlines the fact that *-ment* occurs often with the prefixes *em-*, *en-*, *be-*, in forms as *embankment*, *enlightment*, *bedazzlement*. From the sixteenth century such suffix started to occur rarely on adjectives (*foolishment*, *funniment*, *merriment*).

Overall, it may be affirmed that *-ment* shows a moderate growth during its all existence in the English language. According to data from the CEEC, the fifteenth and the sixteenth century time span has been the moment of major creation with such form, so that we can even claim that in this period its patterns of growth were similar to the ones of native *-ness*, that until the fourteenth century had been the most productive suffix in the creation of nouns. However, by the sixteenth century the new forms created with *-ment* are half of those created with *-ness*.

3.3.2 Sociolinguistic tag and the literature

As we saw in the last paragraph, during the period spanning the sixteenth and seventeenth century, there appears to be a noticeable trend of stability emerging in the formation of words through the use of suffix *-ment*, this means that its rate of growth was existent but low. These data are taken from the CEEC, that collects personal letters, so it is a corpus that reflects a more informal and everyday language. We can deduce that such form was not extensively employed in the creations of nouns in informal fields or by speakers that may have not displayed a high educational level. This seems supported by a study conducted on the HC, which is a corpus that gathers more formal genres. If we observe

the material from the HC from the same period, we notice that in the fifteenth century there is a slightly increase of the use of *-ment*, which is followed by another increase in the sixteenth century (Palmer, 2014). So, we notice that different corpora may show divergent data, and this may be due to sociolinguistic variation: the use of a suffix in the creation of new forms is employed in different ways in different social contexts.

Always Palmer (2014) points out that the fields that have contributed to the growth of *-ment* during Middle English are: finance (e.g. *repayment*, *deboursement*, *apportement*); law (e.g. *inditement*, *mercement*, *imprisonment*); clothing (e.g. *vestment*, *abilyments*, *areyment*). Several of these forms, such as *divorcement*, seem to be English creations (OED).

3.4 *-ation* vs *-ment*

After having discussed the history and the characteristics of *-ation* and *-ment*, this section aims to find out their divergences and the reasons that have brought *-ation* to be extremely productive in modern English and *-ment* to be so little prolific.

I already mentioned that *-ment* in Middle English, up until the seventeenth century, had a significant level of perceived productivity, being second only to its native rival *-ness*. However, its growth is not consistent to the present day. A first hypothesis for this trend, may be a statistic one. If a morphological process, such a suffix, enters a language with a really elevated number of occurrences, it is likely to be used by new generations in the creation of nouns, meaning that they will use it since they are more likely to be exposed to it. If we consider a suffix that has a really elevated frequency, we should aspect a child to learn it easily and use it without particular effort. This hypothesis does not work for suffixation of *-ment*: the occurrences of such suffix were particular elevated when it entered English in the period between 1250 and 1350 (Palmer, 2014). This number was even significantly higher than that of the occurrences of *-ation* in the same period. So, an elevated number of whole-words borrowings containing *-ment* came into English, and such suffix, being very recognizable as an independent morphological process, started to be productive within English by the start of the sixteenth century, with its own rules and constrains. The speakers were fairly exposed to such form and so they used it, therefore the reason for its not constant and low growth cannot be a statistical one.

A matter of distribution could be another hypothesis for the emerging of *-ation* and the almost ‘death’ of *-ment*. When two morphological processes are in competition, eventually one of them will prevail on the other because of two main reasons: on one hand, one of the two processes may be a good fit in every context; on the other, the other process may be the most suitable for a specific context. Keeping in mind this concept, we may suppose that *-ment* developed, at some stage in its history, a discrete specialization in a certain area. This means that in the sixteenth century it started to be particularly productive in a particular domain, but with the passing of time such domain started to not be really present in English, so the productivity of *-ment* did not continue to grow regularly. For these reasons such form started to be somewhat confined to only specific contexts. On the other hand, *-ation* seemed to be a great fit for every other context, meaning that the speakers felt that *-ment* could be only employed in specific deverbal classes while *-ation* could be used everywhere else. For this reason *-ation* can be defined as a sort of ‘elsewhere’ suffix. This could explain why *-ation* now has a wider distribution: such form allows more possibilities of usage, meaning a wide range of bases it can select. We may also take into consideration the syntactic structure of the deverbal nouns that such suffixes create in order to determine their distribution. Suffix *-ment* in Latin had a rather pronounced distribution, it was frequent to denote nouns with concrete implications or the object that a certain action creates, rather than the result of an action. Therefore, in Latin, *-mentum* was unlikely to be associated with an agentive argument, this means that the resulting nouns did not usually have a real subject. A subject existed but it was more likely of being somewhat involved in what the nouns expressed, or it owned the resulting nouns. We may speculate that *-ment*, when it started to be productive within English, was specialized in creating nouns denoting only results or nouns that had an element that caused them. Considering nouns such as *paludament*, *ornament* and *fragment*, if they are followed by a prepositional phrase introduced by *of*, the argument that participates to the process denoted by the verb, does not indicate who does the action, but who undergoes it, or who owns the result of that action.

On the other hand, suffixation of *-ation* creates nouns that are more likely to be associated with an agentive argument (e.g. *liberation*, *description*, *invasion*), or that can also behave exactly like *-ment* and not take an agent; so it is likely to function in both ways. For this reason, such form may have displayed more productivity in its history in the creation of

nouns. For example, a noun like *invasion* can be used in a sentence such as *the invasion of France*, in which the noun denotes a pure result and the subject is not specified. However, it can be found in a sentence like *the invasion of Napoleon*, in which Napoleon represents the argument that does the action.

In conclusion, it may be said that *-ation* and *-ment* diverge for syntactic characteristics: *-ation* has more possibilities of use and can behave more flexibly, so that throughout the centuries new generation were more likely to use it to create new nouns.

3.5 Canonical Typology framework applied to deverbal nouns in *-ation* and *-ment*

This section is an attempt to investigate competition between suffixes *-ation* and *-ment* using the criteria that are provided by the Canonical Typology framework, that have been already discussed in Chapter 2. Such criteria are used by Thornton (especially 2019) to establish the patterns of ‘overabundance’, meaning the cases in which two processes can realize the same grammatical slot. In the same sense, the alternance of suffixes that attach to the same base may be analyzed in terms of frequency, distribution and symmetry in order to find out the most canonical patterns of such alternations and the relevance of their competition. This paragraph does not aim to take into consideration a wide range of examples in order to concretely apply such criteria, but it offers a theoretical approach on how such criteria may be applied to specific cases.

The first criterion that I will take into account is frequency. As I have already mentioned frequency reveals the most common patterns in a language, namely the patterns that have a wider distribution. In the case of suffix competition, we may consider a base to which more than one suffix can be attached to realize a noun, so the cases in which more than only one nominal suffix is available to create a noun. For example, *commitment*, *committal*, and *commission* are nouns derived from the verb *commit*, so according to Thornton this is a relevant case of overabundance because three different elements can be considered cell mates. However, when analyzing the frequency of such set of words from a corpus, we find out that at least one of these words has a really low occurrence. The alternance of such forms is very unbalanced. This means that the probability that a speaker has been exposed to the low frequency form is very rare, so that the overabundance exists but is not that relevant. The speaker does not hold in their competence all the possible

realizations of that noun: it can be said that competition exists, but the most frequent realization is probably the only one that speakers have in their competence.

In the case of *-ation* and *-ment* an example can be made by taken into consideration the words *annunciation* and *announcement*. The number of times that *annunciation* occurs is extremely low in Modern English. According to the OED this form belongs in Frequency Band 4, which contains words that occur between 0.1 and 1.0 times per million words. Even though its frequency is so low, English speakers can recognize this form, especially in fiction and journalism, and are likely to isolate its meaning, which has a religious connotation. However, since the speakers are not that exposed to such form it is likely that it is not hold in their competence, so it is not in competition with *announcement*, which is the most common form. As a matter of facts, this form belongs in Frequency Band 6, which contains words that appear between 10 and 100 times per million words, so it is much more frequent and rooted in the competence of the speaker. Another relevant criterion to establish the extent of competition between two derivational processes is distribution. If the distribution of a competition between morphological processes is extensive it is not that relevant. When a base has a generalized rule that allows it to be selected by more than one suffix, the children will easily learn that rule and would not make much effort to create the multiple deriving nouns from the same verb, so the competition between the two processes is not that relevant. So, keeping this in mind, we can affirm that whenever two or more derivational processes compete almost randomly in the realization of a noun, this kind of ‘overabundance’ can be considered relevant and really strong, since the child is used to think at this kind of alternation not as a generalized rule. Also in this case, *annunciation* and *announcement* can be relevant examples: if we apply the criterion of distribution to determine to which extent they compete, we notice that this is a strong competition. For the reasons mentioned before (i.e. low frequency of *annunciation* compared to that of *announcement*) and the fact that children do not owe this alternation in their competence and a generalized rule to apply in the creation of a noun such *annunciation* does not exist, this kind of distribution can be considered really relevant, and therefore also the competition between the forms.

Lastly, symmetry explains that the alternation between forms can be commonly found in specific contexts. For example, it can be attested in particular grammatical categories, namely in the alternation of syntactic morphological elements, like the singular or plural

forms, or the elements that are attached to verbs in order to indicate the person. These are phenomena that can be observed regularly: the child learns the different forms while acquiring the language and therefore such ‘overabundance’ cannot be considered particularly relevant. When the ‘overabundance’ appears outside of the syntactic alternation, meaning in an alternation driven by non-transparent syntactic triggers, it can be considered more relevant, and this can be the case of many suffixes competing in the creation of a form.

Speaking about the realization of action/state/result nouns we could hypothesize that whenever a suffix creates a noun that indicates only a result, it will never have an alternation with another suffix. On the other hand, if the noun indicates an action, it can display an alternative. For example, *renunciation* indicates the action of renouncing, giving up, or surrendering a possession (OED), and it displays an alternative *renouncement*, that also indicates the action of renouncing something. The same discussion can be made for *annunciation* and *announcement*, they both indicate the action or the act of announcing, proclaiming, or declaring something (OED). On the other hand, a noun like *achievement* that indicates result, does not seem to compete with another noun in *-ation*. However, these few examples are not enough to determine with certainty if this criterion can be applied to all nouns denoting action or result. Such study could be made by collecting and analyzing data from corpora and considering the frequency with which each noun in *-ation* has an alternative in *-ment*, or vice versa. It would be crucial also to consider for how many words in the corpora the double option is available: the more the double option is widespread in the lexicon, the more it may be ‘acquired’ as a ‘regular’ potentiality.

This criterion may represent an interesting way to determine the extent and the patterns of competition between suffixes *-ation* and *-ment*, since this kind of alternations occur outside of a common syntactic alternance so that they are fairly unpredictable.

Conclusion

Numerous aspects concerning competition between morphological processes emerged from this thesis. Starting from the basic concept of morphology and word-formation in English, useful insights were given to introduce the phenomenon of competition that arises between suffixes in the realization of the same slot in a derivational paradigm. This is related to the concept of polymorphism, which refers to the situation in which two or more morphological processes are available for the same operation. Whenever two morphological processes potentially can realize the same operation, although they do not always behave in the same way, they will be in competition. This means, that some morphological processes share some characteristics and domains, and this is not that uncommon. If we take for example suffixes *-ify* and *-ize*, we can say that they are in competition because they overlap in the realization of the same or very similar meaning, namely they form verbs from nouns, adjectives, and sometimes other nouns. So apparently, they could be interchangeable, but an analysis of the data reveals that they are not. A number of questions emerge from this: what does determine the dominance of a suffix over another? In other words, how can we explain the patterns of distribution of a suffix that is in competition with another? There are possible answers to these questions. First of all, we need to consider the relevance of the properties of the bases: competing suffixes still choose bases that present different morphological, phonological, etymological and syntactic characteristic, among others. For instance, suffix *-ify* selects bases with the last syllable stressed, while *-ize* prefers an unstressed syllable preceding it. While *-ation*, that potentially can compete with other noun-forming suffixes, like *-ment*, generally attaches to verbs ending in *-ify* and *-ize*.

The importance of the base in the selection made by competing suffixes can be related to the concept of ‘single base condition’, that refers to the fact that the combination of suffixes and bases is not random: a base is required to have specific characteristics to be chosen.

In some cases, the choice of a suffix is determined by its semantic characteristics: even if two or more suffixes have the same function and overall the same meaning, like realizing abstract nouns from verbs, they can display peculiarities in their semantic content. From the examination of *-ation*, we notice that it can commonly form nouns denoting process,

while *-ment* tend not to have this peculiarity, and limits itself to the creation of nouns indicating action, product or result.

Different approaches to polymorphism, especially typological studies, have observed that some other tendencies that explain the distribution of competing suffixes exist and they can be related to various factors. These factors do not merely depend on the morphological, syntactic, etymological, and phonological characteristics of the bases. They can also be ‘chance-level’, so their causes are fairly unpredictable and depend on a range of ‘random’ factors. Some of these factors are here reported.

The concept of ‘blocking’ refers to the phenomenon that stops the creations of a possible word by means of a derivational process because of the presence of an already existing word with the same meaning, which is formed through a distinct derivational process. This means that a number of potential suffixation processes in the creation of a word do not become established because of the existence of others.

Also, productivity represents a crucial factor in the distribution of suffixes in competition. A process can be considered productive, when it can be used in the creation of new forms. The suffixes to which the speakers are more exposed and that can be easily isolated and recognized will be employed more substantially in new formations. So, if two morphological processes are in competition, the winner will be almost certainly the most productive one.

However, it is worth to mention that the frequency of suffixes does not always depend on linguistic factors: social-linguistic and diachronic variation play a key role in the distribution of competing suffixes. Often suffix distribution reflects the social contexts and the development of a language, that can bring suffixes to affirm themselves, disappear or change function.

All these factors, lead to the idea that whenever two or more realizations are in competition, one will prevail on the other since the patterns of a language tend to stabilize themselves and lead to a certain distribution of morphological processes.

So how do we explain the presence in the language of polymorphism, fairly unpredictable alternations and elements that apparently seem synonymous? This is explained by the Tolerance Principle, which states that in the speakers’ competence there are some pieces of information that stand on their own, they are default forms and not generalized rules. For this reason, if a process is very fragmented and complex children can maintain these

forms in their competence and apply them even if they do not follow the idea of maximum efficiency and effectiveness, that a language generally follows.

All these ideas lead to Chapter 3, in which emerges the idea that competition between *-ation* and *-ment* can be considered something analyzable only from a diachronic point of view. Now the patterns of their distribution have stabilized, confirming that the processes of a language tend to be reduced or generalized. This is due to the fact that *-ation* has reached the status of a productive and widespread suffix, while *-ment* may be considered an almost ‘dead’ one. This may be due to the fact that *-ation* is perceived as an ‘elsewhere’ suffix, meaning that if *-ment* can be used only in really specific contexts, *-ation* provides more flexible ways to be employed, namely it can be used in a wider range of contexts. Another hypothesis could be a syntactic one: *-ation* is more likely to create abstract nouns from verbs that can both take an agent or not. While *-ment* tends to form nouns denoting result or nouns caused by something that are unlikely to take an agent.

By applying the criteria of the Canonical Typology framework to cases of suffix competition, we can find out the extent and the relevance of the competition between *-ation* and *-ment* in specific cases. If we consider the criterion of frequency, we find out that even if a same derivational cell has multiple possible realizations, the competition would not be strong if such realizations have different degrees of frequency, so that they are unbalanced. The form with lower occurrences will not compete actively with the most common forms.

Distribution reveals that only elements that compete almost ‘randomly’ are in strong competition between them, because speakers do not owe this alternance in their competence and a generalized rule do not exist.

Lastly, by applying the criteria of symmetry we notice that really extensive and strong competitions between morphological elements happen outside of a common syntactic alternance.

So, this thesis offers different insights on the causes, the characteristics and the consequences of suffix competition and offers some points that could be developed in detail in other studies.

References

- Alexiadou, A. (2001). *Functional structure in nominals: nominalization and ergativity*. Amsterdam: Benjamins.
- Amutio Palacios, S. (2013). *Suffix competition in old English word formation*.
- Bauer, L. (1983). *English Word-formation*. Cambridge: Cambridge University Press.
- Bauer, L. (2001). *Morphological Productivity*. Cambridge: Cambridge University Press.
- Bauer L., Lieber R., Plag I. (2013). *The Oxford Reference Guide to English Morphology*. Oxford: Oxford University Press
- Brown, Dunstan, Marina Chumakina, and Greville G. Corbett (2013), *Canonical Morphology and Syntax* (Oxford, 2012; online edn, Oxford Academic).
- Burani, C, Thornton M. T. (2011). *The interplay of root, suffix and whole-word frequency in processing derived words*. *Morphological Structure in Language Processing*.
- Carstairs-McCarthy, A (2002). *An Introduction to English Morphology: Words and Their Structure*. Edinburgh: Edinburgh University Press.
- Carstairs-McCarthy, A (2010). *The Evolution of Morphology*. Oxford: Oxford University
- Carston, R. (2022). *Words: Syntactic structures and pragmatic meanings*. *Synthese* 200, 430.
- Chomsky, N. (1995). *Language and Nature*. *Mind*, 104(413), 1–61.
- Corbett, G. G. (2006). *Agreement: A typological Perspective*. London: Cambridge University Press.
- Dalton-Puffer, Christiane. (1996). *The French influence on Middle English Morphology. A corpus-based study of derivation*. Berlin, New York: Mouton de Gruyter.
- Dressler, W & Kilani-Schoch, M. (2016). Natural Morphology. In A. Hippisley & G. Stump (Eds.), *The Cambridge Handbook of Morphology* (pp. 356-389). Cambridge: Cambridge University Press
- Floricić, F. (2023). *Polymorphism in Occitan Verb Morphology*. *Languages* 8: 40.
- Grimshaw, J. B. (1990). *Argument Structure*. Cambridge, MA: MIT Press.
- Hilpert, H. (2013). *Constructional Change in English*. Cambridge: Cambridge University Press.
- Lyon, J. (1977). *Semantic*. Cambridge: Cambridge University Press.

- Matthews, P. H. (1974). *Morphology. An introduction to the theory of word-structure*. London: Cambridge University Press.
- Palmer, C. C. (2015). *Measuring productivity diachronically: Nominal suffixes in English letters, 1400-1600*. *English Language and Linguistics*, 19(1), 107-129.
- Plag, (1999). *Morphological productivity: structural constraints in English derivation*. Mouton de Gruyter.
- Polinsky, M. (2010). *Linguistic Typology and Formal Grammar*, in Jae Jung Song (ed.), *The Oxford Handbook of Linguistic Typology*.
- Rainer, Gardani, F., Dressler, W. U., & Luschützky, H. C. (2019). *Competition in Inflection and Word-Formation*. New York: Springer International Publishing.
- Thornton, A. M. (2012). *Overabundance (Multiple Forms Realizing the Same Cell): A Non-canonical Phenomenon in Italian Verb Morphology*, in Oxford Scholarship Online.
- Trips, C. (2009). *Lexical Semantics and Diachronic Morphology: The Development of -hood, -dom and -ship in the History of English*. Berlin, New York: Max Niemeyer