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Rivalry and Blocking in the English Suffixes. The Case of -ity, -ness and -ship.

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Introduction

This work's aim is that of describing the phenomenon of rivalry and blocking and to analyse the behaviour of the suffixes in the language. In particular it is going to describe the forms and uses of the suffixes *-ity*, *-ness* and *-ship*, using as sources academic articles, books and data.

The first chapter will introduce the matter and will begin with a brief overview of the subject. It will then try to describe in short the main mechanisms that regulate word formation and its rules. It will then precede to explain the phenomena of rivalry, describing what it is and it affects the language. Subsequently, the phenomenon of blocking will be introduced and, as in the case of rivalry, we will try to determine what it is and how it operates in the context of word formation processes.

The second chapter will focus of suffixes and word derivation, introducing the most important aspects of it. After a brief overview on word formation and suffixes, this chapter will have a section of productivity and its importance in the study of suffixes. Later on in the same chapter, the characteristics of the suffixes *-ity*, *-ness* and *-ship* will be displayed and these three suffixes will be compared and analysed through the works of different linguists. In particular, we will try to collect and explain the most important similarities and differences between the suffixes *-ity* and *-ness*, while *-ship* will be approached mainly from a semantic point of view.

The last chapter will be on corpora analysis, allowing for more comparisons and considerations on the suffixes *-ity*, *-ness* and *-ship*, through the use of actual corpora. The two corpora used will be compared to provide an insight on the use of the three suffixes in the English language.

1. Rivalry and Blocking in the English Suffixes

Affixes represent an important part of word formation, in particular suffixes, that form most of the derived words in the English lexicon. That is why, since its beginnings, morphology has always tried to describe their role in derivation and more specifically in affixation. The linguists have tried to detect and describe precisely how they operate in word formation, in order to create a number of valid word formation rules. Over the years many different theories have been advanced and analysed to describe how affixes work, and which rules they may follow. Even though some of the first interpretations in modern linguistics, that date back to the 80's, might seem a bit outdated, they all contributed to build up this subject as we know it nowadays and are therefore very important. In this first chapter, we are going to summarize some of the most relevant ones, focusing mainly on the phenomena of rivalry and blocking. The sources available for this topic are numerous but, to narrow them down, we are mainly going to use "Competition in Inflection and Word-Formation" (Rainer, et al., 2019) for the first part on rivalry and to understand blocking we are going to give an overview of parts of Kiparsky's, Hay's and Aronoff's works (Kiparsky, 1982), (Hay, 2002), (Aronoff, 1976). Along with these sources we are going to use some general linguistics accounts on morphology as "La struttura delle parole" by Scalise and Bisetto (Scalise & Bisetto, 2008).

Their works on morphology are a good example to understand the basis of how the study of concerns as word formation and productivity developed chronologically through different authors and studies. Though the topic itself never changed, it is interesting to notice that the linguists' understanding of it did. Only looking through all the stages of this process, we can try to describe the subject properly. Indeed, we are going to give a brief introduction of each one of the authors first. Then, we are going to look more specifically at the main topics: rivalry and blocking. We can now define them in short as two phenomena that regulate word formation.

1.1. Overview

When talking of suffixes, we need to take into account some pillars of this subject, in order to have a better understanding of it. Hence, it is important to introduce some good word formation practices, that regulates the word formation process. First of all, we need to consider the Unitary Base Hypothesis. This condition indicates the tendency of suffixes to be attached to words of one single lexical class. For example, the ideal base for the

suffix *-able* is a verb as we can see in the words *enjoyable* and *breakable*, when the same suffix is used with different bases other than verbs it can create ungrammatical words, such as **niceable* or **chairable* because the suffix *-able* is inconsistent with both adjectives and nouns (Scalise & Bisetto, 2008). However, in many cases it is not as simple as that, indeed some suffixes allow combinations with more than one base, as long as the bases present some common aspects. Nominal and adjectival bases are considered close for their morphological aspect, while adjectival and verbal bases are considered close for their function. Hence a suffix will select one of these two combinations as a base. A good example of this is the suffix *-ive* that forms words with both nouns and verbs, as in *massive* and *defensive* (Scalise & Bisetto, 2008). This is an extension of the concept of Unitary Base Hypothesis. As we can see this condition is useful and provides an effective tool to a better understanding of suffixes.

Another thing to acknowledge is the fact that suffixes are sensitive to the features of the base they attach to. Scalise (Scalise & Bisetto, 2008), often states that the features of the base are somehow involved in the process of derivation and that they are very important to understand how some derivate words are possible and correct.

Looking more specifically at our chosen sources, we can immediately understand that in the study of these topics, different authors have given different interpretations and many ways of approaching the matter. Even if it is easy to find some points in common, the four sources taken into consideration differ considerably from one another. In this premise we can briefly see some of the main ideas that we are going to consider and confront later. The first source is the first part of the book “Competition in Inflection and Word-Formation” by Gardani, Rainer and Luschützky (Rainer, et al., 2019). The book explains competition in detail. Firstly, from an historical point of view, highlighting the most important authors and sub-themes over time. The second section instead is concerned with derivational morphology and provides different essays, to deeply analyse competition and provide plenty of examples of it.

One of the most important points of view on these subjects, advanced by Kiparsky in 1982, proposes a system based on the position of suffixes (Kiparsky, 1982). The idea of a level-ordered morphology is much older and had already been taken into account by many other linguists. The system he proposes in detail is binary and divides the suffixes in primary or secondary ones, based on the order in which they appear when in

combination in the same word (Kiparsky, 1982). Kiparsky's suggestion is to strictly divide the suffixes in two classes, level 1 suffixes and level 2 suffixes. Level 1 suffixes will be placed right after the stem of the word, closer than level 2 suffixes, as they are "not capable of being preceded by secondary suffixes" (Kiparsky, 1982). Level 2 suffixes, on the contrary, are "not capable of being followed by primary suffixes" (Kiparsky, 1982). Both level 1 and 2 suffixes can follow primary suffixes.

This kind of interpretation by Kiparsky leads to a series of consequences and studies in the field of lexical and post lexical rules that he describes in detail. He analyses in depth subjects as word formation, especially derivation and blocking, on which he expands bringing examples and evidence for his argumentations.

In opposition to Kiparsky's view, Hay (Hay, 2002) provides a different interpretation of affix ordering. In her opinion the subject should be addressed in terms of parsability and the division between affixes should be scalar rather than binary. Parsability being the fact that it is possible to linguistically analyse a word. She affirms that the general approach to affixation as level 1 and level 2 affixes can be misleading and simplistic because it does not answer to a series of issues that come up when analysing the topic in detail, observing data concretely. She proposes as an alternative parsability, meaning that rather than being strictly divided into two classes, suffixes should be linguistically analysed. In this way our understanding of suffixes would be more similar to a scale on which we can order the suffixes, based on their inherent properties and on their behaviour. According to her, this kind of classification, allows for more flexibility and reflects better what happens in the language in terms rules and constraints of word formation (Hay, 2002).

To give the complete picture, it is important to mention Aronoff, a linguist whose work is older compared to the previous two. Though his ideas on the subject may be outdated, he contributed greatly to the topic. His work concerns in particular word formation, productivity, word formation rules and the relationship between morphology and phonology. We can also see that, in later writings, his opinion on productivity and blocking change and evolve, taking into account more recent views. For example, he aligns with Hay (Hay, 2002) on matters as productivity and blocking (Aronoff & Lindsay, 2014).

These are the sources we are going to explore, in the next section.

1.2. Rivalry

Rivalry, a complex phenomenon also known with the name of competition, occurs in morphology very often and under many forms. It can concern various parts of the language, for example it can occur between two morphemes but also between two tenses. It is defined by Gardani as “the fact that speakers routinely have to make a choice between alternative ways of realizing a certain concept” (Rainer, et al., 2019). Rivalry is a concept that accounts and explains why certain words prevails over others. It tries to describe what happens when two or more lexemes have a similar content or form. Rivalry also accounts for how lexemes behave in a given context and how they interact. This interaction does not only concern one level, and it can be found in more than a linguistics field. For example, a case of competition can involve phonetics, morphology or semantics. Often more than a level at a time is concerned in the interaction of the lexemes. The paper is concerned mostly with the morphological level.

For this paper’s sake, we can think about it as when multiple suffixes have a similar distribution and meaning, therefore they are often found in the same context.

The first chapter of “Competition in Inflection and Word-Formation” (Rainer, et al., 2019) provides a general overview on rivalry and it enumerates some of the many authors that gave their contribution on this topic over time. It starts by saying that competition has been detected and studied since the first grammarians in the antiquity as for example Pānini, up until our days, in modern linguistics, referring to all the main steps and the main authors in between (Rainer, et al., 2019). It is interesting to notice that being such a wide topic it has always been central, even in the first linguistics studies.

The second part of the book, called “derivational morphology”, presents a series of essays on this topic, among which we can find “Competitors and alternants in linguistic morphology” by Aronoff. In this section he proceeds in giving a less theoretical account of the phenomenon. First of all, he considers very important Gause’s principle of competitive exclusion. This principle states that it is not possible for two identical species to coexist in the same context. Aronoff uses this principle that has nothing to do with morphology to explain his view. He finds that Gause’s prediction is true “when applied to word meaning and distribution”. Practically, he states that two different words with the same meaning and distribution only have two options. In the first one, one of the words simply disappears, in the second one the two words differentiates themselves, either in

meaning or distribution. We can look at the example of hurricane, typhoon and cyclone which meaning is the same meteorological event but in different places in the world, in this case this single semantic information allows the three words to be similar but with a different distribution, so they do not overlap. As we can notice, suffixes work in the same way as words, for example, the English suffixes *-hood* and *-ship*, differentiated their meaning over time. They had similar meaning and “both descended from lexical words by grammaticalization in earlier stages of the language” (Rainer, et al., 2019). In this case, the two suffixes changed their meaning, that is now more specialized than it used to be, in fact, *-hood* denotes a permanent condition while *-ship* a temporary one. In the same way, he argues that *-dom* adds to the suffix the meaning of “domain” compared to ship, as we can see in *kingship/kingdom*. The examples to explain this phenomenon can be found in every language and could be countless, as it is a very common phenomenon (Rainer, et al., 2019).

Later on, in the same section of the book we can find more essays that proceed to explain the many aspects of rivalry. The argument includes many sub-themes of competition, as for example, doublets and allomorphs. As we can understand, the subject is wide and incorporates many aspects of morphology and many different cases too. To sum up, we can understand rivalry as the phenomenon that is present when two or more forms overlap, in meaning or distribution, and they cannot be in the same domain, causing either the specialization of the said form or the extinction of it.

To conclude we can say that the language uses a tool to regulate itself, the phenomenon of blocking aims to solve the problem of rivalry. In this way many otherwise possible derivational lexemes, cannot find place in the lexicon. Even blocking does not operate in a linear way, and we are going to discuss it in the next section.

1.3. Blocking

Blocking is the process that limits redundancy, the repetition of information, in the lexicon (Scalise & Bisetto, 2008). It prevents the formation of a word when another one with the same meaning already exists. Even if the word would be grammatically correct, it cannot enter the lexicon because of the sole existence of another item with identical meaning (Scalise & Bisetto, 2008).

This is, in short, a general and unprecise definition of blocking and of course there is a lot more to say on this topic. Firstly, it is important to notice that different linguists give

different definitions of this phenomenon. It is a concept that developed, and thus changed, in the past and it is still changing. Kiparsky, Hay and Aronoff, the three main linguists that we are going to take into account for this section, all have different views on this topic, though their ideas often interact and work in the same common ground.

Proceeding chronologically, we can say that Aronoff's early work describes blocking as follows: the absence of a form in the lexicon due to the occurrence of another one. In his view, every stem has just one slot available in the lexicon for each class (nominal, adjectival...). So, taking as an example the suffix *-ity*, that forms abstract nouns from adjectives, he affirms that for the same stem there is either an existing noun or an adjective+*-ity*, but the two can never coexist. For a word to be listed in the lexicon there must be an available slot (Aronoff, 1976). Unfortunately, his theory only applies to non-productive suffixes. In his opinion, this system works because only arbitrary words have to be listed in the lexicon, leaving out the other forms. In this why suffixes which are very productive, as *-ness*, are not blocked, because they are not listed (Aronoff, 1976). Although his ideas may seem incorrect nowadays, it is sensible to consider their importance for later developments by other authors.

Kiparsky introduces the topic giving a basic and simple explanation of blocking. In fact, he starts by saying that blocking is the principle that prevents regular forms, as **mans*, **foots* and **singd*, from existing along with their irregular equivalents: *men*, *feet* and *sung* (Kiparsky, 1982). This happens because "special forms block general forms derived at later level of the lexicon" (Kiparsky, 1982). This is based on the Subset principle, for which, in a given context, a specialised form is preferred over a more general one, causing the blocking of the latter (Rainer, et al., 2019). He then considers different examples and situations to which this applies. In his paper he refers to Aronoff's work (Aronoff, 1976) and agrees partially with his definition that "blocking is a constraint which prohibits synonyms containing the same stem from being listed in the lexicon" (Kiparsky, 1982). However, he considers it only as a starting point to describe blocking, and he considers it more widely applicable. Aronoff does not explain why for example the productiveness of certain suffixes as *-(c)y*, *-ate*, *-ant*, and *-ent*, blocks the suffix *-ness* from being productive. This makes the concept incomplete and still to explore in Kiparsky's opinion.

According to Kiparsky, to completely understand blocking and to give more general rule that covers all the cases, we must take into account the level of semantics of words and

not only word formation. For example, other than the special forms of nouns and verbs, this applies to suffixed stems too. In fact, he states that a level 1 suffix for noun formation or agent noun formation blocks a level two suffix with the same meaning as we can notice in the following examples: *inhabitant*/**inhabiter*, *applicant*/**applier* and *guide**N*/**guider*. Another case in which a more general rule for blocking is needed is in vacuous affixation, hence when a stem has inherently a feature that would be otherwise added by a suffix, this is the case for collective nouns as *people* or *flock*, even though the semantic condition of the Elsewhere Condition can be used. The Elsewhere Condition, a semantic condition that allows specific forms to be preferred over the general ones, can account for partial blocking too. In fact, as Kiparsky states, “special affix occurs in some restricted meaning and the general affix picks up the remaining meanings” as we see in the example *drill* (device), *driller* (person), (Kiparsky, 1982). However, the Elsewhere Condition is not enough to explain every possible case.

According to the author, to get a blocking rule that advocates for every case, we need to consider blocking at a semantic level. He incorporates in the meaning of blocking the following definition: “The output of a lexical rule may not be synonymous with an existing lexical item”. Word formation is thus blocked when it finds a pre-existing lexical item that overlaps in its meaning the new one. This system that he calls “Avoid Synonymy” is valid for every case he considered before: blocking, vacuous affixation and partial blocking. The most important part of this change he makes is that it allows blocking between different stems, which was one of the problems of Aronoff’s first definition. This explains why, in some cases, words are not blocked by morphologic related forms, but rather by semantic related ones, with the same meaning (Kiparsky, 1982).

As we said before, even though these arguments on blocking are clear and work perfectly, we can find some other opinions on this topic. In particular, Hay’s work rejects the idea of affix-ordering constraints as intended by Kiparsky and Aronoff until now (Hay, 2002). the result is that even if she does not address blocking directly, her new arguments on the scalar nature of morphological productivity offer many prompts on it. Aronoff and Lindsay analyse the question, given the new suggestions made by Hay along with other linguists.

The main argument that changes completely the perspective on blocking is that word formation is not discrete. This means that there is no strict division between which forms exist and which do not. Productivity is scalar and can be analysed as a graduated phenomenon (Aronoff & Lindsay, 2014). If productivity is scalar, so is blocking, in fact according to these recent interpretations, we can understand many cases that would have been difficult to explain with what we discussed so far. For example, if a word is blocked by another one, it may still appear in the lexicon with a different meaning, often a different and more specialized one, as we see in the cases of *excellence/excellency* and *compliance/compliancy*, or in pairs where the difference is more subtle as *coherence/coherency* and in the case of *persistence/persistency* (Aronoff & Lindsay, 2014).

Blocking cannot be accounted for the interaction between rival suffixes, but it is useful instead for the interaction of rival realizations in inflection. However, according to Aronoff and Lindsay, there is still some problematic case as the one of the comparative and superlative forms in English, because they can be expressed by the forms *more* and *most* but also by *-er* and *-est*. Even if in most cases only one of the two forms is correct, sometimes blocking fails causing them to overlap (Aronoff & Lindsay, 2014).

Overall, we can say that blocking is an important phenomenon in word formation. Over time different linguists have developed this concept, its meaning changed but we can say that it is a tool of the language, used to regulate productivity, without it the lexicon would be redundant and out of the control of language rules.

1.4. Conclusion

In this section we have briefly gone through the main points of rivalry and blocking. As we could see the two phenomena can appear very similar at first, in fact both of them regulate the lexicon. Despite their similarities, while rivalry accounts for the meaning and distribution of words, blocking acts on the existence of them, avoiding synonyms.

2. Suffixation: -ity, -ness and -ship

In the previous chapter the focus was put on rivalry and blocking, two important phenomena that regulate word formation and morphology. While that was a more general view, we are now going to focus more specifically on suffixes. In particular, we are going to analyse the three suffixes *-ity*, *-ness* and *-ship*, as they represent an interesting case in word derivation, widely analysed by many linguists for its peculiar aspects and its productivity.

Word formation is the process that generates new words in the language. This process generally happens by derivation or compounding, which are the two most common word formation processes. Compounding is a process that generates new words by putting together two other lexemes that already exist on their own in the language. For example, words as *snowball* (*snow* + *ball*), *blackboard* (*black* + *board*) and *haircut* (*hair* + *cut*) are all compound nouns, each formed by two words that exist also on their own. On the other hand, derivation is a process that forms new lexemes, by adding an affix to a word, as in *consciousness* or *decluttering*. The typology of an affix is determined by its position. If it precedes a word, as in *oversleep*, it is a prefix, if the word is followed by it, as for example in *friendship*, it is a suffix. More rarely, especially in the English language, the affix can be found in between a word, it is then called an infix. Along with these two processes, we can mention inflection, that generates words by adding or modifying in a word, some information as for example gender, number, aspect, tense or voice (Scalise & Bisetto, 2008). These three processes are the most relevant ones in languages as English or Italian. Their importance is due to the fact that they are the most productive ones in these kind of languages, but it is important to acknowledge that there are many more word formation processes, other than these three, but they are less frequently found in the language and some of them are limited to very specific cases, while other ones are specific of other languages.

Suffixation is the derivational process that creates words that can generally be divided into two parts: the stem and the suffix. Examples can be found in many common words of the English lexicon, as *quick* + *ly*, *teach* + *er*, *play* + *ful* and so on (Scalise & Bisetto, 2008), they are indeed numerous. One of the properties of suffixes is that they can change the lexical class of the word to which they are attached, they are indeed the head of the derived word. For instance, if we take the verb *employ* and add the suffix *-ee*, we obtain

employee, which is not a verb anymore, in this case the suffix *-ee* changed the lexical class of the word from a verb to a noun and is therefore a noun suffix. Of course, this only refers to the variable parts of speech and follows the rule of the Unitary Base Hypothesis that we discussed in the first chapter. Some examples of noun suffixes are *-ity*, *-ship*, *-ness*, *-ism*, *-hood*, *-dom*, *-al* *-age*, and so on. Other word endings as *-full*, *-ic*, *-less*, *-ive* are all adjective suffixes, which means that they turn into an adjective the word to which they are attached. Similarly, we can find verb suffixes, as *-ate*, *-en*, as well as adverb suffixes as *-ly*, *-wise* and *-wards*. Suffixes can be divided in further categories, depending on their input base and on the word that they form, in fact it is possible to identify patterns and similarities among suffixes within a language (Scalise & Bisetto, 2008).

2.1. Productivity

As we can see from the quantity of suffixes, we are dealing with a very productive process that forms countless derived words. Productivity can be used to measure the relevance of a linguistic process among the speakers, and it can be interesting as a tool to analyse language. It also allows a more practical overview on suffixes. However, the definition of productivity is not as simple as that and, if analysed more in detail, it is not a straightforward answer to evaluate the relevance of a word formation rule. Aronoff (Aronoff, 1976) points out a few problems within the notion of productivity. He recognizes that productivity is potentially a good method of investigation, but he underlines that it can also incorporate some issues that are rarely discussed. When using productivity as reference, the lack of accuracy, according to him, brings to vagueness and to the impossibility to tell whether a word formation rule is productive or non-productive (Aronoff, 1976).

Productivity is generally measured by looking at the number of words listed in the lexicon for a word formation rule. Aronoff argues that one of the main problems with suffixes and productivity is that the morphology of the base of the derived words cannot be omitted, one should not talk about absolute productivity but rather of productivity in relationship with the class of the base to which a suffix is attached (Aronoff, 1976). The other issue that he brings up is that not every new word that is formed is listed, hence included in the lexicon in a way that can account as a record, as for example in a dictionary. For this reason, the results of a merely productive analysis could be misleading, underrating some very productive suffixes and overestimating less productive

ones. His argumentation is that numbers are not enough to describe productivity, and it should rather be regarded as a combination of factors that he later explores (Aronoff, 1976). In doing that he proposes an in-depth analysis of the case we are interested in: a comparison between the two suffixes *-ity* and *-ness*.

These two suffixes offer a nice point of view because they both have the same base. This is a good starting point because it rules out the problems of a study on productivity with suffixes that work on different bases would have, making it more accurate. Moreover, the two suffixes also share the same outcome, which is rare. They both select as a base an adjective and they both form abstract nouns (Aronoff, 1976). The author, when speaking about this matter, takes into account three main factors that are semantic coherence, phonology and the lexicon.

The first thing that the author brings attention to is the fact that native speakers of a language are in some way aware of productivity, meaning that they have an intuition on the correctness of a word. They are able to tell apart the words that are likely to be part of their vocabulary from the ones that are not or from the ones that does not sound correct altogether (Aronoff, 1976). He then acknowledges that, despite *-ity* and *-ness* being two similar suffixes, they are not interchangeable. Some words, however, allow both suffixes, even though a speaker can usually tell which one is “better”, depending on the context and meaning in which the word is used. On the other hand, there are some words that are only acceptable with one option or the other. It is more evident in this case, even for non-native speakers, that these suffixes are not interchangeable at all and their use in the language is different (Aronoff, 1976). Overall, we can say that the most productive one is *-ness*, but we can also see that it is not always true if we divide the possible bases in different groups of adjectives, as the author does.

The investigation of semantics that Aronoff proposes, is based on one of the largest subclasses of adjectives, the one with the form *Xous*. Keeping in mind that he is only considering this subclass, his method of analysis and its findings are very interesting. His assumption is that the derived words formed by *Xous* + *ness* are more semantically coherent than the ones that are formed by *Xous* + *ity*. He finds that with the forms in *Xousness* it is always possible to predict the meaning of the new word that is being formed, while with *Xousity* the result is not as predictable and way more various (Aronoff, 1976). Moreover, the class of *Xousness* can be considered “semantically completely

coherent” (Aronoff, 1976) because every noun in this class does not have another meaning other than three main ones that he indicates. The outcome of the derivate forms in *-ity* can have multiple unpredictable meanings, and this leads speakers to prefer the forms with the suffix *-ness*. As a matter of fact, the productivity of these suffixes is linked to semantic coherence, in the case of *Xous*, the speakers prefer the suffix with the easiest semantic meaning to predict (Aronoff, 1976).

On a phonological level, the first distinction between the two suffixes is immediately set by the fact that *-ness* attaches with a word boundary, while *-ity* attaches with a morpheme boundary. As a result, there is no phonological change from *Xous* to *Xousness*, but there is an accent shift in the forms with *-ity* as in *luminous/ luminosity*, due to the trisyllabic shortening. Trisyllabic shortening, causes the shortening of the vowel in a stressed syllable, that is at least three syllables from the end of the word (Aronoff, 1976). Often in *-ity* derivatives, there is the loss of the *-ous* as for example in *simultaneous/ simultaneity/ *simultaneosity*. This rule is called truncation, but its peculiarity is that it does not operate systematically as we can see in *curious/curiosity*. Moreover, it does not follow free variation either, the truncation always applies to certain words and never to other ones. This rule of truncation affects greatly productivity because it makes it harder for the speaker to determine the outcome of the derivate from with *-ity*, leading to him to prefer the forms with *-ness*, in the same way as it happens with semantic coherence.

Lastly, Aronoff considers the lexicon. The lexicon is “the repository of all the arbitrary items of grammar” (Aronoff, 1976), every word in it must have an arbitrary marker. As a consequence, we can state that in this case most of the derivatives with *-ity* from *Xous* adjectives will have an arbitrary feature and will therefore be listed in the lexicon. On the contrary, derivatives with *-ness* are not likely to be listed in the lexicon because they are predictable and do not have any exceptional feature. So, listing in the lexicon can be a negative process for semantic coherence and thus affect the study of productivity. The main answer to this problem is blocking. In this way the derivate forms of the adjectives in *Xous* with *-ity* are blocked and cannot be listed in the lexicon because there is already a correspondent form with *-ness*. On the other hand, *-ness* derivatives never undergo blocking, because they are not listed into the lexicon (Aronoff, 1976). Blocking helps making the lexicon closer to the real language.

The general outcome of Aronoff's analysis is that when talking about productivity one should be aware of the importance of lexical coherence and of the effects of phonology too. Another important consideration to make is that lexical listing affect productivity and not every new word must be listed in it. Productivity can be used as interesting tool to investigate the language only with the due premises, otherwise it is easy to misinterpret the results of a research (Aronoff, 1976).

2.2. -Ness and -ity in comparison

Another source that provides a detailed account of the two suffixes *-ity* and *-ness* is the essay “-Ness and -ity: phonological exponents of n or meaningful normalizers of different adjectival domains?” by Heike Baeskow (Baeskow, 2012). In this essay, the main point of the author is proving that the new theories on suffixes, expressed by some representatives of the Distributed Morphology, are not supported by data and cannot be considered correct. In doing this, Baeskow provides a precise analysis of the two suffixes we are interested in. Her essay can be used to find evidence that *-ness* and *-ity* are not in complementary distribution.

The first thing to consider is that *-ness* is a Germanic suffix, while *-ity* is its rival suffix that comes from Latin, they both form abstract nouns from adjectives and their general meaning is “state, condition, quality of” (Baeskow, 2012). *-Ness* is the most productive one and it acquired the more specific meaning of denoting an embodied trait. *-Ity* on the other hand denotes an abstract or concrete entity, it is also the least productive one of the two because it is mainly, but not exclusively, attached to bases of Latin origin, which are of course not that many in the English language. As we saw before, derivatives in *-ness* are predictable while the ones in *-ity* are not as transparent. To explain the subtle difference in the meaning, the author states the following sentence (Baeskow, 2012).

What distinguishes *-ness* from *-ity* is that the former tends to nominalize a certain degree of a property, which it ascribes to (or embodies in) some individual or entity, whereas the latter tends to nominalize the property in the abstract (Baeskow, 2012).

Baeskow sums up here the differences between *-ity* and *-ness* which are later explained in detail. Firstly, we can say that the suffix *-ness* can be considered more expressive, because it usually expresses the property of the adjectival base in a high degree. The suffix *-ity*, on the contrary, intends an “abstract entity”. This is something that can tell a lot about their distribution and it is especially interesting when both derivatives exist as we can

observe in these doublets *sincereness/ sincerity*, *obscureness/ obscurity* and *sereneness/ serenity* (Baeskow, 2012).

To better understand their distribution the author takes a step back to look at the internal structure of adjectives. Adjectives can be divided in two groups, the gradable ones and the non-gradable ones. For example, *tall*, *light* and *old* are all gradable ones as we can see them in comparison such as “Jack is older than Mary” or “Mary is taller the Jack”. Non-gradable ones are adjectives as *alive*, *free*, or *finished*. Gradable adjectives must then have the referential argument “Grade”, which also allows them to be combined with adverbial modifiers as for example *very*, *quite* and *rather*. Non-gradable adjectives lack of referential argument but they have an external argument. Gradable adjectives do have an external argument too, because both types usually refer to individuals or entities. Even though these two suffixes both select gradable and non-gradable adjectives, *-ness* seems to add a higher degree of the property of the base (Baeskow, 2012). We do not only find evidence of this in doublets as *sincereness* and *sincerity*, where *sincerity* only nominalises the property denoted by the base adjective *sincere* and *sincereness* expresses a higher degree of it. Further proof of this difference is the fact that *-ness* is also able to add a degree argument to non-gradable adjectives. The example “From the start, these letters attest to Sarton’s intense aliveness” is only one of the many examples provided by the author of the article, in short, other are expressions as “the absolute uniqueness”, “exceptional aliveness”, “a certain deadness” (Baeskow, 2012).

Another point made by Baeskow (Baeskow, 2012) refers to the lexical properties of each of these two affixes. When talking about this matter, she uses a feature-based analyses, aligning to the latest studies in the subject. This means that she does not categorize the suffixes as N, A or V, labels that stand for noun, adjective and verb, but, rather than that, she considers them for their sets of features. This also explains better why many suffixes show strong preferences for a base, but they often do not select it exclusively. The bases often share a suffix when they are very close and present the same features.

The author identifies the prototypical bases for *-ness* as “gradable adjectives, which have a referential argument <G> and a thematic argument <xext> in their argument structure” (Baeskow, 2012). Bringing this further she defines the prototypical base with a very specific bundle of features, which make the term “adjective” superfluous. In this picture the referential argument <G> is very important because it is what gives *-ness* its

expressive quality. It is indeed <G> that denotes a set of degrees in the base and picks out a degree of a property from this set in the nominalization process, usually it selects a high degree of the property. Semantically it expresses an “embodied trait”, moreover “-ness functions as a morphological quantifier over sets of degrees” (Baeskow, 2012).

On the other hand, the suffix *-ity* does not rely on the internal structure of the adjectival base, and it just “nominalize bare properties” (Baeskow, 2012), as abstract entities. As we said before, it is also important to notice that *-ity* selects non-native bases in contrast to *-ness* that selects the native ones. Semantically, we can thus say that these are the differences between *-ness* and *-ity*, the most important one being the sensitivity of *-ness* to degrees (Baeskow, 2012).

Following the author’s analysis, we can report some examples that she gives as evidence of what has been said so far. As an example of the behaviour of *-ity* and *-ness*, she presents their behaviour in relation to adjectives with specific endings. This analysis provides an interesting insight of the practical use of these suffixes. Baeskow considers the adjectives ending in *-ous*, *-ive*, *-ic* and *-ile*.

The adjectives that end in *-ous* seem to prefer the suffix *-ness*. The reasons for this are two, the first one is that these adjectives have already a natural semantic tendency to abundance, that goes along very well to the quality of *-ness* to select a high degree of the property it nominalises. For example, we can consider the forms *gracious*, *poisonous*, *glamorous* and *courageous*, which all suggest an abundance of the property they denote. Moreover, Baeskow reports a study originally done by Leitzke (1989) on the English adjectives, in which he makes a distinction between qualifying and relational adjectives. The adjectives ending in *-ous* allow both readings, where in the relational meaning the adjectives “establish a semantic relation between the referent of their nominal base and the referent of the noun they modify”, while in the qualifying reading they “ascribe a property to an individual or entity” (Baeskow, 2012). From the results of Leitzke analysis the *-ous* adjectives tend to prefer the qualifying reading, and some of them only allow for it. These two elements, the tendency of *-ous* adjectives to abundance and the qualifying reading, support the fact that *-ous* adjectives predominantly choose *-ness* as a suffix instead of *-ity* (Baeskow, 2012).

As for other adjectives, the ones ending in *-ive* also tend to prefer the suffix *-ness*. Forms with the suffix *-ity* exist too, as for example *perceptivity*, but native speakers prefer forms

as perceptiveness, as they sound more natural and better formed (Baeskow, 2012). It is interesting to notice that many of the adjectives in the form *xiveness*, express a “predisposition towards a particular state of mind” (Baeskow, 2012), these are some examples: *aggressiveness*, *attentiveness*, *inventiveness*, *persuasiveness* and *pensiveness*. The form *xiveness* may also denote a tendency to a certain behaviour, and it is used for objects too, as for example in *expansiveness* or *adaptiveness* (Baeskow, 2012).

On the contrary there are also adjectival endings that prefer the suffix *-ity*, as for example the adjectives that end in *-ic* and *-ile* do. Nouns in the form of *xicity* are numerous because many adjectives ending in *-ic* are scientific terms, as for example *toxic*, *metric* and *magnetic*. This associates particularly well with the *-ity* suffix, which denotes abstract entities. Nouns as *caloricity*, *metallicity* and *atomicity*, have scientifically verifiable properties, nominalized by *-ity* (Baeskow, 2012). Similarly, the adjectives in *-ile*, often denote a biological or physical condition, as in the examples *fragile*, *juvenile* and *volatile*. As the ones in *-ic*, these adjectives prefer the suffix *-ity*, despite them having a scalar structure, which is not very relevant in this context. *Ductility*, *senility* and *tensility* are good example of this case. When *-ness* is preferred with adjectives ending in *-ile*, it denotes an embodied trait, as in *juvenileness*, as opposed to *juvenility*, which conveys a biological sense (Baeskow, 2012).

After all the example provided by Baeskow, she comes to the conclusion that “*-ness* is sensitive to relatively high degrees of properties, whereas *-ity* tends to nominalise properties in the abstract” (Baeskow, 2012).

These behaviours followed by the suffixes *-ity* and *-ness* is also reflected in syntax. Their lexical features influence how they are projected into the syntax. The feature of *-ness* to denote an embodied trait and to select a degree of a property, leads to a tendency to a specific reading of the adjectives it nominalises. On the other hand, the abstract entity denoted by the suffix *-ity*, makes *-ity* derivatives prone to a generic reading. For example, we can find *-ity* derivatives in many English proverbs and idiomatic expressions as “curiosity killed the cat” (Baeskow, 2012).

To conclude, we can say that these two suffixes are sensitive to the context and to the internal structure of the adjective they nominalise. The suffix *-ness* tends to select a high degree of the property of the adjectival base while *-ity* is indifferent to the scalar structure

of the base and nominalises the abstract bare property of the adjectival base (Baeskow, 2012).

2.3. The suffix *-ship*

-Ness and *-ity* are often associated for the reasons that we have seen this far. However, we can find yet another suffix interesting to analyse in these terms: *-ship*. This suffix is originally associated with the affixes *-hood* and *-dom* because their meaning is similar. The suffix *-ship* attaches mainly to personal nouns, such as *friend*, *scholar*, *craftsman* or *leader*. It denotes a state or condition, and it creates abstract nouns, as *friendship*, *scholarship*, *craftsmanship* or *leadership*.

As for this suffix, it is harder to find recent records of it because nowadays it is far less productive than the other two suffixes. However, it is possible to see its diachronically evolution. In the essay “A study of noun-deriving suffixes in competition in Middle English” by Esteban-Segura (Esteban-Segura, 2018), we can find a corpus based analysis that shows how different the employ of the suffix *-ship* was from these days.

In her analysis, the author underlines that the suffix *-ness* has always been the most productive one, even in Middle English. That is why it was often in competition with many other similar suffixes. For example, she finds the suffix *-ness* to be in competition with *-hood* and *-dom* too, just among the few suffixes that she takes into account in her analysis (Esteban-Segura, 2018).

From her data, collected by various documents in Middle English, she provides graphics and examples to explain the behaviour of *-ness* and *-ship* over time. As we said before, the suffix *-ness* was the most productive one but many doublets with *-ship* forms could be found. For example, *smallship* and *smallness* were both part of the Middle English but *smallship* did not survive, and today it is not found in the Oxford English Dictionary (OED) that the author takes as reference for the existence of the lexemes in these days. The doublets which words survived unchanged are marked as obsolete in the OED. On the other hand, there are also cases as *hardness* and *hardship*, where both terms survived but they differentiated their meaning. Indeed, even though they were considered synonyms in Middle English, nowadays they have two different meanings (Esteban-Segura, 2018). The most productive one outdoes the others and continues to be the prevailing one (Esteban-Segura, 2018).

Another interesting source that explains the use of the suffix *-ship* is the article “The Semantics of *-ship* Suffixation” by Aronoff and Cho (Aronoff & Cho, 2001). According to this article, the suffix *-ship* only attaches to personal nouns that denote a condition that is not permanent, but rather express a temporary stage. This is characteristic of those nouns that are stage-level predicates, as opposed to individual-level predicates. For example, a *friend* can be temporary and only be restricted to a certain time in life, hence the word *friendship*, on the other hand *parents* are not temporary and are the same in all stages of life, that is why words as **parentship* are not possible. Stage-level predicates “denote properties that hold at a given time, properties of stages”, while individual-level predicates “denote stable or enduring properties of an individual” (Aronoff & Cho, 2001). It is possible to state that *-ship* words select the most important stage-property of the base and nominalise it. In the examples *craftmanship*, *priestship* and *friendship*, we can see that the properties nominalised are respectively a skill, a hierarchy stage and a relation (Aronoff & Cho, 2001). From this article we can hence understand the semantical use of the suffix *-ship*.

2.4. Conclusion

In conclusion, we can say that the suffixes *-ity*, *-ness* and *-ship* follow some different patterns. Suffixes play an important part in the derivational process. They actively participate in the formation of new words and influence it. One of our means of measurement can be productivity, taken of course with the due premises and limits. The suffixes *-ity* and *-ness* have a lot in common but not everything. They differentiate themselves considerably when it comes to their use. As we saw throughout the chapter there are various reasons why one is preferred over the other. These reasons can be related to different aspects of a word as for example, morphology, phonology or semantics.

On the other hand, we can say that the suffix *-ship* has some things in common with the other two, as for example the fact that they all form abstract nouns. However, its productivity is very low, and makes it therefore less suitable for a close comparison with the suffixes *-ity* and *-ness*.

3. Corpora analysis

In this third chapter we are going to have a closer look at data, and we are going to use three corpora to investigate the presence of the suffixes *-ity*, *-ness* and *-ship* in the English language. Firstly, it is important to establish that a corpus is “a large collection of authentic texts that have been gathered in electronic form according to a specific set of criteria” (Bowker & Pearson, 2002). The corpora can be used for multiple purposes as for example language learning, language research and text translation. There are many types of corpora, they can be very different, depending on their final usage. For example, a corpus can be monolingual or bilingual, written or spoken, synchronic or diachronic and so on (Bowker & Pearson, 2002).

The first corpus that we are going to consider will be created for the purpose of this work, and it will be based on online texts, browsed and chosen by the online tool Sketch Engine. This corpus will be later analysed with Sketch Engine and with the tool AntConc, both of which have the aim to sort words and make them easy to compare and analyse. Sketch Engine and AntConc are designed to search string of words in a corpus, in order to show data and patterns in the language. It is possible, for example, to find how many times a words appears in a corpus or to find which words precede and follow a lexeme. To make this task easier the corpus will be tagged with the software TagAnt, which is a part of speech tagger, that uses TreeTagger to mark the texts. The purpose of TagAnt and TreeTagger is to tag words in the corpus, for example nouns will be identified by the tag *nn*, adjectives by the tag *jj*, verbs by the tag *vb*, and so on. In this way it is possible to avoid the parts of the corpus we are not interested in and only select a class of words, sorting them. The second corpus we are going to use is the Corpus of Contemporary American English (COCA), a broad corpus available online that gathers a great number of texts from the web and other media with the purpose of documenting and analysing the language. With these tools we are going to analyse the presence of the three suffixes *-ity*, *-ness* and *-ship* in the language. Our third corpus will be the British National Corpus (BNC), this corpus is available online too and can be searched by various tools, e will be using mainly Sketch Engine for this one too.

3.1. Creating and using a corpus

Nowadays it is possible to create a corpus from scratch and it is fairly easy too with the many resources available on the web. To create a corpus in Sketch Engine it is necessary to have three or more keywords to put as an input for Sketch Engine to search the web and find online texts. The terms chosen to create this corpus are *articles*, *academic*, *news* and *online news*. These words were chosen in order to have a sample of written texts that reflect a high/ average level of the English language. The corpus created by Sketch Engine is made of 91 documents, and it contains 148,499 words. Despite its quite small size, it is still a useful tool to begin to investigate the language. Once the corpus has been created it has been uploaded to the software AntConc, in which it is possible to analyse the texts sorting them as preferred.

To begin the analysis, we are going to simply look at the frequency of the nouns with the affix *-ity*, *-ness* and *-ship* in the corpus that has been created and see if they reflect roughly what has been said this far. We are going to find the number of types and tokens in the corpus for each of the suffixes. The tokens are the number of all the words found that correspond to the search, while the types are the number of words that correspond to the search found in the corpus and only taken one time. In the corpus we find that the suffix *-ity* is present in 505 tokens and 102 types. The suffix *-ness* has 103 tokens and 32 types in the corpus, while *-ship* is present with 62 tokens and 14 types. In figure 1, 2 and 3 that follow, we can see the first strings of each research in AntConc, when looking for nouns that end respectively in *-ity*, *-ness* and *-ship*, in our corpus.

Total No. of Cluster Types			102	Total No. of Cluster Tokens		505
Rank	Freq	Range	Cluster			
1	45	1	activity			
2	43	1	university			
3	37	1	intensity			
4	29	1	quality			
5	24	1	community			
6	20	1	city			
7	18	1	ability			
8	18	1	polarity			
9	13	1	identity			
10	13	1	virality			
11	12	1	credibility			
12	11	1	popularity			
13	10	1	integrity			
14	9	1	ethnicity			
15	9	1	utility			
16	7	1	disparity			
17	6	1	accessibility			

Figure 1 - Frequency of the suffix -ity in the corpus

Total No. of Cluster Types			32	Total No. of Cluster Tokens		103
Rank	Freq	Range	Cluster			
1	28	1	business			
2	7	1	attractiveness			
3	6	1	closeness			
4	6	1	newsworthiness			
5	6	1	representativeness			
6	5	1	whiteness			
7	4	1	greatness			
8	4	1	thoroughness			
9	4	1	timeliness			
10	3	1	consciousness			
11	3	1	drunkenness			
12	3	1	wellness			
13	2	1	agribusiness			
14	2	1	awareness			
15	2	1	effectiveness			
16	2	1	seriousness			
17	1	1	airworthiness			

Figure 2 - Frequency of the suffix -ness in the corpus

Total No. of Cluster Types			14	Total No. of Cluster Tokens		62
Rank	Freq	Range	Cluster			
1	15	1	relationship			
2	10	1	leadership			
3	7	1	citizenship			
4	7	1	scholarship			
5	5	1	authorship			
6	5	1	readership			
7	4	1	friendship			
8	2	1	ownership			
9	2	1	partnership			
10	1	1	censorship			
11	1	1	flagship			
12	1	1	membership			
13	1	1	partisanship			
14	1	1	ship			

Figure 3 - Frequency of the suffix *-ship* in the corpus

As we can see from these figures the analysis may not always be precise, because it is difficult to keep apart the actual derivatives from a suffix from the other words that may correspond to the research for other reasons, as for example the word *ship*. However, it is still worthwhile to show some data from an actual corpus. The high presence of derivatives from *-ity* in the corpus may be due to the fact that it contains many academic texts. The academic language is filled with words with Latinate bases and as we saw in the previous chapter, the suffix *-ity* attaches mainly to Latinate bases. Another component that influences the high frequency of this suffix may be the fact that academic texts have a specialised lexicon that prefers the suffix *-ity* to the suffix *-ness*. Concerning the suffix *-ship*, even in this small corpus it is evident that it is the least productive one, as it only has 62 tokens in the corpus.

From this picture we can tell that these rival suffixes share a similar meaning but are also impossible to overlap. From the one hand, comparing these word samples between the suffixes *-ity* and *-ness* we can notice the different register of the language they can be found in. For example, *disparity*, *ethnicity*, *credibility* and *polarity* are evidently on a different language register than *greatness*, *closeness* and *wellness*. The first examples suggest a higher degree of formality while the others a lower one, their distribution is hence different, as we saw in the previous chapter. On the other hand, comparing the words with the suffix *-ity* and the ones with the suffix *-ship*, this difference is less evident and this degree is close. However, we can notice that the meaning of the suffix is a bit

different, and even in this case they avoid the process of blocking for this latter reason. As examples we can report some forms as *censorship*, *ownership* and *authorship*.

Making the same research in the COCA corpus the results are quite similar, even if it is a much wider corpus. The Corpus of Contemporary American English is composed by more than 1 billion words, and the nouns that end with *-ity* are 3,433,107 tokens and 8,463 types. The ending *-ness* is present in the COCA in 976,332 nouns (tokens) and in 6,735 types, while the nouns ending in *-ship* are 503,779 tokens and 1,259 types.

We can sum up the results in a chart, to see if in percentage they are close or not to our corpus.

Sketch Engine corpus				
	types	% Types	tokens	% Tokens
-ity	102	0.68	505	0.34
-ness	32	0.021	103	0.069
-ship	14	0.0094	62	0.0417

Table 1 - Sketch Engine corpus analysis

COCA				
	types	% Types	Tokens	% Tokens
-ity	8,463	0.0008	3,433,107	0.34
-ness	6,735	0.0006	976,332	0.097
-ship	1,259	0.00012	503,779	0.5

Table 2 - COCA corpus analysis

As we can see from the chart, the percentage of types is very different in our corpus and in the COCA. Because of its much larger size, the COCA has a lower percentage of types, so even though the occurrence of them in the language may seem very slim, we must consider that types are finite while this corpus is in constant expansion. However, the percentages on tokens in the two corpora is very close, showing that the frequency of these words in the language is more or less the same, always keeping in mind the huge difference in the corpora size. A reason for all the inaccuracies is that the size of the corpus created with Sketch Engine could be too small to be representative. However, the

points in common denotes that it does have some interesting information. Another difference to consider is that the COCA only contains texts from the American English, while the other corpus does not, this could be one other reason why it is denser with *-ity*, *-ness* and *-ship* derivatives. Moreover, the COCA also contains sources from different registers that are not present in the Sketch Engine corpus as for example the spoken language.

3.2. Frequency in different sections of the language

Up until this point we have discussed frequency of the suffixes *-ity*, *-ness* and *-ship* in the corpora as a whole but it would be interesting to know if there is a particular kind of text where they are in higher number. In this regard, the COCA is divided in sections that can be individually searched or compared among themselves. These sections are blog, web, tv/movies, spoken, fiction, magazines, news and academic.

For example, from the COCA we can find that the suffix *-ity* is in fact used most of all in the academic language. In figure 4, the chart of our search taken from the COCA, we can see the data of the nouns with *-ity*.

SECTION (CLICK FOR SUB-SECTIONS) (SEE ALL SECTIONS AT ONCE)	FREQ	SIZE (M)	PER MIL	CLICK FOR CONTEXT (SEE ALL)
BLOG	449,296	22.2	20,104.07	
WEB-GENL	498,991	21.5	23,111.11	
TV/MOVIES	140,426	22.2	6,309.89	
SPOKEN	326,291	21.9	14,886.92	
FICTION	173,501	20.5	8,438.66	
MAGAZINE	467,847	21.9	21,352.89	
NEWSPAPER	502,196	21.0	23,739.42	
ACADEMIC	874,539	20.7	42,014.02	

Figure 4 - Frequency of the suffix *-ity* by section in the COCA

As we can see, the frequency of nouns with the suffix *-ity* is higher in the academic part of the corpus, it is almost twice as the other sections in size. That confirms once again that *-ity* is a suffix mainly used in written texts which are formal and with a specialised language.

The same search with the suffix *-ness* as an input gives the results that we can see in figure 5, also taken from the COCA.

SECTION (CLICK FOR SUB-SECTIONS) (SEE ALL SECTIONS AT ONCE)	FREQ	SIZE (M)	PER MIL	CLICK FOR CONTEXT (SEE ALL)
BLOG	128,782	22.2	5,762.44	
WEB-GENL	139,805	21.5	6,475.16	
TV/MOVIES	75,030	22.2	3,371.39	
SPOKEN	84,422	21.9	3,851.73	
FICTION	118,487	20.5	5,762.91	
MAGAZINE	142,681	21.9	6,512.07	
NEWSPAPER	121,725	21.0	5,754.09	
ACADEMIC	165,418	20.7	7,946.90	

Figure 5 - Frequency of the suffix *-ness* by section in the COCA

In this case, the frequency is more equally spread and there is not really a section of the language that prevails so evidently on the others, although canonically written texts surely outnumber the sections of tv/movies and spoken language. From this we can understand that *-ness* is more frequently used, and thus a better fit, for the written language rather than the oral language.

Concerning the suffix *-ship*, the frequency is significantly smaller in every section, if compared to the numbers of *-ity* and *-ness*. Nonetheless, as in the case of *-ity*, we can remark that this suffix is mainly found in the academic section. Here follows the chart representing the frequency of the suffix *-ship*.

SECTION (CLICK FOR SUB-SECTIONS) (SEE ALL SECTIONS AT ONCE)	FREQ	SIZE (M)	PER MIL	CLICK FOR CONTEXT (SEE ALL)
BLOG	60,481	22.2	2,706.27	
WEB-GENL	71,245	21.5	3,299.76	
TV/MOVIES	39,042	22.2	1,754.31	
SPOKEN	49,659	21.9	2,265.68	
FICTION	36,729	20.5	1,786.41	
MAGAZINE	64,808	21.9	2,957.89	
NEWSPAPER	72,104	21.0	3,408.44	
ACADEMIC	109,682	20.7	5,269.27	

Figure 6 - Frequency of the suffix *-ship* by section in the COCA

Additionally, we could wonder about the diachronic change of these suffixes. The COCA also gives the opportunity to analyse the changes of the language over time, more specifically it divides its corpus in sections of five years. It analyses the texts of each section of the corpus and then gives statistics on the use of the language over time. The range of time that it considers goes from 1990 to 2019. In this sense the frequency and use of the suffixes *-ity*, *-ness* and *-ship* did not change significantly from 1990 and

remained quite similar over the years, reporting only some slim variations in the frequency of the use of the suffixes.

3.3. Comparing doublets

On such a large scale it is difficult to investigate some other aspects of the suffixes other than the frequency. To give to our analysis some meaningful examples we can try to search individually some of the doublets that we mentioned in the previous chapters and see if their behaviour follows the predictions and if the theory is supported by data.

To do so we can use the tool Sketch Engine. This website is not only useful to create a corpus, but it also allows access to some of the biggest corpora available online. Our corpus of choice will be the British National Corpus (BNC), not only because of its rather large size, but also to take into account British English too, as the COCA only includes American English sources. To have a look at the doublets we find, we are going to compare them and see which of the two occurs the most frequently into the language and which meaning the two terms have.

The first doublet we are going to analyse is *productiveness/productivity*. Both terms are found in the BNC but with a very different frequency. *Productivity* is the dominant one with the meaning of “output/quality”, while *productiveness* is found with the meaning of “importance”. In the same way, we can see that the doublet *dubiousness/dubiety* has a differentiated meaning, with *dubiousness* being the most relevant one with the meaning of “vagueness” and *dubiety* being the rarest, meaning “caution”.

A doublet that concerns the suffix *-ship* too, where both terms are quite productive is *hardship/hardness*. In this case the difference between the two meanings is quite big and it may be the reason why they are both very productive in the BNC, never occurring in blocking. *Hardness* according to the Oxford English Dictionary (OED) is “the quality of being physically firm”, while *hardship* in the present language means “the quality of being hard to achieve, difficult”. As we can see from the OED, *hardship* once had the same meaning of *hardness*, but it is now marked as obsolete. These two terms both made it to these days but in order to do so their meaning had to differentiate, if this were not to happen, one of them would have slowly been phased out of the language as we saw in the previous chapter. Similarly, according to the OED *generosity* and *generousness* both exist in the English language, but their meaning is different. *Generosity* denotes an aristocratic lineage while *generousness* denotes the quality of being generous.

In the OED, looking for rare lemmas with a very low frequency in the present days, we can find *selfship*, with the same meaning of *selfness*, which is much more common. They both mean “individuality, selfishness, regard for oneself”. From this scenario we can expect that the term *selfship* will disappear from the language, because of blocking. In this particular case we can compare yet another word, *selfhood*. This latter derivative is even more frequent than *selfness* in the English language, according to the OED. We can assume that the reason behind this is its differentiation in meaning. *Selfhood* has a more general meaning of “the quality that constitutes one’s individuality”.

To conclude we can say that there are many ways in which it is possible to compare and investigate the language. In this brief analysis we have seen how it is possible to create a corpus and analyse it with different tools such as AntConc and Sketch Engine, and that is it also possible to look for corpora that already exist online and to work with them instead. The material to work with is broad and we can state that corpus is a very useful learning method to investigate the language and to obtain statistics on the actual usage of it.

Conclusion

In the past chapters we went through many different ideas and subjects. Trying to sum up our conclusions we can say that rivalry and blocking are two important phenomena that regulate word formation. Each of these processes follow precise ways of operating in the language. Rivalry and blocking operate in all parts of word formation and in particular in word derivation, the part we are most interested in. Suffixes also follow rivalry and blocking, and they are affected by them, as it shows in their productivity. Productivity helps in understanding the occurrence of words, and suffixes too. The suffixes *-ity*, *-ness* and *-ship* can be analysed together for many resemblances, the most evident one being that they form abstract nouns. The suffix *-ness* can be considered the most productive for many reason that we have seen, while *-ity* is very similar to it and just as important but less productive. The third suffix, *-ship* can be considered a bit outdated and surely the least productive one. In our analysis we have seen that nowadays there are many ways to investigate the language and obtain meaningful results. Technology offers many tools on- and offline to conduct precises searches, even on vast scales to obtain detailed results.

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Riassunto

Il testo si propone di riportare i punti salienti sugli argomenti di competizione e blocco, ponendo particolare attenzione ai fenomeni derivazionali. In questo senso viene riportato il caso dei suffissi inglesi *-ity*, *-ness* e *-ship* e successivamente viene riportata una piccola analisi su di essi basata su corpora della lingua inglese.

Tra i molti processi che regolano in morfologia la creazione di parole, la competizione si può definire in breve ciò che avviene quando due parole simili per uso o significato si trovano a competere per il loro posto nella lingua, in questo caso inglese. Questo fenomeno molto vasto non è limitato alle singole parole ma può avvenire anche tra tempi verbali diversi o tra suffissi. Al problema della competizione risponde il fenomeno del blocco. Il blocco è un meccanismo per cui due parole con lo stesso significato o lo stesso uso non possono convivere nella lingua. In pratica, uno dei due termini verrà scelto mentre l'altro eliminato dai parlanti. Questo processo evita ripetizioni nella lingua che altrimenti diventerebbe ridondante.

Un buon esempio pratico che mostra questi due fenomeni si può trovare nella derivazione. I processi di formazione delle parole possono essere valutati anche in base a quanto un fenomeno è produttivo nella lingua. La produttività rappresenta quante nuove parole sono formate nella lingua per un dato processo. Per esempio, si può misurare la produttività di un suffisso, più è alta più il suffisso sarà linguisticamente interessante. Un caso interessante nella lingua inglese dove possiamo osservare la competizione e il blocco sono i suffissi *-ity* e *-ness*, spesso analizzati insieme dai linguisti per le loro affinità. Come prima cosa costituiscono un caso interessante perché formano entrambi nomi astratti a partire da aggettivi, questo permette un'analisi più precisa e semplice. La loro affinità è anche semantica, infatti vengono utilizzati in contesti molto simili con il significato di "avere la qualità di". Nonostante ciò, mantengono differenze molto nette che permettono ai parlanti di non percepirli mai come intercambiabili. Presentano anche altre differenze per esempio sul piano fonologico, che differenziano ulteriormente il loro utilizzo. Il suffisso *-ness* risulta essere il più produttivo dei due.

A questi due suffissi è possibile associarne un terzo, *-ship* per le sue caratteristiche semantiche. *-ship* denota però una condizione temporanea. Anche questo suffisso forma nomi astratti ma seleziona come base nomi di persona. È il suffisso meno produttivo dei tre.

A supporto di questo tipo di indagini si può accennare all'analisi dei corpora. Un corpus è costituito da un insieme di testi, raccolti per avere un campione della lingua da analizzare. I testi selezionati possono essere scelti per argomento, tipologia o altri criteri utili alla ricerca che si vuole condurre. Per analizzare i corpora è possibile usare diversi strumenti, tra cui siti web e software scaricabili come per esempio Sketch Engine, AntConc e TagAnt. È inoltre possibile accedere ad alcuni corpus online che spesso hanno grandi dimensioni e producono risultati statisticamente più attendibili, tra questi possiamo citare il Corpus of Contemporary American English.