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DOCTORAL THESIS

COMPETITION IN THE DERIVATIONAL PARADIGM OF ENGLISH VERBS

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Abbreviations

AmE	American English
AusE	Australian English
BNC	*British National Corpus*
BrE	British English
CanE	Canadian English
C	*Index of Competition*
COCA	*Corpus of Contemporary American English*
COHA	*Corpus of Historical American English*
EBBO	*Early Book Online Corpus*
EHCB	*English Historical Book Collection*
eOE	Early Old English
iWeb	*iWeb: The 14 Billion Word Web Corpus*
ME	Middle English
NZE	New Zealand English
OE	Old English
OED	*Oxford English Dictionary*
OT	Optimality Theory
PPCEME	*Penn-Helsinki Parsed Corpus of Early Modern English*

ABSTRACT

The study of *competition* in verbal formation has mainly focused on the identification of the restrictions governing the domains of application of the competing patterns (e.g. Schneider 1987; Plag 1999; Gottfurcht 2008; Bauer et al. 2013). In this thesis, competition is understood in a narrow sense, i.e. as the coexistence of two forms with the same base and meaning but derived through different patterns. A number of papers have addressed this type of competition (Bauer et al. 2010; Lindsay 2012; Lindsay & Aronoff 2013; Fernández-Alcaina 2017), usually focusing on two processes or two patterns in isolation. Even though derivational paradigms are considered to play a role in the resolution of competition (Mal'ceva 1966; Gawełko 1977; Schupbach 1984 in Pounder 2000: 83), few studies include the analysis of their derivatives in the study of competing forms (for verbs Fernández-Alcaina & Čermák 2018).

Following previous research into verbal causative doublets (Fernández-Alcaina & Čermák 2018), this thesis aims to describe the resolution of competition in verbal formation by including the additional information provided by the derivational paradigms where competing forms are allocated. Specifically, this thesis relies on a sample of 562 verbs extracted from the OED3, distributed into 351 clusters, i.e. sets of verbs with the same base and meaning but derived through a different affix. The results obtained are twofold. Methodologically, the combination of various resources allows for a better assessment of historical competition. Regarding the profile of competition, the results show that it is diverse, as illustrated by the variety of patterns involved, the meaning expressed and the outcomes of competition.

Keywords: morphological competition, derivational paradigms, conversion, affixation, verbal formation

RESUMEN

La investigación sobre la competición en la formación de verbos se ha centrado en la identificación de las restricciones que rigen los dominios en los que se distribuyen los competidores (por ejemplo, Schneider 1987; Plag 1999; Gottfurcht 2008; Bauer et al. 2013). En sentido más estricto, la competición se entiende como la coexistencia de dos formas que comparten la misma base y expresan el mismo significado pero derivadas con distinto afijo. Varios estudios han abordado este tipo de competición, a menudo centrándose en la competición entre dos afijos o patrones concretos (Bauer et al. 2010; Lindsay 2012; Lindsay & Aronoff 2013; Fernández-Alcaina 2017). A pesar de que se considera que los paradigmas derivacionales desempeñan un papel en la resolución de la competición (Mal'ceva 1966; Gawełko 1977; Schupbach 1984 en Pounder 2000: 83), pocos estudios incluyen el análisis de sus derivados en el estudio de los competidores (Fernández-Alcaina & Čermák 2018).

Siguiendo las investigaciones anteriores sobre parejas de verbos causativos (Fernández-Alcaina & Čermák 2018), esta tesis tiene como objetivo describir la resolución de la competición en la formación de verbos incluyendo la información adicional que aportan sus paradigmas derivativos. Para ello se analiza una lista de 562 verbos extraídos del OED3, distribuidos en 351 grupos de competidores con la misma base. Los resultados obtenidos muestran que, desde el punto de vista metodológico, la combinación de varios recursos permite una descripción más detallada de la competición histórica. En cuanto al perfil, la variedad de los competidores en forma y significado muestran el carácter heterogéneo de la competición.

Palabras clave: competición morfológica, paradigma derivativo, conversión, afijación, formación de verbos

1 INTRODUCTION

1.1 INTRODUCTION

Competition has attracted much attention in morphological research in the past ten years, as illustrated by the number of conferences and publications on the topic (see section 2.1). Research has focused mainly on the identification of the restrictions governing the distribution of competing affixes into specified domains in nominal (e.g. Baeskow 1985; Bauer 2006; Lara-Clares 2019), adjectival (e.g. Kaunisto 2007; Smith 2020) and verbal formation (Schneider 1987; Plag 1999; Gottfurcht 2008). However, overlaps in domains may occur, thus prompting the attestation of forms derived from the same base and with the same meaning but with a different affix (e.g. *pretty*/*prettify* 'make pretty'). In this view, competition is understood in a broad sense to refer to the competition between patterns.

In this thesis, competition is defined in a narrow sense, as it refers exclusively to the co-existence of two or more forms derived from the same base and expressing the same meaning but derived through a different affix (see Chapter 2). Compared to the body of research oriented to the identification of restrictions, few studies address this type of competition and most of those which do focus on nominal competition (e.g. Riddle 1985; Bauer 2006; Amutio-Palacios 2013; Díaz-Negrillo 2017; Lara-Clares 2017; Lara-Clares & Thompson 2019), while adjectival and verbal competition has received considerably less

attention. To the best of my knowledge, only five studies address, at least partially, competition in verbal doublets:

i) Bauer et al. (2010) focus on the competition between conversion and *-en* suffixation from a diachronic perspective.
ii) Lindsay & Aronoff (2013) devote a section to the study of the competition in doublets in *-ify* and *-ize* in English based on phonological restrictions. Lindsay (2012) devotes another section to further evidence on the phonological distribution of competitors by comparing their behaviour in English with French, Spanish and Portuguese.
iii) Fernández-Alcaina (2017) explores the competition between conversion and *-ize* suffixation in CAUSATIVE doublets, and Fernández-Alcaina & Čermák (2018) use the information provided by derivational paradigms to find evidence supporting the preference for one or the other competitor.

This chapter is organized as follows: section 1.2 summarizes the main theoretical aspects in the description of morphological competition and derivational paradigms, and presents the objectives of this thesis. Sections 1.3 and 1.4 describe the structure of this thesis and the typographical conventions used.

1.2 JUSTIFICATION

This thesis follows up previous research into the competition of forms sharing the same base and meaning but formed with a different affix.

The overview of section 1.1 shows that, despite the growing body of research into competition in the past years, some questions remain unanswered regarding:

i) the profile of competition in forms with the same base and meaning but formed with a different affix, and
ii) the resolution of competition in forms where restrictions overlap.

Therefore, this thesis aims at providing a more detailed account of the resolution of competition in verbal clusters over history. To this end, it examines the behaviour of competitors in the light of the subparadigms where they are allocated, as they may serve as evidence to support the preference for one or the other form. Specifically, this thesis examines:

i) the profile of competition displayed by verbal clusters,
ii) the possible reasons for the resolution of competition in favour of one or the other competitor, and
iii) the extent to which the analysis of the derivational paradigms of the verbs in competition can provide further evidence for the prevalence of a certain form.

1.3 METHOD

The results obtained in this thesis rely on the analysis of 265 verbal groups,[1] i.e. 562 verbs, extracted from the *Oxford English Dictionary* (henceforth, OED) and containing a competitor for at least one of the senses attested. Since competition is considered to occur between senses

[1] 'Group' is used here to refer to the set of verbs where competition is attested, without specification of the sense for which they compete. This is distinct from 'cluster', which refers to the set of verbs classified by the sense for which they compete.

rather than between whole lexemes, this thesis has identified 351 clusters of verbal competitors. It must be emphasized that all the verbs have been extracted from the OED3. This is important, because the classification of a cluster as resolved competition depends on the latest attestation date provided by the OED and on the information regarding status, i.e. whether the form is marked as 'obsolete', 'rare', 'archaic', 'historical' or particular of a specific dialectal variety or semantic domain. The use of attestation dates is controversial, because they depend on the availability and accessibility to written records, so the first and last date provided by the OED may not correspond to the actual earliest or latest attestation (Bauer 2006). In order to minimize any possible bias, two forms are considered to be attested close in time if the earliest attestation dates are within a margin of 50 years. Another point to consider when using the OED is the existence of attestation gaps (Bauer 2006). Although for some authors they do not necessarily imply that the form has ceased to exist for a particular period of time (Allan 2012), gaps are represented in the timelines provided.

Despite the problems inherent in the use of the OED, it has proved to be a powerful resource for extraction of verbal competitors and their paradigms. For data analysis, however, the information provided by the OED has been combined with data from historical and synchronic corpora and from contemporary dictionaries (*Collins Cobuild* and *Merriam-Webster*). The inclusion of derivational paradigms has also demonstrated to provide additional information on the competition of verbs as the senses on which the derivatives map into may support the resolution of competition in a particular direction.

1.4 STRUCTURE AND CONTENTS

This thesis is divided into seven chapters. Each chapter contains several sections, including an introduction and a summary at the end of chapters 2, 3, 4, 5 and 6:

i) The present introduction is Chapter 1.

ii) Chapter 2 reviews the most relevant research on the notion of *competition*, with emphasis on verbal formation.

iii) Chapter 3 is an overview of the status of the paradigm in word formation and on its relevance in the study of morphological competition.

iv) Chapter 4 describes the method used for data collection and data analysis in the study of verbal competing clusters and their derivatives, and the limitations encountered.

v) Chapter 5 presents both qualitative and quantitative data for the profile of verbal competition and its resolution in the type of competitors described. This chapter is divided into four parts: it starts by introducing the general features observed in the clusters analysed. The competition in clusters with three or more forms and doublets are addressed in two separate sections. The final part of the chapter focuses on the profile in the resolution of competition.

vi) Chapter 6 discusses the results obtained in the previous chapter by focusing on the two most common patterns of competition identified.

vii) Chapter 7 summarizes the conclusions drawn from the diachronic study of competition in verbal clusters and their paradigms.[2]

[2] In order to meet the requirements established by the University of Granada for the "International Doctorate" Mention, the conclusions (Chapter 7) and a final summary of

1.5 TYPOGRAPHICAL CONVENTIONS

The typographical conventions used in this thesis are:

i) Small capitals for semantic categories.
ii) Italics for names of dictionaries and corpora, terminology and examples in the running text.
iii) Single quotations marks for quotations and for complete or partial lexicographic definitions of word senses.
iv) Boldface for emphasis within italics.
v) The source of the examples extracted from the OED and corpora is specified between brackets at the end of each example.
vi) Citation of bibliographical references both in the main text and in the list of references is in accordance with the style sheet of the journal of *English Language and Linguistics*.

the thesis are written in Spanish. An English translation of Chapter 7 is included for non-Spanish speakers.

2 MORPHOLOGICAL COMPETITION

2.1 INTRODUCTION

The concept of *competition* (or *rivalry*) in morphology has attracted much attention in research during the past few decades, as illustrated by the publication of several volumes in the past six years, such as MacWhiney et al. (2014), Santana-Lario & Valera (2017) and Rainer et al. (2019), as well as by the papers presented at the 17th International Morphology Meeting (Vienna 2016) on competition in morphology, among others. Since competition is considered an 'inherent and universal feature of natural languages' (Štekauer 2017: 15), the definition of the term itself is often ambiguous, not just because it influences both language formation and interpretation, but because it obtains at all language levels, both synchronically and diachronically.

The study of competition in morphology usually goes hand in hand with the notion of *productivity*, because competitors are typically contrasted according to their chance to decay or remain in use. In those cases where both competitors remain in language, they are contrasted according to their use, and use is in turn measured according to their productivity. By *productivity* this thesis means the two related components of *availability* and *profitability* described by Corbin (1987:

177) and later accepted virtually unanimously.[3] Availability is therefore defined as the 'potential for repetitive rule-governed morphological coining' (Bauer 2001: 211). Once a morphological process is available, its profitability depends on the extent to which it can be used to create new words (Bauer 2001: 49).

Availability is a discrete variable conditioned by the language system; by contrast, profitability is a continuous variable conditioned by language norms (Bauer 2001: 209–210). Therefore, the status of a form as *available* or *unavailable* depends on the properties of each language, often under the influence of its history and of its morphological model. Thus, e.g. it has been claimed that it is the profile of English that makes the suffix *-ation* available with *-ize* verbs (e.g. *organization*), but not *-ment* (e.g. **organizement*) (Bauer 2001: 205), even if it is not always possible to link up this type of constraints with specific factors of the morphological model, or to identify what specific factor constrains certain formations.

As profitability is a continuous variable, several formulae have been put forward to measure the extent to which a form is likely, or more likely than others, to be used in the creation of new forms (Aronoff 1976; Baayen 2009; Gaeta & Ricca 2015, among others). To the best of my knowledge, and regarding the profitability of two or more forms in competition, no specific formulae have been made available in the literature aside from specific theoretical models like Optimality Theory (OT). A more specific procedure has also been published by Fernández-Domínguez (2017), whereby an *Index of Competition* (*C*) is designed to measure the likelihood of a form to be preferred over its competitor.

[3] *Available* and *profitable* are the English translations suggested by Carstairs-McCarthy (1994) for Corbin's (1987) *disponible* and *rentable*.

In cases of competition, two or more forms are made available as candidates to fill the same lexical gap or to meet the same lexical need. The assumption is that co-existence may last for an indefinite period of time and may not exhibit any evident direction in its resolution for some time, but that it will eventually be resolved somehow. The profitability of each form or process may signal eventual resolutions, as described in Lara-Clares (2019) for the competition of conversion and *-ness* suffixation in the formation of nouns for the expression of the semantic category STATIVE (e.g. *dark*^{N}/*darkness*). In this specific case, the results suggest that conversion prevails in the spoken mode, whereas *-ness* suffixation is preferred in the written mode (except for the subcategory *fiction*) (Lara-Clares 2019: 46). This means that an additional variable has to be considered for the description of competition: different modes, and perhaps also specialized domains or registers, may prime different forms or processes.

Even though we can speak of competition both in inflection and derivation, it is important to highlight that, although similarities exist, there are also differences in how competition operates in each morphological category. While inflection is determined by morphosyntax (Aronoff 2019), derivation is, in principle, driven by semantic needs. Therefore, neither the factors intervening nor the variables behind the resolution of competition are necessarily the same for inflection and derivation.

These and other related contents are discussed in this chapter as follows: section 2.2 is an overview of the definition of competition in morphology. Section 2.3 outlines the main findings in the research into competition in inflection. Section 2.4 focuses on how competition operates in derivation. Section 2.5 describes the main limitations found

in the study of competition. Section 2.6 focuses on how competition in verbal derivation has been described in the literature. A summary of the chapter is provided in section 2.7.

2.2 DEFINITION

Competition, as in other levels of language, is by no means new in morphology. This section starts out by reviewing some of the main references about competition since the Sanskrit grammarians as early as in the 5th century BCE up to the most recent approaches. Some of the main analyses of the term *competition* as well as the various types of units that may be involved therein are described in section 2.2.1. Since a situation of competition is always expected to reach an end (Aronoff 2019: 47), the outcomes of such a potential resolution are also relevant for the definition of the term, and they are therefore described in section 2.2.2.

2.2.1 Morphological competition across history

The first references to competition can be found in the grammatical description of Sanskrit, in particular, in Pāṇini's *Astadhyayi*. The *Astadhyayi* consists of approximately 4,000 *sutras* ('aphorisms') ordered in a cyclic manner in which the application of a rule depends on its degree of specification, such that specific rules apply before general rules (Deo 2007: 187). Although Pāṇini did not directly address the concept of *competition*, the fact that grammar was rule-governed resulted in the formulation of grammatical exceptions also in terms of rules. Therefore, exceptions are not viewed as violations of rules but as a consequence of the overlap of competing rules in a certain domain of application. This underlying principle was later explicitly formulated by Patañjali as the

Pāṇini's Principle, which would set the bases for modern generativist approaches to morphology in the 20th century, such as the *Elsewhere Condition* (Anderson 1969; Kiparsky 1973), whereby the application of a general rule is overridden by the application of a more specific one, i.e. a specific rule blocks a general rule (see section 2.5.1.3 for a review on *blocking*), e.g. English plurals are generally formed by adding *-s* but a general rule may be pre-empted by a specific rule, as in **oxes*/*oxen*.

From a semantic perspective, competition has been seen as a necessary language condition to avoid synonymy. In particular, Bréal's (1897: 30) *loi de répartition* ('distribution law') states that '[…] les synonymes n'existent pas longtemps: ou bien ils se différencient, ou bien l'un des deux terms disparaît' ('synonyms do not exist for long: either they specialize or one of the two terms disappear', my translation). However, competition was not expected to reach an end immediately, as it takes time to be resolved. In this 'period of fluctuation' (Bréal 1897: 311), one of the competitors gradually replaces the other by restricting it to specific uses or, in some cases, forcing it out of the system and causing it to disappear as an available word (Bréal 1897: 311).

Research into word formation carried out by the Neogrammarians also contributed to the study of morphological competition. The diachronic development of a certain category was first described by von Bahder (1880): his analysis of action nouns in German concludes that '[…] the rise and fall of synonymous patterns is often causally related' (Gardani et al. 2019: 9).

Competition between morphological processes was not directly addressed by Saussure in his *Cours*, but it was addressed by later structuralist scholars such as Benveniste (1948), for whom two completely synonymous patterns cannot co-exist. Similarly, Coseriu

(1967) argued that the coining of certain forms may be prevented if either synonymous or homonymous forms already exist (Gardani et al. 2019: 12).

A more detailed account of competition from a structuralist perspective is provided by van Marle (1986).[4] According to the *domain hypothesis*, the productivity of morphological processes is not only dependent on the structural and semantic properties of the forms that function as bases. Rather, productivity is also paradigmatically determined, because it is affected by competing processes that may occupy the same position in the system (van Marle 1986: 602). Competitors may be isolated forms (e.g. English *oxen* preventing **oxes*), or productive patterns (e.g. Dutch plurals in *-s* systematically prevent *-en* suffixation in bases ending in *-əl -əm*, *-ən*, or *-ər*; van Marle 1986: 607).

Within the generativist framework, the notion of *competition* is central in the development of OT (Prince & Smolensky 1993). Broadly speaking, OT establishes that the observed forms of language are the result of the optimal resolution of the competition among several candidates. Although originally developed for phonology, OT was later implemented for morphology (Wunderlich 2001, in Gardani et al. 2019: 23). Since constraints in OT are hierarchically ordered, competition does not occur between rules themselves but between 'violable constraints' (Gardani et al. 2019: 24). Notably, Plag (1999) approached the productivity of verbalizing suffixation in Present-Day English from the point of view of OT (see section 2.6 for a detailed account of competition in verbal derivation).

Attempts to define the concept of competition in the last decades have also approached its definition from the point of view evolutionary

[4] See Chapter 3, section 3.4.2 for a detailed account of van Marle's hypothesis.

biology (Lindsay & Aronoff 2013; Aronoff 2016; Aronoff 2019). A parallelism between linguistic competition and Darwin's Theory of Evolution was already noticed by Bréal (1897: 310), in defining competition as a struggle for life. In particular, Aronoff (2019: 39) argues that complementary distribution is a consequence of Gause's (1934) *Competitive Exclusion Principle*, whereby the competition between two species for the same niche is always expected to come to an end, as one of them will prove more efficient than its counterpart. This reasoning holds not just for rival affixes, but for allomorphic variants too, as Aronoff (2019) views them as two sides of one phenomenon. In Aronoff's standpoint (2019: 44), allomorphs may be considered as rivals whose distribution is governed by Gause's *ecological niche differentiation*. The ecosystem metaphor is also used by Renner (2020) to refer to macro-level competition, in which the ten formal operations reviewed (prefixation, suffixation, compounding, blending, morphostasis, stress shift, clipping, desuffixation, initialization and replication) show a complementary distribution in the realization of four lexical functions, i.e. transcategorial, transconceptual, evaluative and compacting (Renner 2020: 9).

Regardless of other differences and similarities, what stands out from the shallow overview above is that the concept of *competition*, although widely recognized in language throughout history, still remains ambiguously defined. Therefore, in what follows, I will take the definition provided by Bauer et al. (2013) as a starting point, as it encompasses both inflection and derivation. In their view, competition is the situation in which two or more forms '[…] share some domain between them, producing outputs which, if acceptable, might fill the

same functional slot in a paradigm (derivational or inflectional)' (Bauer et al. 2013: 568).

The definition of *competition* is also under the influence of the interaction between competition, productivity and blocking, among other possible factors (see sections 2.4.1). Partly due to the relative looseness of the term and also as a result of the strictness with which the conditions of synonymy and formal contrast may be applied, competition may be said to occur between various types of elements:

i) individual words (e.g. *songster* vs *chantress* 'female singer') (Bauer 2006: 182),
ii) patterns (e.g. *-ity* vs *-ness* in nominalizations), or
iii) processes (e.g. suffixation vs periphrastic expressions in the formation of comparative and superlative).

This thesis is about the second type, i.e. patterns, specifically, about verbalizing patterns that compete for the expression of the same meaning and attach to the same base (e.g. *pink*^{V}/*pinken* 'make pink'). Apart from the approaches in the definition of *competition* and the type of units involved, it is also necessary to refer to how such a situation of co-existence may end. The various outcomes once competition has been resolved are explored in the next section.

2.2.2 The resolution of competition

Various scenarios have been described in the literature with regard to how competition is resolved, often under different labels. In this section I use the terminology employed by Moravcsik (2014) (although references to other authors are made when relevant), except that I restrict

its use to morphological competition. Therefore, the ways in which resolution may occur is limited to four possibilities: *separation*, *compromise*, *override* and *deadlock* (Moravcsik 2014: 2–3). They are briefly described below:

i) *Separation* occurs whenever there is no overlap in the domains of two or more 'motivations' (in Moravcsik's words), e.g. the verbs *winterize*/*winter* do not exhibit competing senses as the former means 'prepare something for use in cold weather', while *winter* means 'keep or maintain during winter'.

ii) *Deadlock* (also called *blocking*) occurs if two or more principles do not apply and, thus, no output arises (Moravcsik 2014: 2–3), e.g. the existence of *thief* ('someone who steals') pre-empts **stealer*, at least in British English, when they have the same meaning.[5]

Neither *separation* nor *deadlock* are true outcomes of the type of competition addressed in this dissertation, because they do not imply preliminary co-existence. Therefore, I will focus on the outcomes of *compromise* and *override* and how they operate at a morphological level:

iii) *Compromise* (also called *differentiation* by Aronoff 2016) occurs if two forms overlap in meaning for some time but one of them ends up specializing in a distinct domain. In other words, competition is resolved through semantic specialization, a process

[5] However, as Bauer (2001: 136–137) notes, *stealer* may be used in compounds such as *sheep-stealer* (but not **sheep-thief*). This particularity stresses the importance of addressing competition among senses, also in line with Díaz-Negrillo (2017), Lara-Clares (2017, 2019) and this dissertation.

which is well-attested in the literature (Fowler 1928, in Kaunisto 2009; Plag 1999; Bauer 2006; Kaunisto 2009; Lindsay & Aronoff 2013; Bauer et al. 2013: 580; Fernández-Alcaina 2017), e.g. the adjectives *discriminatory* and *discriminative* were originally synonymous forms meaning 'relating to making distinctions'. Corpus data suggest that the form *discriminatory* has negative connotations, whereas *discriminative* conveys, in most cases, a neutral meaning (Kaunisto 2009: 83).

iv) *Override* (also called *extinction* by Aronoff 2016) refers to the situation in which one of the forms outlives its competitor, leading to the obsolescence of the latter (e.g. Bauer 2006; Kaunisto 2009; Fernández-Alcaina 2017), e.g. *mongrel* (1602–1662)[6]/*mongrelize* (1629–1999) 'make mongrel in breed'. In most cases, the form with the earliest attestation date is the best candidate to prevail over the other. Exceptions are also attested, e.g. the adjective *regulative* is attested much earlier than its competitor *regulatory*, but it is the form in *-ory* that exhibits a higher frequency in Present-Day English (Kaunisto 2009: 85). Whichever way, competition is resolved in some way in favour of some of the forms, even if '[…] victory may be temporary' (Aronoff 2016; cf. also Bauer et al. 2010 on patterns in verb derivation changing over time), e.g. in the cluster *melancholy*/*melancholize*, the attestation dates indicate that the converted form outlived its competitor in *-ize* for some time,

[6] The latest attestation date holds, even if an attestation of the form *mongreled* (1941) dates back to the 20th century. This is because the lack of evidence between the 17th and the 20th century may be due to the lack of written records or may be a case of renewed availability (Bauer 2014). According to Allan (2012: 25), however, the lack of attestation records cannot be considered as 'evidence for lack of use'.

but it ceased to be in use early in the 19th century (Fernández-Alcaina 2017).[7]

Even if resolution is always expected to occur, two or more competitors may also be in a situation of *equilibrium* (Aronoff 2016, after Gause's axiom), where competition remains (apparently) unresolved for some time (Bauer 2006; Kaunisto 2009: 86; Fernández-Alcaina 2017), e.g. *acronym* (1967–)/*acronymize* (1955–) 'convert into an acronym'. This is particularly common in the forms that start to compete in the 20th century, simply because competition may take time to be resolved. In fact, as Bauer (2006: 190) explains, since so many new forms were created and borrowed into English in the 17th century, '[…] the history of the past 300 years of English morphology is a reaction against the plethora of potential processes arising from the introduction of overwhelming loan morphology'.

Although the set of outcomes of competition is logically limited to the set of possibilities described above, the direction in which competition is usually resolved is unclear. In fact, the results obtained regarding the patterns of resolution are often uneven, even if competition occurs between two specific affixes. Thus, in the competition of adjectives in *-ic*/*-ical* (Kaunisto 2007) and *-ory*/*-ive* (Kaunisto 2009), resolution is either by semantic specialization or by the obsolescence of one of the forms. This does not imply that resolution always occurs in favour of the same affix. e.g. in the cluster *compulsive*/*compulsory*,

[7] The form *melancholied* is recorded in a quotation from 1980 where it specifies that there is no form *melancholied* that can be used as a paraphrase of 'cause somebody to become melancholic':

> *There is no transitive 'melancholied' that would give 'John melancholied Bill' as a paraphrase of 'John caused Bill to become melancholy'* (Jrnl. Philos. 77 299).

the *-ory* adjective keeps the original meaning 'obligatory' and corners its *-ive* competitor to a different semantic niche (Kaunisto 2009: 81–82). In contrast, the *-ive* adjective in the cluster *investigative*/*investigatory* shows a higher frequency in corpus data (Kaunisto 2009: 84). Examples like these show that, while it is possible to list the distinct outcomes of competition, the reasons behind such resolution are in some cases unclear, as two apparently similar clusters may resolve in favour of different forms.

The next section addresses the definition and some examples of the outcomes of competition in inflectional and derivational morphology. For ease of reading, I will use the term *overabundance* (Thornton 2012) to refer to the competition described in inflection while keeping the more general label *competition* for derivation.

2.3 COMPETITION IN INFLECTION: OVERABUNDANCE

Overabundance is defined as '[…] the situation in which a cell in a paradigm is filled by two synonymous forms which realize the same set of morphosyntactic properties' (Thornton 2012: 251), e.g. *learnt* and *learned* both as realizations of the past tense of the verb *learn*.

Thornton (2012: 254) outlines three possible ways in which overabundance may occur in the inflectional paradigm:

i) forms built through various processes, e.g. Dutch *druskte*/*meest drukke* 'busy.SUPERL',
ii) forms with different stems, e.g. *wharf*/*wharfes* 'wharf.PL', or
iii) forms with the same stem and different endings, e.g. Spanish *hubiera*/*hubiese* 'have.IMP.SUBJ.1SG'.

Parallel to what has been described above regarding the outcomes of competition (section 2.2), several examples in the literature show how, when overabundance is resolved, it may also result in:

i) the obsolescence of one of the forms, e.g. the third person singular present *-eth* disappeared in favour of the Northern dialect variant *-es* (Aronoff 2019: 51),
ii) regional varieties, e.g. *dove* is preferred as the preterite of *dive* in American English (AmE), in Canadian English (CanE), in Australian English (AusE) and in New Zealand English (NZE), while *dived* is more common in BrE (Bauer et al. 2013: 572),
iii) domain/register specialization, e.g. foreign plurals are usually prevalent in technical domains, while regular plurals are more typical in general use (e.g. *formulae* vs *formulas*) (Quirk et al. 1985: 311),[8] and
iv) to a lesser extent, some inflectional doublets have shown semantic specialization, e.g. *brothers*/*brethren*, where the regular form expresses the plural for *brother* and *brethren* is restricted to a specialized meaning (Bauer 2006: 182).

As shown by the evidence provided by research into inflectional competition, the existence of competing forms or patterns in inflection, while rejected by some approaches to morphology, such as the *Separation Hypothesis* (Beard 1995), is attested in the literature on

[8] However, research into the competition between foreign and regular plurals and their distribution between the written and spoken modes in the *Corpus of Contemporary American English* (COCA) shows that, in most of the doublets analysed (e.g. *phenomenons* vs *phenomena*), there are no significant differences in the use of the foreign or regular plural (Fernández-Alcaina & Molina-Quesada 2016).

overabundance in the last decades. This attestation supports the pervasive role of competition in language. Furthermore, the identification of inflectional doublets also allows for the definition of inflection and derivation in terms of a continuum rather than as clear-cut categories (Bybee 1985; Dressler 1989; Booij 1993, 1996, 2000; Plank 1994). The next section provides a more detailed account of competition in derivation.[9]

2.4 COMPETITION IN DERIVATION

The co-occurrence of competing forms in derivation in English is not uncommon, either in prefixation or suffixation, although the latter has attracted more attention in the literature on competition. In a broad sense, research into competition has mainly focused on the constraints affecting the distribution of rival affixes in nouns (e.g. Riddle 1985; Arndt-Lappe 2014), verbs (e.g. Schneider 1987; Plag 1999; Kjellmer 2001) and adjectives (e.g. Lindsay 2012).

Fradin (2019: 70) distinguishes between 'Pattern A' and 'Pattern B' of competition in derivation. 'Pattern A' of competition is exemplified by pairs of competitors where forms are not considered to be in free variation, e.g. French *cammionier*/*camionneur* ('truck-driver'). Fradin (2019: 69) lists three criteria of this type of competition:

i) Exponents have a fixed semantic content, similar to what occurs in inflection (e.g. AGENT).

[9] In inflectional languages, competition takes on the form of synchronic synonymy/homonymy of endings and is considered a defining feature of the language type.

ii) Although the two forms are attested, one of the exponents is preferred, as the semantic content is usually '[…] correlated with one of the exponents on the bases of existing derivational series' (Fradin 2019: 69).

iii) Competition is phonologically determined (e.g. *cammionier* is dispreferred, as it entails the repetition of the sound /j/) (Fradin 2019: 68).

'Pattern B' of competition refers to the competition between *doublets*. Doublets are defined as '[…] forms derived from the same base which exhibit distinct exponents although they have the same meaning' (Fradin 2019: 71), e.g. *indecisive*/*undecisive* (Bauer et al. 2013: 574). According to Fradin (2019: 69), '[d]oublets show a pattern of competition […] which is clearly distinct from Pattern A' (see above).

Although to a lesser extent, groups of three forms that share the same base and meaning but differ in the affix, i.e. *triplets*, are also attested. As a way of encompassing both doublets and triplets, I will employ the term (*competing*) *clusters*, defined as 'sets of synonymous derivatives morphologically related by their bases but formed with a different affix that can be grouped into doublets, triplets, etc.' (Fernández-Alcaina 2017: 168).

For ease of reading, I will discuss competition between patterns and competition between forms with the same base separately, even though in some cases cross-references appear, as they are necessarily interlinked. The main findings regarding the factors affecting competition between nominal, verbal and adjectival affixes are reviewed in section 2.4.1. The research carried out into the competition between forms sharing the same base is described in section 2.4.2.

2.4.1 Competition between patterns

The factors influencing morphological competition have been explored from a range of theoretical frameworks and to various degrees of detail, since their relevance in the resolution of competition may vary according to the patterns involved. Thus, while the distribution of the verbalizing suffixes *-ify* and *-ize* is usually considered to be phonologically conditioned (Plag 1999), morphological factors seem to be at play in the competition of adjectives in *-ic*/*-ical* (Lindsay 2012).

The extent to which each factor may influence the resolution of competition is not always straightforward. In the study of the competition between deadjectival verbs in *-en* suffixation compared with those based on conversion, Bauer et al. (2010: 15) conclude that phonological, semantic and historical factors cannot completely account for the prevalence of one of the forms and suggest that their choice is rather arbitrary.

In this section I review the main studies on competition classified according the factors intervening in competition considered, namely: phonological, morphological, semantic, syntactic and pragmatic factors.

2.4.1.1 Phonological factors

Despite the fact that the existence of phonological restrictions in word formation is well-attested in English, they have received little attention in the literature (cf. e.g. Raffelsiefen 2015: 1).

Gaeta (2015: 15) distinguishes three types of phonological restrictions based on:

i) Segmental features of the base, e.g. the suffix *-en* is traditionally described as attaching to monosyllabic adjectives ending in an

obstruent (Plag 1999: 21, 219), while the rest of adjectives take conversion (Marchand 1969: 272).

ii) Base length, e.g. the suffix *-ize* usually attaches to polysyllabic bases, whereas *-ify* is usually affixed to monosyllabic bases (Plag 1999: 197, 203; Lindsay 2012: 198; Bauer et al. 2013: 271). In fact, the reasons for this pattern go back to the very origin of the suffixes: according to Lindsay (2012: 197), the suffix *-ize* (from Greek *-izō*) is usually attached to disyllabic bases, because they were more common in Greek. In contrast, *-ify* (from Latin *-ificare*) is more commonly attached to monosyllabic bases, because they were preferred in Latin. However, as Bauer et al. (2013: 272) note, trochaic bases entail an area of overlap where forms such as *fluidize*/*fluidify* are attested and where it is unclear how the restrictions described for the competition in word-formation patterns apply.

iii) Prosodic features of the base, e.g. the competition between the suffixes *-ify* and *-ize* is also guided by prosodic constraints: while the suffix *-ify* attaches to bases consisting of an iambic foot (*ártify*), *-ize* selects trochee (*rándomize*) and dactyl (*hóspitalize*) bases (Bauer et al. 2013: 271).

2.4.1.2 Morphological factors

The competition between word-formation patterns may also be sensitive to the influence of morphological factors (Kaunisto 2007; Amutio Palacios 2013: 46; Lindsay & Aronoff 2013; Arndt-Lappe 2014), specifically, among others, to the occurrence of certain morphemes in the base that foster the attachment of a particular affix, i.e. *potentiation* (William 1981). Thus, verbs in *-ify* and *-ize* potentiate *-ion* suffixation

(or some of its variants) for nominalization (*standardize* > *standardization*; *clarify* > *clarification*), whereas the native suffix *-en* does not (Schneider 1987: 102).[10]

Regarding nominal derivation, e.g. *-ical* forms abstract nouns with *-ity* rather than with *-ness* (Lindsay 2012: 197). A similar result obtains in the competition between the adjectival suffixes *-ic* and *-ical* for derivation of adjectives: whereas the former is usually described as the most productive suffix, *-ical* is more common in bases with *-olog* (Lindsay 2012: 193; see also Kaunisto 2007 for a detailed description of *-ic*/*-ical* for competitors that share the same base).

2.4.1.3 Semantic factors

The relevance of semantic factors in the prevalence of a certain affix over a competitor needs to be assessed separately according to whether factors refer to the base or to the relation between the base and the affix. The semantic domain of the base may guide the selection of a certain affix, e.g. *-ly* adverbs can only be derived from adjectival dynamic bases (Kjellmer 1984).[11]

Studies on the relevance of semantic factors in the resolution of competition often yield inconclusive results. In the competition between deadjectival verbs formed either by *-en* suffixation or conversion, the relation between the semantics of the base and the process selected seems unclear, because the results obtained do not reveal a bias towards a

[10] Unlike potentiation, certain affixes in the base may also indicate that the form cannot be derived further. They are referred to in the literature as closing suffixes (Nida 1949: 85; van Marle 1985: 234–238; Aronoff & Fuhrhop 2002; Manova 2015), e.g. the suffix *-ism* is a case of a cross-linguistically closing suffix (Manova 2015: 967).

[11] This, in the sense of formation of prototypical *-ly* adverbs, i.e. affixation, is possible with stative adjectival bases, except with a substantially different semantic reference (cf. Jiménez-Pareja & Valera 2020).

particular process (Bauer et al. 2010: 13). In the competition between nominalization by *-ity* or by *-ness* suffixation, Riddle (1985) argues that a subtle difference in the meaning expressed by the suffixes in forms derived from the same base separates their derivatives, e.g. *hyperactiveness*/*hyperactivity*. According to Riddle (1985: 437), this type of doublets shows that, while there is a tendency for *-ness* suffixation to denote 'an embodied attribute or trait', *-ity* suffixation denotes 'an abstract or concrete entity' (see also Baeskow 2012).

Similarly, Amutio-Palacios (2013: 46) concludes that the competition in OE nouns cannot be explained exclusively according to the semantics of the base. Although some pairs of suffixes such as *-end* and *-ere* seem to require a specific type of base, others, such as *-nes* and *-ung*, do not show any clear tendency (Amutio-Palacios 2013: 61). Also, in the competition between affixes in deadjectival verbs, Kjellmer (2001: 170) concludes that semantic factors '[…] turned out to be all but inconsequential'.

Research into the nominal suffixes *-hood*, *-ship* and *-dom* (Díaz-Negrillo 2017) lays emphasis on the relevance of semantic domains, and, therefore, on the need for addressing competition between specific senses. This is because the results obtained reveal that competition does not exist in some senses (e.g. REALM is expressed only by *-dom* and SKILL by *-ship*; Díaz-Negrillo 2017: 157), while in those senses where overlap in meaning occurs (e.g. in the sense POSITION) it is possible to distinguish particular semantic nuances inherent to the suffixes (such as 'authority' in *-dom*, 'social position' in *-hood* and 'occupations or title of respect' in *-ship*; Díaz-Negrillo 2017: 155). A diachronic approach to the competition among the three suffixes explains the semantic specialization observed in Present-Day English, which is

partly influenced by their original meaning and by the senses developed by their competitors.

2.4.1.4 Syntactic category of the base

Another restriction that may influence the choice of a particular affix over its competitor is the word class of the base. After comparing various pairs of nominal competitors in OE, Amutio-Palacios (2013) notices that, whereas *-dom* and *-had* suffixation apply in nouns and adjectives, *-ness* suffixation only applies in adjectives (Amutio-Palacios 2013: 61). The role played by the word class of the base is nonetheless considered by other authors a semantic consequence (Plank 1981: 43–45; Plag 1999: 237).

2.4.1.5 Pragmatic factors

Register-related factors are also accounted to play a role in some instances of competition (Riddle 1985: 445). They are partly responsible for some of the differences observed in the use of two or more synonymous affixes (Bauer et al. 2013: 257ff. for a discussion on nominalizations). Their influence, however, has not been extensively researched in the literature and, to the best of my knowledge, only some papers explore the degree to which pragmatic factors may be relevant in nominalizations. Specifically, the distribution of competing nominalizing affixes into registers based on corpus data has been studied by Guz (2009), who concludes that *-ness* prevails in fiction while *-ity* nouns are more common in the academic register. Regarding differences produced by other sociolinguistic variants, Säily (2011) points out that, while *-ness* does not exhibit differences based on gender, *-ity* is more

productively used by male speakers. This type of results is, however, in need of validation by further research.

2.4.2 Competition between forms with the same base

From a more restrictive perspective, competition is seen as the co-existence of two or more synonymous forms derived from the same base by different affixes, as noted by Kaunisto (2009: 74) in his research into competition in adjectives in *-ive* and *-ory*, e.g. *discriminative*/*discriminatory*.

A more fine-grained definition of competition is by Fradin (2019: 68), who lists four conditions that must be satisfied in order for competition to occur, as e.g. in *encadrage*/*encadrement* 'framing' (Fradin 2019: 78):

i) distinct exponent,
ii) same base,
iii) same semantic content, and
iv) same syntactic distribution.

However, even if forms may share the same meaning, free variation is rare and doublets also need to be correlated with the same construction and have the same distribution to be considered as true instances of competition. As it may be expected, once doublets are closely analysed, the number of true cases of competition decreases sharply: '[…] their distribution often presents differences that might subsequently become institutionalized meaning distinctions' (Fradin 2019: 90).

In this line, I have defined competition elsewhere as '[…] the co-existence of two or more affixes for the same base and for the

expression of the same semantic category, if restrictions (e.g. phonological, morphological) do not apply and no semantic or distributional differences are observed' (Fernández-Alcaina 2017: 166). Furthermore, based on the assumption that the various meanings of a form '[…] may be assessed independently for availability and profitability' (Bauer 2001: 211), competition is always considered to occur between particular senses of two or more forms. Research into nominal doublets in Present-Day English concludes that competition in pairs needs to be assessed individually (cf. Lara-Clares 2017 on the competition between nouns derived by conversion and by *-ation* suffixation).

The resolution of competition in doublets is not clear either, and some pairs where the same affixes are in competition usually show different patterns of resolution. Research into nominal doublets in Old English reveals that neither morphological factors nor the semantics of the base can completely account for the outcome of the resolution of competition (Amutio-Palacios 2013). These results lead to the conclusion that it is possible to speak only in terms of 'tendencies', rather than rules, in the direction of the resolution of competition (Amutio-Palacios 2013: 60).

Similar results are observed in the competition between CAUSATIVE verbs in *-ize* suffixation and conversion regarding the two patterns in the resolution of competition (Fernández-Alcaina 2017). Even if the suffix *-ize* usually prevails over conversion, competition is resolved either by the obsolescence of one of the forms, or by semantic specialization. Similarly, the results obtained in the competition between *-ive*/*-ory* adjectives exhibit a high degree of heterogeneity regarding both how competition is resolved and the dominance of one or the other suffix

(Kaunisto 2009). In this line, the study of the diachronic competition between adjectival doublets in *-some* and *-able* (e.g. *laughable*/*laughsome*, Smith 2020: section 3.3) reveals that the decrease in the productivity of *-some* suffixation may be the result of a series of factors, such as the existence of synonymous affixes (e.g. *-ish*, *-ful*, *-able*, etc.) or lexicalization and fossilization (Smith 2020: paragraph 97).

The influence of pragmatic factors on the resolution of competition in doublets and triplets is nonetheless more difficult to account for, as some competitors are commonly used interchangeably, e.g. *studentdom*/*studenthood*/*studentship* 'the state or condition of being a student' (Bauer et al. 2013: 260). Empirical research on register distribution observed in nominal doublets in Present-Day English (Lara-Clares 2017; Lara-Clares & Thompson 2019) shows that the distribution of a certain affix may vary depending on the competitor and the category expressed. Overall, conversion may prevail in all registers when in competition with *-ation* suffixation for the category ACTION (e.g. *dispute*/*disputation*; Lara-Clares 2017: 224). However, the same process (conversion) exhibits a trend to specialization in the spoken mode when in competition with *-ness* suffixation for the category STATIVE, e.g. *dark*/*darkness* (Lara-Clares & Thompson 2019: 17, 21).

In summary, the existence of doublets has been admitted to be less common than assumed (Plag 1999; Kaunisto 2009; Fernández-Alcaina 2017; Fradin 2019), and the results arising from the resolution of competition in doublets appear to be unclear too.

2.5 LIMITATIONS ON COMPETITION

Competition may be also influenced by diachronic variables (i.e. frequency and productivity, lexicalization and borrowing), and by related phenomena such as blocking or analogy.

2.5.1 Diachronic variables

The diachronic evolution of word formation may also shed light on the resolution of competition. This section reviews the influence of productivity, lexicalization and borrowing in situations of affix co-existence at the diachronic level.

2.5.1.1 Frequency and productivity

Productivity and *competition* are interlinked concepts that need to be revised jointly, because the latter is both the cause and the consequence of changes in productivity (Gottfurcht 2008 or Scherer 2015: 5, and Bauer et al. 2010: 11, respectively).

When two processes are in competition, changes in the productivity of one of them may produce changes in the productivity of its competitor (Scherer 2015: 5). The extent to which these changes may influence productivity depends on the nature of the competitors: the availability of a form derived by a certain word-formation process replacing an existing lexical form may increase the productivity of the word-formation process.

When competition occurs between two or more patterns, the impact it may have on productivity is even greater, causing the total or partial unavailability of one of the patterns in some cases. Thus, e.g. some OE

nouns derived by *-ness* nouns were in the ME period and later replaced *-ity* nouns, e.g. *cristeness*/*christianity* (Riddle 1985: 447).

2.5.1.2 Lexicalization

The study of competition also requires the consideration of the role played by lexicalization, as the resulting loss of transparency obscures the separation between available and unavailable processes. However, measuring the extent to which lexicalization influences productivity and, therefore, competition is complex, among other reasons because, as Bauer (1983: 98) points out, '[…] there is not necessarily an influence in one direction only'. Further, competitors based on the same patterns may be influenced differently by lexicalization, as illustrated by the comparison of doublets such as *barbaric*/*barbarous* and *cupric*/*cuprous*, where the meaning of the second pair of competitors has become lexicalized (Bauer et al. 2013: 577).

2.5.1.3 Borrowing

The effect of language contact on morphology is widely illustrated by the competition between native and non-native affixes, where the introduction of the latter type may gradually modify the productivity of its native counterpart. This does not necessarily imply the obsolescence of the native process since affixes may become specialized. Arndt-Lappe (2014: 56) notes that, while *-ness* is synchronically considered as the default option to derive abstract nouns, a diachronic analysis of its competition with the suffix *-ity* shows that the latter has increasingly gained ground in certain morphological domains.

In other cases, specialization may also occur based on semantic differences. As pointed out by Bauer et al. (2013: 284), '[…] it is more

common for conversion to express a non-causative meaning', which is in line with later research into CAUSATIVE doublets in *-ize* suffixation compared with conversion (Fernández-Alcaina 2017). The results obtained suggest that the 18th century's increase in the number of verbs in *-ize* was accompanied by a tendency for converted competitors to become obsolete or semantically specialized with a non-causative sense (Fernández-Alcaina 2017: 202). Nevertheless, even if studies on competition need to account for the role played by borrowing, the importance of its influence on the resolution of competition remains unanswered.

Yet in some other cases, as remarked by Nevalainen (1999), distinguishing borrowings from English coinages is not always without difficulty, because lexicographic data supply unclear information regarding their etymological origins. When *reborrowing* of the same form but with a different sense occurs, it is also difficult to decide whether this new sense is a consequence of meaning extension or it has been borrowed from the donor language (Nevalainen 1999).

2.5.2 Blocking

Aronoff (1976: 43) first defined *blocking* as 'the non-occurrence of one form due to the simple existence of another'. Since then, the concept has been widely used in the literature about competition and productivity, even if the role it plays is still a matter of discussion. As Bauer et al. (2013: 575) argue, '[i]f there can be competition between morphological processes on the same base, there can be no blocking'. By contrast, if we consider that it is not the production of a new form that is prevented by blocking but its institutionalization in the speech community (Bauer et

al. 2013: 576), then it has been argued that at least some types of blocking may be relevant for the study of competition (Plag 1999).

The first distinction in the definition of blocking is drawn between *blocking by homonymy* and *blocking by synonymy* (Bauer et al. 2013: 575). Blocking by homonymy refers to the loss of certain forms due to the existence of another word with the same form and distinct meaning in order to avoid ambiguity, e.g. the unavailability of **to fall* in analogy with *to summer* or *to winter* because of the existence of *to fall* 'to drop'.

Blocking by synonymy has received much attention in research. Rainer (1988) distinguishes two types of blocking according to the nature of the units: *token-blocking* refers to the blocking of a particular form due to the existence of a synonymous word, e.g. *?stealer*/*thief*; in contrast, *type-blocking* involves the competition of two word-formation processes, e.g. *-ity*/*-ness*.

Studies on competition find opposite results regarding the pressure exerted by each type of blocking. Plag (1999: 234) argues that only token-blocking and local analogy are at play in Present-Day English verbal competition. Similar conclusions are drawn by Lindsay & Aronoff (2013, based on diachronic evidence), because it indicates a gradual replacement of *-ness* suffixation in certain domains in favour of *-ity*, therefore implying that type-blocking does not prevent a less productive affix to be preferred in certain domains.

2.5.3 Analogy

Although the role played by analogy has been extensively discussed in the literature on productivity, few studies on competition include it as a factor. Plag (2000) argues that, alongside type-blocking, local analogy is one of the two mechanisms that can influence affix selection.

Yet, the vagueness with which analogy is treated is well reflected in Kaunisto (2007: 38), who refers to it as 'a desire towards harmony' when considering analogy as a possible mechanism at play in the creation of *-ical* adjectives relating to 'knowledge'. On the same page, however, Kaunisto (2007: 38) accepts that '[…] the significance of this factor remains a mere theoretical possibility, as its effect is difficult to verify with absolute certainty'.

Other authors ascribe a more central position to analogy in the discussion about competition between affixes. Arndt-Lappe (2014) analyzes the competition between *-ity* and *-ness* from an analogy-based perspective and concludes that analogy is particularly relevant for identifying differences in the productivity of competitors.

2.6 COMPETITION IN VERBAL DERIVATION

Though verbal derivation in English has been widely explored in the literature, few studies deal with affix rivalry. Those tackling the topic of affix competition focus mainly on the identification of the factors that are assumed to account for the resolution of such competition (Schneider 1987; Plag 1999; Kjellmer 2001; Gottfurcht 2008; Bauer et al. 2010). However, neither the range of affixes described nor the factors identified are consistent from author to author. This leads to a blurred picture of what matters in the resolution of affix competition in verbal derivation. In what follows I will briefly summarize the main studies on verbal competition in terms of the affixes considered and the factors described as major influences on the distribution of the affixes.

Regarding the units analysed, competing affixes have received uneven attention. Some studies have researched groups of two or three affixes, e.g. Schneider (1987) only considers the suffixes *-en*, *-ify*

and *-ize*, Bauer et al. (2010) address the competition between deadjectival *-en* suffixation and conversion, and Fernández-Alcaina (2017) focuses on the competition between *-ize* suffixation and conversion in verbs derived from the same base. More comprehensive studies are available by Plag (1999), Kjellmer (2001) and Gottfurcht (2008), although not all the possibilities for verbal derivation are contemplated in them. Plag (1999) discusses the competition between conversion and the *-ate*, *-ify* and *-ize* suffixation in Present-Day English; Kjellmer (2001) and Gottfurcht (2008) approach competition among affixes from a diachronic perspective, even if Kjellmer (2001) excludes conversion from his analysis and Gottfurcht (2008) limits the study of competition to denominal verbs.

In terms of the restrictions considered, the diversity and relevance of the factors proposed in the literature on the competition in verbal derivation suggest that they are highly theory-dependent: Plag (1999) analyses the productivity of verbal affixes (and conversion) within the framework of OT and concludes that phonological and semantic factors can account for the distribution of verbal affixes (Plag 1999: 228). Gottfurcht (2008: 182–211) suggests that derivation is influenced by semantic factors and by frequency-related factors, as well as by the interaction between the verb-formation processes. Specifically, she argues that, even though all the semantic categories are possible for all the processes analysed in denominal derivation, they are not available to the same degree: while *be-* and conversion are more likely to appear in an ORNATIVE structure, *-ify* and *-ize* are preferred for RESULTATIVE interpretations, *en-* usually expresses the categories LOCATIVE or ORNATIVE, and *-ate* ORNATIVE or RESULTATIVE (Gottfurcht 2008: 205). Furthermore, in Gottfurcht's thesis, derivation is also influenced by what

she termed the *Semantic Category Distribution Effect*, defined as the phenomenon in which '[n]ative speakers are sensitive to the semantic category distribution of existing lexical items derived by the denominal verb formation processes and use this information when creating novel denominal verbs' (Gottfurcht 2008: 72).

A systematic assessment of a series of factors possibly at play in competition is provided by Schneider (1987), Kjellmer (2001) and, to a lesser extent, Bauer et al. (2010). The results obtained, however, appear to be mostly inconclusive. While Schneider (1987) provides a systematic account of the extra-linguistic, phonological, morphological and semantic factors influencing the competition between *-en*, *-ify* and *-ize* suffixation, he does not comment further upon the reasons underlying such generalizations (Plag 1999: 93). Both Kjellmer (2001) and Bauer et al. (2010), in contrast, elaborate on the influence the factors reviewed have on the resolution of competition in deadjectival derivation. Kjellmer (2001) concludes that, of all the factors considered, only the etymology and derivational history of the base as well as its frequency are 'of great significance' (Kjellmer 2001: 170), while the semantics of the base turns to be 'inconsequential' (Kjellmer 2001: 170). Similar conclusions are drawn by Bauer et al. (2010) regarding the semantics of the base. In the latter case's assessment of phonological and frequency-related factors, the results obtained also suggest that deadjectival derivation may lead to 'unpredictable classes, and that standardization is not leading to a situation in which the distribution of the competing process can be predicted' (Bauer et al. 2010: 15).

Compared to the competition among verbalizing patterns, little attention has been paid to cases where restrictions overlap, i.e. doublets and triplets. Even if doublets are argued to contribute to a better

delimitation of the constraints influencing productivity (Romaine 2004: 1638), their treatment in the literature is uneven. To the best of my knowledge, only Plag (1999) and Gottfurcht (2008) devote a section to the existence of verbal doublets (but not to triplets). Even here, little is said about how competition is resolved. In fact, both authors reach opposite conclusions regarding the status of competitors with the same base in derivation. Plag (1999) argues that competition occurs in language to a lesser extent than previously thought and that, as a consequence, the number of true competitors, i.e. those derived from the same base, is reduced, at least in the case of the neologisms coined in the 20th century. In contrast, Gottfurcht (2008: 209) concludes that '[…] denominal verb formation processes are *always* in competition, unless of course the process is all but dead and gone for English' (Gottfurcht 2008: 209) (emphasis as in the original). Regarding competitors with the same base and different affixes, she argues that, from a diachronic perspective, the large number of 'multiplets' with the same base underline the frequency with which competition occurs, even if they did not get to survive into Present-Day English (Gottfurcht 2008: 210). Specifically, Gottfurcht (2008) identifies 698 sets of verbs where the latest-attested item has a sense that competes with one of the senses of a previously attested form (Gottfurcht 2008: 196). Still, it is unclear how the resolution in the sets of competitors with the same base analysed takes place. It is also ambiguous whether there exists a difference between the sets of verbs where the second element has been '[…] created to compete with another existing verb' (e.g. *stone*/*stonify* 'turn into stone', Gottfurcht 2008: 196) and those where volition is implied in the creation of a form '[…] that is now better able to trigger the desired semantic association' (Gottfurcht 2008: 202).

The resolution of competition in verbal derivation has been explored in previous research (Fernández-Alcaina 2017), although it was limited to the analysis of verbs derived by *-ize* suffixation or by conversion, e.g. *ghetto*/*ghettoize* 'put into a ghetto'. The results obtained show that most doublets are in resolved competition either by the obsolescence of one of the competitors (e.g. *savage*/*savagize*) or, to a lesser extent, by semantic specialization (e.g. *tender* keeps the general meaning 'make tender', while *tenderize* is mostly used to referring to food as 'make (food) tender'), or according to register (e.g. *quiet* seems to be preferred in AmE while *quieten* is more common in BrE). Clusters where the two competitors have become obsolete were also attested (e.g. *melancholy*/*melancholize*). However, over 35% of the 45 clusters analysed in that study were attested to be in ongoing competition according to OED data. Further research on the paradigms created around the verb in competition (Fernández-Alcaina & Čermák 2018) shows that, at least for some of the groups of competitors analysed, the study of their derivative may prompt at a consistent direction in the resolution of competition. In any case, the conclusions drawn should be taken with caution, as the number of clusters analysed was low.

2.7 SUMMARY

Competition is a pervasive process and a relationship that affects all levels of language. In particular, its existence in morphology was already noticed by Sanskrit grammarians and dealt with from a range of angles ever since. Although a great number of studies on morphological competition addressed competition in derivation, research has also provided evidence of its existence in inflection (i.e. overabundance).

In both categories competition is expected to be resolved either by the obsolescence of one of the forms or by specialization. Such specialization can be semantic, by register or dialectal. Nevertheless, two or more forms may be in competition for a time until resolution occurs. Albeit the outcomes described for competition operate both in inflection and derivation, they may occur to a greater or lesser extent. Therefore, it must be highlighted that there also exist differences between both categories and, thus, competition must be addressed separately in each domain.

Regarding derivation, competition has been generally understood as the co-existence of two or more patterns that express the same meaning. The main aim of the research considering competition in this sense has been the identification of the restrictions that guide the selection of one or the other pattern. However, from a more restrictive perspective, competitors are expected to be not only synonyms but also to be derived from the same base and be distributed in the same way (Fradin 2019). While research into competition has often focused on the first type, some studies have described how competition is resolved in competing doublets. As Romaine argues (2004: 1638):

> It is particularly instructive to compare word formation processes which compete for the same bases. In such cases the factors constraining productivity become clearer, and it is evident that synchronic restrictions on productivity are essentially the result of diachronic changes.

Competition has been researched for both prefixation and suffixation and in nominal, adjectival and verbal derivation. Concerning the latter, the influence of restrictions guiding the preference for one or the other affix

is in some cases still unclear. Furthermore, both the restrictions and the affixes considered vary from author to author: while Schneider (1987) assesses the weight of phonological, morphological and semantic restrictions as well as extra-linguistic factors in the selection of *-en*, *-ify* and *-ize* suffixation, Kjellmer (2001) also considers the role of the frequency of the base in *be-*, *en-*,*-ate*, *-en, -ify* and *-ize* affixation, but leaves conversion aside; Plag (1999) concludes that both phonological and semantic restrictions are at play in the competition of the verbalizing affixes and conversion, at least in 20th century English, and Gottfurcht (2008) concludes that verbal derivation is also influenced by the *Semantic Category Distribution Effect*. Although both Plag (1999) and Gottfurcht (2008) include verbal doublets, there is no reference to the outcomes of such competition. More specific research into verbal doublets in *-ize* suffixation and conversion (Fernández-Alcaina 2017) has illustrated the various ways in which competition can be resolved. In some cases, the information provided by the members of the paradigms of these verbs can also cast light on the resolution of competition in less clear cases (Fernández-Alcaina & Čermák 2018). These conclusions, however, need to be tested in other pairs of competitors and other semantic categories.

3 PARADIGMS IN MORPHOLOGY

3.1 INTRODUCTION

The term *paradigm* is by no means new in linguistics. In the field of morphology, much research has focused on the description of the inflectional paradigm, as illustrated by the variety of theoretical perspectives from which it has been approached (see Boyé & Schalchli 2016 for a review). In derivation, conversely, the hypothesis of a paradigmatic organization has enjoyed much less attention based on its allegedly chaotic nature. Nevertheless, as Stump (2001: 65) notes, '[…] many of the arguments that motivate the postulation of paradigms in the inflectional domain have straightforward analogues in the domain of derivation'. Following this line, research in the last decades has generally advocated for the recognition of paradigmatic relations in derivation or word formation.

The growing interest in the derivational/word-formation paradigm is illustrated by a number of international conferences celebrated over the past five years. Specifically, derivational paradigms were the subject topic of two international workshops at the 49th *SLE Conference* (Naples, 2016) ("Paradigms in Word-Formation: New perspectives on data description and modelling" and "Similarities and differences between inflectional and derivational paradigms: individual languages and beyond") and the workshop "Revisiting paradigms in word-

formation" at the *Word-Formation Theories III & Typology and Universals in Word-Formation* IV (Košice, 2018), as well as in two editions of the international workshop *ParadigMo* (Toulouse, 2017; Bordeaux, 2021). The relevance of the topic in morphological research is also evident from the number of specialized volumes and special issues recently published on the topic (Hathout & Namer 2018, 2019; Fernández-Domínguez et al. 2020; Körtvélyessy et al. 2020).

Despite the growing interest in the subject, the very definition of the term *paradigm* remains ambiguous, partly for its extended use in the literature and the variety of approaches that have addressed it. This is illustrated by the existence of a number of labels in descriptive linguistics: *word family* (Bauer & Nation 1993), *derivational family* (Roché 2009), or *derivational network* (Körtvélyessy et al. 2020), among others.

It is also unclear whether non-affixal processes should or even can be described in terms of paradigms, or as part and parcel of derivational paradigms. Štekauer (2014: 369) argues that only affixation can be considered in the derivational paradigm as '[…] it follows the requirement of systematic, regular and predictable relationships'.

The way in which word formation is considered to be paradigmatic is also theory-dependent. As noted by Bonami & Strnadová (2019), a group of approaches that draw on the Saussurean tradition employs the term *paradigmatic* for one of the two axes (as opposed to syntagmatic relations) of word formation (van Marle 1985). In a second group of approaches, *paradigmatic* refers to the set of forms that revolve around a common base, parallel to the type of organization described for inflection (Bauer 1997; Stump 2001; Beecher 2004; Štekauer 2014). As addressed in section 3.5 below, this is also related to the two-fold nature

of the term *competition* (i.e. between patterns/processes or between forms with the same base). Although few studies assess the relation between the two phenomena (Fernández-Alcaina & Čermák 2018; Fradin 2019), the results obtained suggest that an account of competition in the context of the paradigm where it occurs can provide better insights than when assessed in isolation.

This chapter discusses the above in deeper detail as follows: section 3.2 addresses the problems regarding the definition of the term and discusses how a wider perspective may allow for an integration of both inflectional and derivational paradigms. Section 3.3 briefly summarizes the basic features of the inflectional paradigm and the deviations it may exhibit, thus providing evidence that supports that the traditional characteristics attributed to inflectional paradigms only account for prototypical instances. Section 3.4 further elaborates on the role of the paradigm in derivation both as an extension of the inflectional paradigm or in opposition to syntagmatic relations. Section 3.5 focuses on approaches to the study of competition as part of the paradigm. Section 3.6 is a summary of the chapter.

3.2 DEFINITION

Paradigms can be loosely defined as 'sets of related words' based on 'paradigmatic relationships' (van Marle 1994: 2927) but, due to the pervasiveness of the term in linguistics, there is not a unique definition for the concept.

The first references to the concept of a paradigm date back to the Old-Babylonian tradition, where records show that the paradigm was already described as a list of inflected forms from a word (usually a verb) (Campbell 2002: 82).

However, it was not until Classical Greece that paradigms started to be described as occupying a central role in language description. Aristotle first defined the word 'as the smallest meaningful part of a unit' where 'the parts contribute to the meaning of the whole, yet […] they have not an independent meaning' (*De Interpretiatione* 16b, 27–36 in Blevins 2013: 377). Words were distinguished by the *ptōsis* ('fall') but no meaningful sub-word units were recognized. Therefore, the formation of new words (and word-forms) took place through the formal modification of a basic form (Robins 2000: 53). These processes were extended to other language phenomena through proportional analogy, based on the regular patterns represented by exemplary paradigms. The study of morphology in the 19th century and the beginning of the 20th century still largely relied on the Classical models, specifically on Aristotle's view of the word as the basic unit and of analogy as a driving force within paradigms.

That said, any attempt to define the term *paradigm* inevitably goes back to Saussure's (1959[1916]) associative relations,[12] defined as sets of items related by some shared feature (the radical) and representing various linguistic realities. In particular, Saussure distinguishes four types of relations, three of which are of special interest here insofar as they capture the senses in which the term is most frequently used in the literature. Thus, *paradigm* may refer to a set of forms:

i) with a common stem (e.g. *enseignement* 'teaching^{N}', *enseigner* 'to teach'),

[12] The term *paradigmatic* was later introduced by Hjelmslev (Harder 1996: 439 in Nielsen 2016: 157) to draw a distinction between the syntagmatic and the paradigmatic axes. This is the term employed henceforth in this thesis.

ii) sharing a common affix (e.g. *enseignement* 'teaching^{N}', *changement* 'change'), or
iii) expressing the same semantic category (e.g. *enseignement* 'teaching^{N}', *éducation* 'education').[13]

The non-specificity of Saussure's relations shows in the ambiguity with which the term appears in the literature a century later, where no unified interpretation of the concept stands out. Paradigms have been traditionally restricted to the field of inflection, where the formation of new word-forms was considered highly regular and predictable, in contrast to the seeming irregularity of derivational morphology. However, research in the last decades has provided both morphological and psycholinguistic evidence for the existence of paradigms in word formation too (see section 3.4.1.2), even if they do not necessarily share all the features previously described for inflectional paradigms.

Most perspectives focus on providing evidence for the role played by paradigms in affixation, since the relations among the members of the paradigm need to be regular and predictable. The idea of a paradigm that encompasses all word-formation processes has been considered '[…] vacuous because it does not lead to a predictable and regularly organized system of complex words' (Štekauer 2014: 369). Nonetheless, recent research has argued for its implementation in word-formation processes other than affixation, especially in compounding (Bybee 1985; van Marle 1985; Bauer 1997; Pounder 2000; Stump 2001; Bagasheva 2020; Radimský 2020, among others). In Bauer's words (2019: 171), '[…] lexical paradigms exist in compounding just as they do in affixal

[13] Examples i) to iii) are my translation of Saussure's (1959 [1916]: 126).

morphology', even if they show other features than those exhibited by inflectional and derivational paradigms. Similarly, conversion has also been described in terms of paradigms (van Marle 1985; Antoniová 2016; Bonami & Strnadová 2019) as well as other processes, such as back-formation (Becker 1993), neoclassical compounding (Díaz-Negrillo 2020) or combining forms and splinters (Mattiello 2018), whose description has proved to benefit from an account in terms of paradigms.

Despite the growing body of research in this respect, many questions remain unanswered, but it may be said that the existence of paradigms is not one of them, at least not for a growing number of morphologists.

Whether in inflection or in word formation, the concept of paradigm is two-fold in nature as it both refers to:

i) the set of rules governing the formation of word(forms), and
ii) the resulting realizations of the application of such rules.

The two interpretations were already captured in the definition of the Latin term *regulae* ('rule'), which referred 'both to the formation rules themselves and to the paradigms generated by these rules' (Robins 2000: 58), and formalized in the definitions of inflectional (Carstairs-McCarthy 1994) and word formation (Pounder 2000) paradigms. Specifically, Carstairs-McCarthy (1994: 739) defines the inflectional paradigm as consisting of:

> Paradigm[1]: the set of combinations of morphosyntactic properties or features (or the set of 'cells') realized by inflected forms of words (or lexemes) in a given word-class (or major category or lexeme-class) in a language.

> Paradigm[2]: the set of inflectional realizations expressing a paradigm[1] for a given word (or lexeme) in a given language.

Similarly, Pounder (2000: 85) distinguishes between the morphological (or dynamic) paradigm, i.e. the general pattern and the lexical (or static) paradigm, i.e. the set of actual realizations of the morphological paradigm. Analogically, she also distinguishes between:

i) a *systemic paradigm*, defined as 'set of available paths defined by a series of operations applicable to a given base of a given lexico-syntactic category producing correct/possible complex lexemes' (Pounder 2000: 91), and
ii) a *lexical paradigm*, represented by the specific realization of the instructions contained in the systemic paradigm (Pounder 2000: 85).

Bauer (2019: 155–160) further elaborates on the typology of paradigms as he provides evidence of their application in both inflection and word formation. Specifically, he identifies:

i) a *paradigm of forms* for inflection (e.g. *am-ō*, *am-ās*, *am-āt*) and for word formation (e.g. *man*, *man-ful*, *man-hood*),
ii) a *lexemic paradigm* in inflection, i.e. the set of stems that take a particular ending (e.g. *can-ō*, *err-ō*, *habit-ō*) and in word formation, i.e. the set of bases that take a particular affix, although less predictable than in inflection (e.g. forms in *-ify* are usually nominalized by *-ation*), and

iii) a *paradigm of functions* in inflection (e.g. in English, the grammatical category of comparison may be expressed either by affixation or by a periphrasis) and in word formation (e.g. the semantic category AGENT may be expressed by various affixes in English, such as *-ant*, *-er*, *-ist*, or by conversion too).

There seem to exist, therefore, no impediments to postulate the existence of a paradigm in word formation. This has led to a number of proposals in search for a unified definition where both inflection and word formation are two types of paradigms (Bochner 1993; Schalchli & Boyé 2018; Bonami & Strnadová 2019).

As some of the approaches to the definition of word formation paradigms have their basis on the features described for their inflectional counterparts, the following section is a brief description of paradigms in inflection. The aim is not to provide an exhaustive description, but to highlight the irregularities that they exhibit and that serve as evidence supporting overlaps between inflection and derivation.

3.3 INFLECTIONAL PARADIGMS

As mentioned in section 3.2 above, the inflectional paradigm may be defined both as a pattern (*Paradigm*[1]), i.e. 'a system of slots for relevant morphosyntactic categories each of which is realized by a specific formal marker' (Štekauer 2014: 355) and as the specific realization of such pattern (*Paradigm*[2]).

In prototypical instances of inflection, the paradigm of a lexeme is a closed system where the filling of the cells is obligatory and where both form and content are related by means of one-to-one relations. Mismatches between form and content are not rare, thus proving that, in

inflection, as in derivation, irregularities may occur that deviate from the regularity and predictability of prototypical cases. Such irregularities in English inflectional paradigms may be a consequence of (Beecher 2004: 5; Boyé & Schalchli 2016: 208):

i) Defectiveness: a paradigm does not have available forms for certain grammatical properties, e.g. there is no infinitive form for *can*.
ii) Suppletion: some cells do not share the same stem, because they are often the result of the combination of two paradigms, e.g. in the inflectional paradigm of the adjective *good*, the positive degree comes from OE *gōd*, while the comparative and superlative forms are derived from the OE stem *bet-*.
iii) Syncretism: some paradigms fail to provide distinct forms for distinct contents and various cells are realized by the same form, e.g. the form for the 1st and 3rd singular person past in the paradigm of *be* is *was*.
iv) Cumulation: two or more properties can be realized by the same exponent, e.g. the *-s* in *reads* indicates person, number and tense at the same time.
v) Extended exponence: the same function is expressed through various formal elements, e.g. perfective aspect in the Latin verb *rexisti* 'you ruled' is realized by three suffixes at the same time (*-si*, *-s*, and *-ti*) (Beecher 2004: 5).
vi) Overabundance: various forms compete for the realization of the same cell, e.g. two plural forms are available for the noun *curriculum* (*curricula* vs *curriculums*) (see Chapter 2, section 2.3).

As Beecher (2004: 5) argues, the identification of such deviations in the inflectional paradigm evidences that '[…] inflection and derivation are alike in their morphotactic properties', since they exemplify precisely that some of the features used to define derivation related to its irregular and unpredictable character may be found in inflectional instances too.

The remaining of the chapter focuses on the role of paradigms in word formation, the various approaches to its definition, and the relation between paradigms and morphological competition.

3.4 PARADIGMS IN WORD FORMATION

Two approaches to the study of paradigmaticity in word formation may be distinguished in the literature. In a broad sense, paradigms may occur in the context of the paradigmatic dimension of word formation (van Marle 1985). This view contrasts with purely rule-based models where word formation was described as syntagmatic (e.g. Aronoff 1976). In a narrow sense, however, derivational paradigms are viewed as the set of words related to a common base and described on the basis of inflectional paradigms (Bauer 1997; Štekauer 2014). The two perspectives are further elaborated in this section.

3.4.1 Derivational paradigm

Bauer (1983: 11) defines the derivational paradigm as the set of complex words derived from the same base (e.g. *national*, *nationalize*, *nationalist*, *nationalistic*, *nationality*), analogically to the way in which word-forms are organized in inflection. Similar definitions are found elsewhere in the literature (Pounder 2000; Beecher 2004; Štekauer 2014).

The extension of the notion of paradigm to derivation is also reinforced within the framework of Stump's *Paradigm Function*

Morphology (1991, 2001). Although the theory was originally developed for inflection, Stump (2001: 252) concludes that 'derivation, like inflection, is regulated by paradigmatic principles' on the basis of the similarities inflection and derivation share and despite dissimilar semantic regularity.

Stump (2001: 255) distinguishes two approaches to the description of derivational paradigms. From a semantic perspective, each cell of the paradigm would be linked to a syntactico-semantic category, so that the formal representation of the form in the cell would be determined by the base. Thus, the cell for the category personal-noun would be filled by forms in *-er*, *-ist* or *-ent*. In prototypical instances, the cell of a paradigm is filled only by one form. However, this approach fails to account for the existence of doublets such as *legitimize*/*legitimate*, where semantic differences are not determined by grammar but by their distribution. Any attempt to capture the semantic differences between the forms would entail the postulation of a vast number of derivational functions, and this is not compatible with the lexicon (Stump 1991: 722).

Stump (1991, 2001) proposes instead a formal approach to derivational paradigms where each cell is defined by a morphological rule (e.g. *-er* suffixation, *-ist* suffixation, or *-ent* suffixation). Against Stump's formal approach, research into derivational networks defined paradigms (or networks) as sets 'of derivatives derived from the same word-formation base (simple underived word) with the aim of formally representing specific semantic categories' (Körtvélyessy et al. 2020: 11).

Despite the variety in the theoretical approaches addressing the notion of derivational paradigm, they all coincide in that there is both morphological and psycholinguistic evidence for its existence (sections 3.4.1.1 and 3.4.1.2, respectively).

3.4.1.1 Morphological evidence

In the last decades, morphological research has identified a series of features shared by both inflectional and derivational paradigms, thus demonstrating that the notion of paradigm can be adapted to derivational morphology (Bybee 1985; van Marle 1994; Bauer 1997; Beecher 2004; Štekauer 2014; Antoniová & Štekauer 2015; Bonami & Strnadová 2019; Körtvélyessy et al. 2020):

i) Both inflectional and derivational paradigms are organized around a common base (van Marle 1994: 2927) and it is in this sense that the term *derivational paradigm* is commonly used (Bauer 1997: 245). In English, the basic form to which paradigms are organized is typically a word (e.g. *drive*/*driver*, Bauer 1997: 246). As in inflection, paradigms may also share a stem (e.g. *mechanist*/*mechanism*) or be based on a form that it is not attested (e.g. **aggress*) and must be retrieved from the paradigm (e.g. ***aggress****or*, ***aggress****ive*, ***aggress****ion*) (Bauer 1997: 248). Furthermore, the classification into nominal, verbal, adjectival or adverbial paradigms is, in both cases, determined by the word class of the base, as they 'operate within word-classes' (Körtvélyessy et al. 2020: 7).

ii) Paradigms serve as patterns for the creation of new forms (Bauer 1997: 244).

iii) Both inflectional and derivational paradigms are based on the expression of a set of semantic categories, even though they are different in nature: while inflectional paradigms express grammatical properties (e.g. NUMBER), derivational paradigms

realize semantic categories such as AGENT or ACTION (Antoniová & Štekauer 2015: 62–63).

iv) The members of a derivational paradigm are not only semantically related to the base, but relations among members are attested too (van Marle 1994: 2929). For example, nouns ending in *-ism* and *-ist*, when referring to an ideology and its followers (e.g. *Marxism*, *Marxist*), often show a close semantic link (i.e. 'ideology') between them that is not found in their morphological base (Bauer 1997: 245; Štekauer 2014: 363).[14]

v) The same category may be expressed by various exponents (Bonami & Strnadová 2019: 180), leading to competition in derivation and, to a lesser extent, to overabundance in inflection.

vi) Paradigms play a role in linguistic change through analogy (Bauer 1997: 244; Pounder 2000). This is especially common in highly productive and predictable sets of derivational paradigms. For example, virtually any verb in *-ize* can make its nominalization by *-ation* suffixation, so new words based on this pattern can be easily identified by speakers even if they have not encountered them before (e.g. *Kuwaitize*/*Kuwaitization* in Bauer 1997: 250).

The fact that paradigms in inflection and derivation can be described in parallel terms does not imply, however, that they are equivalent. Saussure (1959[1916]: 126), for example, notes that inflectional paradigms, '[…] which are typical of associative groupings', do not meet one of the characteristics of associative series, i.e. an indefinite number of cases. In the literature, however, the finite nature of inflection has

[14] Note that not all *-ist* forms necessarily have a counterpart in *-ism* (e.g. *linguist*/**linguism*) (Booij 2016: 434).

often been postulated as one of the distinctive criteria to define the concept of paradigm.

Paradigms in inflection and word formation also differ concerning obligatoriness. As mentioned in section 3.3 above, membership in inflection is obligatory, but it is 'facultative' in derivation according to language needs (Štekauer 2014: 357; Antoniová & Štekauer 2015: 63; Körtvélyessy et al. 2020: 9). Therefore, the existence of gaps in a paradigm is a deviation that can occur in inflection but not in derivation, since obligatoriness is not a prerequisite for derivational paradigms. In fact, even if gaps exist in derivational paradigms, they are temporary as they may be filled at a later stage. Furthermore, gaps in derivational paradigms may function as enhancers of productivity, '[…] since they favour the use of morphological processes to meet that need and instigate phenomena like analogy, morphological competition or blocking' (Fernández-Domínguez et al. 2020: 11).

Another difference between inflection and derivation is the nature of the units that form the paradigm. While the members of inflectional paradigms are actual words, paradigms in word formation contain both actual and potential words (Horecký et al. 1989; Bauer 1997; Pounder 2000; Bauer 2019: 173; Körtvélyessy et al. 2020: 20), the availability of slots thus being '[…] more important for the paradigm than the forms which fill them' (Bauer 1997: 253).

It is clear from the above, then, that an attempt to define inflectional and word formation paradigms as equivalent entities fails to integrate the particularities of each. It is not that the paradigm does not play a role in word formation; rather, the limitations of its applicability beyond inflection seem to be a by-product of the restrictions imposed by a narrow theoretical approach to the definition, because the definition has

been intimately linked to inflection. Evidence supporting the applicability of paradigms in word formation is not restricted to morphological features. Recent psycholinguistic research has also demonstrated that paradigms are not just a theoretical construct, but they are also relevant for language processing and have applications in language teaching (see section 3.4.1.2).

3.4.1.2 Psycholinguistic evidence: implications for language processing and teaching

Apart from morphologically grounded arguments in favour of a description of derivation in terms of paradigms, research on language processing has also provided evidence of the role played by morphological families. Specifically, studies on language processing have proved that the family size of a certain word and the frequency of its members may serve as facilitators for the processing of such words (Schreuder & Baayen 1997; de Jong et al. 2000; de Jong 2002; Moscoso del Prado Martín et al. 2004; Milin et al. 2009). The experiments conducted revealed that words with larger morphological sizes obtain shorter response latencies. As the studies suggest, such effect seems to take place at the level of semantic processing (de Jong 2002; Moscoso del Prado Martín et al. 2004). This is only understood if words are considered existing units in the lexicon rather than the combination of smaller units (Blevins 2006: 535). The size of the morphological family has also demonstrated to influence the processing of compounds. According to Van Jaarsveld et al. (1994), novel compounds whose constituents have large families are more likely to be identified as existing words.

Besides family size and type-frequency, de Jong (2002: 187–188) concludes that context is also a relevant factor because the '[…] co-activation of family members actually reflects meaning activation'. This is so because the set of the family which is activated semantically depends on the context in which the word appears.

Interestingly, the existence of paradigmatic relations among derivational elements is also observed in the study of aphasic patients. Libben et al. (2016: 1321) conclude that the interrelation of forms sharing a common element in the mental lexicon may be counter-productive in the language processing of people with aphasia as it can result in comprehension errors.

Paradigmatic organization has been also of interest for the growing body of research into computational linguistics (e.g. Ševčíková & Žabokrtský 2014; Cotterell et al. 2017) and for language teaching, where the recognition of such relations has positive effects for both comprehension (Zhang & Koda 2013) and fluency (Webb & Nation 2017).

Derivational paradigms in language teaching research are commonly referred to as *word families*. They are defined as consisting of '[…] a base word and all its derived and inflected forms that can be understood by a learner without having to learn each form separately' (Bauer & Nation 1993: 253). Thus, there is no need for learners to make an effort when they encounter a new word that belongs to a family they already know. Based on the predictability, productivity and regularity of word families, Bauer & Nation (1993: 263–266) propose a seven-level classification of English affixes, which may have applications both in language instruction (e.g. to establish the goals of vocabulary teaching) and in language research (e.g. by serving as a reference in developmental

research or in lexical storage). The levels proposed may also contribute to provide dictionary making with systematicity and consistency, regarding decisions on whether derived forms should be recorded as full or sub-entries (or included at all), or whether prefixed forms should be listed alphabetically or as a sub-entry of their base (Bauer & Nation 1993: 267).

3.4.2 Paradigmatic word formation

From a broader perspective, derivational paradigms are just one dimension of the complex system of word formation, as illustrated by the various approaches summarized in this section.

In the onomasiological tradition, word formation is a system where parts are paradigmatically related and where motivation is key. However, relations cannot be reduced to those established between the motivating (basic form) and the motivated words, but they often exhibit a higher degree of complexity. In this view, the word-formation system is formed by both a syntagmatic (derivational series) and a paradigmatic (derivational paradigm) dimension, which together form the so-called derivational nest. Specifically, *derivational series* are defined as 'sequences of consecutive motivation pairs' (Körtvélyessy et al. 2020: 3), while derivational paradigms are networks of complex words organized around a common basic (motivating) word.

Similarly, in van Marle's (1985) *Paradigmatic Derivational Morphology*, complex words are not seen as the outputs resulting from the application of rules, but as part of a system based on the notion of *relatedness*, i.e. based on the similarities and differences among the members that form the networks (van Marle 1985). Thus, rather than on

the relations between base and derivatives, the focus is on the relations established among complex words.

Van Marle (1985) thus draws a distinction between the derivational paradigm and the paradigmatic axis of word formation based on the notion of *morphological category*, defined as 'a series of words sharing identical formal feature and identical semantic feature', e.g. *groenig* 'greenish', *kalig* 'baldish', *nattig* 'wettish', *zoetig* 'sweetish' (van Marle 1985: 88–89). As van Marle (1985) notes, the main difference between the derivational paradigm and the paradigmatic axis of word formation lies in the distinction between base and morphological category. Therefore, while the members of derivational paradigms are derived from a common base (Figure 1), in van Marle's approach paradigms are organized in terms of morphological categories (Figure 2):

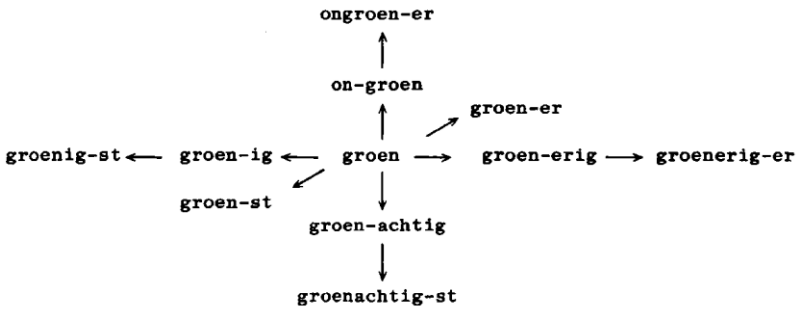

Figure 1. Derivational paradigm (van Marle 1985: 126)

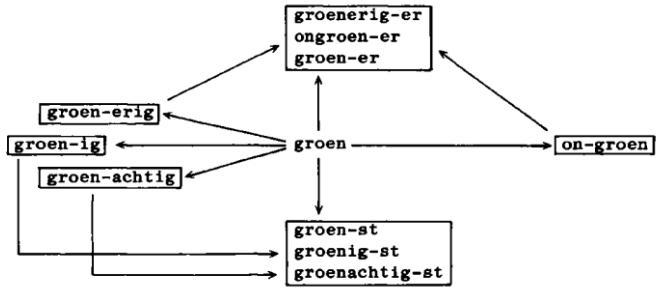

Figure 2. Van Marle's revision of Figure 1 in terms of morphological categories (in boxes) (van Marle 1985: 126)

The semantic feature common to the formal realization shared by the members of the morphological category is referred to as the *categorial value* (van Marle 1985: 89). In this sense, the same semantic distinction between *groen* and *groenig* is found between those pairs formed by the same pattern: *kaal*/*kalig*, *nat*/*nattig* or *zoet*/*zoetig*. Van Marle (1985: 155, 1994: 2928) distinguishes four groups of categories, depending on whether the members of the category share:

i) a common morphological base (e.g. a noun, adjective or verb),

ii) a common base and the same semantic properties, thus resulting in rival morphological categories (e.g. past tense in English can be expressed either by the suffix *-ed*, as in *work* > *worked*, or by vowel alternation, as in *swim* > *swam*; see section 3.5),

iii) a common base and similar (but not identical) semantic properties, e.g. adjectives in Dutch may be formed by attaching the suffixes *-ig* and *-erig* (e.g. *groenig*/*groenerig*), but the latter has a stronger 'subjectively appreciative' meaning, and

iv) a common affix, but not necessarily the same base, e.g. the suffix *-ize* can form verbs both from nouns (e.g. *alphabetize*) and adjectives (e.g. *fertilize*).

A similar distinction between paradigms formed around a common base and a common category is found in Lexical Morphology (Roché 2009), where two types of paradigms are distinguished: *derivational families* and *derivational series*. The combination of both types forms the *paradigmatic system*, defined as 'a collection of (partial) families that are aligned in terms of the content-based relations that their members entertain' (Bonami & Strnadová 2019: 169).

Derivational families, as paradigms, are sets of forms that share the same base (e.g. ***legal***, ***legal****ize*, ***legal****ization*). They may be defined then as (subparts of) derivational families that are organized as networks characterized by containing a fixed number of cells.

By contrast, derivational series are sets of forms derived through the same pattern (e.g. *actual*/*actualize*, *random*/*randomize*, *sterile*/*sterilize*), which goes in line with van Marle's (1985) notion of morphological category. Unlike inflection, where morphosyntactic features are inherent to the form, derivation relies on external evidence, i.e. linguistic context. Therefore, depending on the construction where they occur, the same unit may give rise to two distinct derivational series, as in the examples below (Fradin 2018: 166):

étayer$_1$	'to underpin'	>	*étaiement*$_1$	'underpinning'
rapiécer$_1$	'to patch'	>	*rapiécement*$_1$	'action of patching'
renforcer$_1$	'to reinforce'	>	*renforcerment*$_1$	'reinforcement'
étayer$_2$	'to underpin'	>	*étaiement*$_2$	'prop'
rapiécer$_2$	'to patch'	>	*rapiécement*$_2$	'patch'
renforcer$_2$	'to reinforce'	>	*renforcerment*$_2$	'what reinforces'

Both derivational families and derivational series have an effect on word formation too (Roché 2011: 87) and, hence, in competition, as shown by recent research (Fradin 2019).

3.5 COMPETITION AND PARADIGMS

In Chapter 2, the concept of competition was defined in two ways. Broadly speaking, competition may refer to the catalogue of patterns (or, at a higher level, processes) available for the formation of a word, in which the selection of one or the other patterns is guided by a series of restrictions (e.g. phonetic, formal, semantic, etc.). From a paradigmatic perspective to word formation, the restrictions governing the selection of a particular pattern may be described in terms of domains. *Derivational domains* are defined as the sets of words that may act as bases for the members of a certain morphological category (van Marle 1985, 1986).[15] Specifically, van Marle (1985: 195) argues that '[…] derivational domains of morphological categories may be determined to a greater or lesser extent by paradigmatic forces', without the need to resort to the existence of blocking-devices that prevent the coinage of words such as **furiosity* due to the existence of already attested words such as *fury* (Aronoff 1976). In this respect, van Marle (1985: 195) states that:

> What should be emphasized in this connection is, that this 'hindering' force of rival forms is paradigmatic in nature. For, the coining of *furiosity* and

[15] The view of word formation as a system where rival affixes are organized into domains contrasts with an approach to productivity in terms of constraints (see Chapter 2, section 2.5.1). Plag (1999: 54) argues that, in the case of the rivalry between verbalizing affixes, the distribution '[…] is not governed by primarily paradigmatic forces', but rather in terms of the individual syntagmatic properties of each affix, together with token-blocking and certain cases of local analogy (Plag 1999: 234). Both approaches may be seen as equivalent (Bauer et al. 2013: 578).

> *decentness* is impeded by forces that are radiated by other words in the system. It is the relations between elements in absentia which underline the non-occurrence of **furiosity* and **decentness*.

Van Marle (1985) distinguishes between general and specific cases and argues that '[i]t is the productivity of the general cases which may be affected by paradigmatic forces' (van Marle 1985: 199). Thus, and following the example provided by van Marle (1985), English pluralization is governed by paradigmatic forces in that the general case (suffix *-s*, e.g. *cow* > *cows*) applies in all the domains where the special cases (e.g. *-en*, as in *ox* > *oxen*) do not apply. However, the dichotomy productive/general and unproductive/specific may not be this simple, since special cases may be productive too. This is illustrated by Dutch pluralization, where the special case (i.e. the suffix *-s*) is productive in certain domains (e.g. foreign words such as *memo* > *memos*), where the general case (i.e. the suffix *-en*) does not apply.

Van Marle (1985, 1986) also distinguishes two types of special cases: systematic and non-systematic. While special cases are rule-governed (i.e. by type), non-systematic special cases are lexically governed (i.e. by token) (Plag 1999: 52–53). Thus, the former affects the properties of the domain of the general case, but the latter affects only the actuation of the general case (van Marle 1986: 607).

In this sense of *paradigmatic*, it is by means of opposite relations that competing patterns are distributed into derivational domains. Therefore, competition becomes a driving force for the configuration of the morphological system.

From a more restrictive perspective, competition may refer to those cases in which two or more synonymous forms sharing the same base

but with a different affix are attested in language. They are the result of an overlap in the restrictions that govern the distribution of patterns. Such overlap is materialized as the co-existence of two or more forms within the same slot in the derivational paradigm.

3.5.1 Competition within derivational paradigms

Most studies addressing the competition between forms with the same base usually focus on the competitors themselves. However, as Pounder (2000: 83) notes, historical studies on standardization in Russian (Mal'ceva 1966; Schupbach 1984) and French (Gawełko 1977) have shown that the resolution of competition is '[…] at least partly dependent on relations holding between the complete set of lexemes related to the same base'. Once two forms with the same base enter the system, the choice for one or the other takes place, in many cases, 'at the level of the individual lexical paradigm' (Pounder 2000: 697). However, to the best of my knowledge, few studies have addressed the relation between competition and paradigms, partly due to the problems relating to the very identification of semantic differences in doublets (Bonami & Strnadová 2019: 176).

In his assessment of the competition between nominalizations in *-age* and *-ment* in French, Fradin (2019: 88) concludes that 'the competition of derivational forms can only be assessed against the entailments triggered by their distribution'. While this is true for ongoing competition (see Lara-Clares 2017; Lara-Clares & Thompson 2019), the use of historical corpora for the identification and analysis of diachronic competition has returned few results (see section 4.3.2.2).

When differences in the distribution of two forms '[…] might subsequently become institutionalized meaning distinctions' (Fradin

2019: 90), they may become part of the meaning of the competing forms, thus making possible the distinction of different series and, at a more abstract level, the distinction of different patterns which are in complementary distribution. For example, in French nominalizations, the preference for one of the other suffix is dependent on the distinction control/non-control in the base meaning: while *-age* usually attaches to bases involving control, *-ment* nominalizations are built upon bases involving lack of control (Fradin 2019: 85). This does not imply that overlaps do not exist, because competition may take time to result in a given outcome.

Regarding derivational families, their effect is especially evident where each meaning is linked to a distinct exponent, i.e. canonical derivation (Corbett 2010). However, derivational paradigms do not often behave in this way. In fact, the extent to which paradigms have an effect is hindered by 'the profusion of constructs in attested families' (Fradin 2019: 86).

Since such distinctions in the base form may be inherited by its derivatives[16], the analysis of derivational paradigms of two competing forms may contribute insights into the resolution of competition in favour of one of the competing forms (Fernández-Alcaina & Čermák 2018: 93). Specifically, previous research into the competition between conversion and *-ize* suffixation in causative verbs shows that the allocation of doublets within their respective paradigms presents advantages for the study of competition in two ways.

First, considering paradigms provides further evidence concerning the outcomes of competition. As noted by Fernández-Alcaina & Čermák

[16] However, this is not always the case as both narrowing and widening of the base senses are also attested (Bauer & Valera 2015).

(2018: 79), the comparison of the results obtained to those from a previous study on competition (Fernández-Alcaina 2017) shows that it is possible to obtain more fined-grained results when the derivational paradigm is considered. In particular, of the 15 out of 45 clusters classified as exhibiting ongoing competition in a previous study (Fernández-Alcaina 2017), 13 clusters were reclassified as instances of resolved competition once paradigms were considered. Of those 13 clusters, *-ize* suffixation was preferred in seven clusters, while conversion was found to prevail over *-ize* suffixation in three clusters. The resulting picture suggests that there is a slight bias towards *-ize* instead of towards conversion. As will be seen below (section 5.4.2.2), this is in line with related results.

Second, the earliest attestation dates of the derivatives may also provide evidence for the features displayed by the clusters where competition is resolved. Specifically, a diachronic analysis of the competition shows that there is an increasing preference over time for *-ize* suffixation over conversion to express causative verbs. However, such preference does not prevent the existence of clusters where the converted verb is preferred. In the latter case, it has been observed that, based on the earliest attestation dates of their derivatives, '[…] once a causative zero-derived verb has derivatives mapping on this sense, *-ize* verbs are less likely to replace them, and thus, the subparadigm of the zero-derived competitor seems to support a preference for its base' (Fernández-Alcaina & Čermák 2018: 89). Further research including other patterns may yield a more complete picture of the competition in verbal domain.

3.6 SUMMARY

The paradigm has been a central issue in inflectional morphology since the earliest approaches to language description. Traditionally defined on the basis of the features displayed by inflectional paradigms, its role in derivation and word formation generally has been largely neglected in the literature. Nonetheless, with the advent of approaches considering inflection and derivation, not as two clear-cut morphological categories but as the ends of a gradient, the last two decades have witnessed a growing interest for paradigms in derivation and, by extension, in word formation. While there is not a unique definition of the term, the variety of approaches and labels evidence the attention drawn by the topic in recent morphological research.

As noted above, *paradigmatic* may be understood both at the level of the system, in opposition to *syntagmatic* (van Marle 1985), but also as the set of forms organized around a common form, in a parallel fashion to the idea of an inflectional paradigm (Bauer 1997; Štekauer 2014).

Regarding the relation between competition and paradigms, research assessing the competition between doublets taking into account the paradigm they belong to is scarce (Fernández-Alcaina & Čermák 2018; Fradin 2019), as doublets are usually studied in isolation. Besides derivational paradigms, Fradin (2019) has also shown that derivational series may be of help for the study of the competition between forms with the same base. Similarly, historical studies on standardization (Mal'ceva 1966; Gawełko 1977; Schupbach 1984 in Pounder 2000: 83) have concluded that the resolution of competition depends largely on the relations with the paradigm they are allocated to.

4 METHOD

4.1 INTRODUCTION

This chapter describes the method used for the extraction and analysis of affixes in competition for formation of English verbs and their paradigms. The chapter is divided into three parts:

i) The resources available for the study of competition and their limitations are described in section 4.2. Specifically:
    a) the OED (section 4.2.1), and
    b) corpora (section 4.2.2).

ii) Verbal competition. The collection and processing of verbal competitors is described in section 4.3, with specification of:
    a) the method used for the selection of verbalizing affixes (section 4.3.1),
    b) the resources used for the collection of verbs after assessment of the options available (section 4.3.2), and
    c) the template used for data description (section 4.3.3).

iii) Paradigm construction. The collection and processing of the subparadigms for the competing verbs obtained is described in section 4.4, with specification of:
    a) the procedure used for data collection (section 4.4.1), and
    b) the data description (section 4.4.2).

4.2 METHODOLOGICAL PROCEDURES FOR THE STUDY OF COMPETITION

The study of morphological competition has benefited from the use of online versions of historical dictionaries and from the data available by use of electronic corpora. In the last decades, some empirical studies on competition have also made use of the Internet as a corpus.

4.2.1 The *Oxford English Dictionary*

The OED is a historical dictionary containing around 600,000 words and currently under revision on a quarterly basis. Despite the fact that the use of dictionaries may bias the study of competition due to their limited coverage of neologisms, the OED, unlike learner or desk dictionaries, offers a comprehensive coverage of low-frequency words in English. In fact, a test for the inclusion of low-frequency *-ness* and *-ize* words carried out by Plag (1999) based on data from the OED and the COBUILD corpus shows that 'the number of neologisms in the OED can reliably be used to tell productive processes from unproductive ones', i.e. available from unavailable processes (Plag 1999: 99). In the case of *-ize* verbs, the coverage of neologisms is even greater if compared to the coverage of nouns in *-ness*. This suggests that new verbs are more easily noticeable than new nouns possibly because the number of verbs is lower than that of nouns. Therefore, whereas lexicographic data may be a good index of what is available and what is not, the number of attestations of each word cannot be taken as an index of frequency and, thus, profitability cannot be measured based on lexicographic data (Plag 1999).

As a historical dictionary, the OED contains information regarding the etymology of the entries recorded. However, some entries do not

show their precise etymological origins. Similarly, distinguishing borrowings from English coinages is not always without problems (see Nevalainen 1999: 397; Kaunisto 2009: 78).

Inconsistencies in the systematicity of the definitions provided by the OED are also noticed but, as the OED has gone under continuous revision since its first publication at the end of the 19th century, this is an unavoidable drawback. Several studies on competition make use of a series of keywords for the search of specific semantic categories, e.g. 'property' and 'state' for the extraction of abstract and STATIVE nouns (Arndt-Lappe 2014; Lara-Clares 2017, respectively), or 'cause' for the extraction of CAUSATIVE verbs (Fernández-Alcaina 2017). While the method is suitable for the extraction of a sample, it is important to keep in mind that entries belonging to the same category may be excluded, e.g. *Aladdinize* (Fernández-Alcaina & Čermák 2018).

Regarding use and distribution, the OED specifies whether entries are 'in use', 'rare', 'obsolete', 'dialectal' or belong to a specific register or domain. Some authors notice a literary bias in the quotations used in the first versions of the OED where texts were often chosen according to literary prestige (Nevalainen 1999: 337). However, technological progress has allowed the inclusion of other text sources such as television scripts.[17]

What makes the OED particularly interesting for research on competition is the information about the lifespan of the entries. Various studies on morphological competition rely on the earliest and latest attestation dates to compare the availability or unavailability of competitors (Anshen & Aronoff 1999; Bauer 2001; Kaunisto 2009;

[17] https://public.oed.com/history/rewriting-the-oed/collecting-the-evidence/#databases (accessed 2021–05–13).

Bauer et al. 2010; Díaz-Negrillo 2017, among others). In any case, conclusions based on attestation dates must be taken with a pinch of salt, because the earliest attestation date of an entry does not necessarily reflect the earliest use of the word, but the first written record in the OED. Similarly, words may be used long after the latest attestation date recorded (Bauer 2006: 178).[18] Since the attestation dates provided by the OED rely on the availability of records, some entries are known to have gaps in their dates (Nevalainen 1999). Whether these gaps are a consequence of *renewed availability* (Bauer 2014), *reborrowing* (Nevalainen 1999: 337) or simply of the lack of records is a question that remains unanswered in most cases. For other authors, such as Allan (2012: 25), the absence of attestations for a period of time does not necessarily entail that the word is in disuse.

Overall, the use of lexicographic data for the study of morphological competition has insurmountable drawbacks inherent to the very nature of dictionaries, e.g. incomplete information due to lacking or unclear records. Nonetheless, previous and ongoing research into competition has proved the validity of the OED data for the study of past competing processes and their availability, especially if this is combined with corpus data (Fernández-Alcaina 2017; Smith 2020).

4.2.1.1 OED2 vs OED3

As mentioned above, the OED is currently undergoing a major revision which involves the addition of new entries and subsenses and the amendment and updating of existing material (Simpson 2007). This includes the redating of quotations and the inclusion of new attestations

[18] Nevalainen (1999: 339) notices an imbalance of primary sources in the OED depending on the author.

(Allan 2012:19), two aspects that are crucial for the study of the availability of coexisting forms as earliest and latest attestation dates are used here to draw the evolution of competition.

4.2.2 Corpora

Corpora are another source of data for the study of competition. Among their advantages, corpus data allow the evaluation of the profitability of word-formation patterns by means of productivity measures proposed by Aronoff (1976), Baayen (2009) or Gaeta & Rica (2015), among others. However, it also presents disadvantages for the study of competition.

As pointed out by Kaunisto (2009: 85), results may be biased due to lack of data. Apart from corpus size, results may be biased by the variety of English represented or the span of time covered by the text samples, especially in diachronic research and, also in diachrony, by the uneven text type selection, for objective or subjective reasons.

Previous research into competition shows that the resolution of competition in the cluster *quiet*^{V}/*quieten* is influenced by the variety of English considered: while *quiet* is preferred in AmE, as it has a frequency of 0.39 in the *British National Corpus* (henceforth, BNC) and 2.77 in the COCA, BrE speakers seem to prefer its competitor *quieten*, which is recorded in the BNC with a frequency of 1.64 and 0.06 in the COCA (Fernández-Alcaina & Čermák 2018: 88).

Another disadvantage of using corpora for data collection is the problems they present to collect converted forms. Previous corpus-driven research into competition has solved this problem either by excluding conversion (Plag 1999; Kjellmer 2001) or by complementing data with lexicographic resources

(Fernández-Domínguez 2017; Lara-Clares 2017; Lara-Clares & Thompson 2019).

Internet may be also a corpus for data analysis. Lindsay & Aronoff (2013) analyse the competition in the clusters *-ic*/*-ical* and *-ize*/*-ify* using the *Google Estimated Total Hits* (ETM). A series of considerations need to be made when using the *Google ETM*:

i) the results do not represent the number of occurrences of a given form but the number of websites where it appears, and
ii) the results may contain 'false positives' (Lindsay & Aronoff 2013: footnote 6), such as typos or examples of non-native speech.

Apart from Google hits, the *Google Books Ngram Viewer* offers a corpus based on 500 billion words from 1500 until 2008. Despite the fact that one of the aspects subject to criticism is the alleged literary bias in the texts collected (as most belong to fiction), Davies & Chapman (2016: 147) conclude that '[…] the variety of text-types will be taken care of by a sample that is large enough to catch that variety. And this is precisely what Google Books has done'. Another disadvantage is the impossibility of accessing the whole context where the forms appear. Therefore, frequency results can be used only tentatively, at least, for the study of competition (Fernández-Alcaina 2017; Smith 2020).

4.3 VERBAL COMPETITION

4.3.1 Data collection

Previous research into verbal competition has usually focused on pairs of rival forms (Bauer et al. 2010; Lindsay 2012; Fernández-Alcaina

2017). In particular, research into the competition between causative verbs in *-ize* and conversion (Fernández-Alcaina 2017) shows that forms derived with affixes other than *-ize* or by conversion may also be in competition. For that reason, and in order to collect a sample as inclusive as possible both as regards the form and the meaning, this dissertation addresses verbal derivation including:

i) both verbalizing affixes and conversion, and
ii) all the semantic categories for which verbs are attested to compete (e.g. INSTRUMENT).

The verbalizing prefixes described in the literature and considered in this dissertation are:

i) *be-*: attached to native nominal (e.g. *benight*), adjectival (e.g. *beguilty*) and verbal bases (e.g. *beset*), usually with the sense ORNATIVE, even if PRIVATIVE and CAUSATIVE senses have also been recorded (Bauer et al. 2013: 268). The prefix *be-* may also serve as an intensification of the action denoted by the verb (Quirk et al. 1985: 1546).
ii) *en-*/*em-*: attached to native and non-native, chiefly nominal bases denoting LOCATIVE/DIRECTIONAL (e.g. *encapsule*), ORNATIVE (e.g. *encolour*) or RESULTATIVE (e.g. *enchurch*) senses (Quirk et al. 1985: 1546; Plag 1999: 219; Bauer et al. 2013: 268). It can also be combined with adjectival bases (e.g. *enable*) with the sense CAUSATIVE and with verbal bases (e.g. *encause*). Plag (1999) identifies *en-* prefixation as a non-productive process in 20th

century English derivation, and draws the conclusion that new formations in *en-*/*em-* are based on analogy.

iii) Other verbalizing prefixes such as *a-* (Quirk et al. 1985: 1546; Bauer et al. 2013: 268), *for-*, *in-* and *im-* (Bauer et al. 2013: 268) have been excluded, because they usually appear in lexicalized formations that may hinder the identification of competitors. According to Bauer et al. (2013: 268): the prefix *a-* has both native and non-native origins and the variety of the meanings it expresses is varied and usually non-transparent (e.g. *allay*).

iv) the prefix *for-*, inherited from Old English, appears in lexicalized forms and its meaning is not always clear (e.g. *forgive*), and

v) the forms *in-*/*im-* are spelling variants of *en-*/*em-*, some of them lexicalized with a different meaning. Regarding the use of the verbs *insure*/*ensure*, *Lexico*[19] indicates that both forms overlap in meaning. While *insure* is preferred for the commercial sense 'provide insurance', *ensure* denotes the more general sense 'make certain to happen', although in AmE English the latter may be expressed also by the form *insure*, e.g. *bail is posted to insure that the defendant appears for trial*.

Regarding suffixation, the verbalizing suffixes considered in this dissertation are listed below:

i) *-ate*: attached mostly to nominal bases (e.g. *amalgamate*), although it can also be found with adjectival bases (e.g. *authenticate*), especially in formations prior to the 20th century (Gussmann

[19] https://www.lexico.com/en

1987), as well as with complex bases and bound roots (e.g. *migrate*), but not with compounds or phrases. As for phonological factors, *-ate* verbs usually attach to bases ending in a trochee and no stress shift is involved. It usually induces truncation in dactylic bases, both ending in a vowel (e.g. *cativity* > *cativate*) or in a consonant (e.g. *alluvium* > *alluviate*). The suffix *-ate* is traditionally considered as an 'indicator of verbhood' (Plank 1981: 214; cf. also Marchand 1969: 258; Plag 1999: 212) but *-ate* verbs may be the result of other non-affixational processes such as back-formation (e.g. *formate* < *formation*), conversion (e.g. *citrate*), back-derivation or clipping (e.g. *patriate* < *repatriate*), analogical formation (e.g. *active*/*activate*) or simply idiosyncratic forms (e.g. *dissonate*) (see Plag 1999: 206–210 for details). From a semantic point of view, *-ate* verbs most commonly express the semantic categories:

a) ORNATIVE (e.g. *mercurate*),
b) RESULTATIVE (e.g. *phosphate*), and
c) CAUSATIVE (e.g. *passivate*).

ii) *-en*: usually attached to adjectival bases, expressing the sense CAUSATIVE (e.g. *deafen*) or used intransitively (Quirk et al. 1985: 1557; Plag 1999: 219). It can attach both to native and non-native bases (Bauer et al. 2013: 610). Regarding phonology, *-en* is usually preceded by monosyllabic bases ending in an obstruent (Bauer et al. 2013: 193), specifically /d/ and /t/ (Marchand 1969: 272; Bauer & Huddleston 2002: 1714 in Bauer et al. 2010: 7). Competition between *-en* suffixation and conversion is well-attested in the literature (Quirk et al. 1985: 1562; Plag 1999: 219; Bauer et al. 2010).

iii) *-ify*: attached both to native and non-native nominal (e.g. *citify*), adjectival (e.g. *divinify*) and bound bases (e.g. *calcify*) and proper nouns (e.g. *Christify*). Regarding phonological restrictions, *-ify* suffixation usually applies in monosyllabic (e.g. *artify*) and iambic (e.g. *bourgeoisify*) bases that carry the stress on the syllable preceding the suffix (Plag 1999: 197). Stress-shift is not common. Whereas bases with final unstressed /i/ coalesce with the suffix, consonant-final deletion is not attested. Exceptions to these general constraints may give rise to doublets *-ize*/*-ify* (Plag 1999: 201; Bauer et al. 2013: 287). In semantic terms, *-ify* verbs can express a range of senses, most of them also occurring in *-ize* verbs (Plag 1999: 195; Bauer et al. 2013: 283):

   a) INCHOATIVE (e.g. *acidify*),
   b) CAUSATIVE (e.g. *diversify*),
   c) RESULTATIVE (e.g. *yuppify*),
   d) ORNATIVE (e.g. *youthify*),
   e) LOCATIVE (e.g. *tubify*) and, to a lesser extent,
   f) SIMILATIVE (e.g. *Lewisify*), and
   g) PERFORMATIVE (e.g. *speechify*)[20]

iv) *-ize*: attached to native and non-native nominal and adjectival bases to form in both transitive and intransitive uses of the verb. Regarding phonological restrictions, *-ize* suffixation applies in usually attached to trochaic bases (e.g. *randomize*, *dandyize*) and dactylic bases ending in a consonant (e.g. *hospitalize*), and where the final vowel is deleted (e.g. *memorize*). Non-dactylic vowel-final bases that remain intact are also possible (e.g.

[20] *-ify* suffixation is commonly used with neoclassical bases. Other types of bases are often facetious or pejorative (e.g. *speechify, dandify*) (Quirk et al. 1985: 1557).

ghettoize). Haplology also occurs in bases such as *feminine* (< *feminize*) in order to avoid identical 'adjacent syllables' (Plag 1999: 185). Stress shift is rare (Plag 1999: 171) (see Plag 1999 for a detailed account of the phonological restrictions of *-ize* verbs). Some bases may make use of extenders (e.g. *mediocritize* < *mediocre*).[21] Verbs in *-ize* can express a range of semantic categories (Plag 1999: 125; Bauer et al. 2013: 287):[22]

a) LOCATIVE (e.g. *hospitalize*),
b) ORNATIVE (e.g. *accessorize*),
c) CAUSATIVE[23] (e.g. *randomize*),
d) RESULTATIVE (e.g. *crystallize*),
e) INCHOATIVE (e.g. *aerosolize*),
f) PERFORMATIVE (e.g. *philosophize*), and
g) SIMILATIVE (e.g. *Boswellize*).

v) Conversion is usually considered the most productive verb-formation process (Plag 1999: 219; Kastovsky 2005: 36; Bauer et al. 2013: 277), perhaps due to the variety of base types it can take, as they can be 'simplex, derived, or compound nouns and adjectives, onomatopoeic expressions and phrases' as well as prepositions, adverbs,[24] interjections and conjunctions (Bauer et al. 2013: 278). Converted verbs are also semantically diverse. In fact,

[21] Instead of extenders, another form where adjustment is not needed can be set as the base (e.g. *mediocrity* > *mediocritize*) (Bauer et al. 2013: 270).
[22] As described in Plag (1999) for 20th century formations. Older formations may display other semantic categories not included in the list.
[23] Traditionally, FACTITIVE is used to refer to deadjectival formations and CAUSATIVE to denominal ones. However, since the distinction may appear as doubtful in the description of derived verbs, CAUSATIVE is used as the cover term to refer to both categories (Rainer 1993: 235, 238 in Plag 1999: 195). Similarly, the distinction between CAUSATIVE and RESULTATIVE is often ambiguous and both can be merged into the category CAUSATIVE (Plag 1999: 132).
[24] Now considered unproductive (Bauer et al. 2013: 278).

Plag (1999: 220) claims that '[…] there should be no specific meaning attached to the process of zero-derivation at all'. However, apart from idiosyncratic meanings, some converted verbs may fall into the categories described for affixational process (Bauer et al. 2013: 285):

a) LOCATIVE (e.g. *archive*),
b) ORNATIVE (e.g. *marmalade*),
c) CAUSATIVE (e.g. *sober*),
d) RESULTATIVE (e.g. *package*),
e) INCHOATIVE (e.g. *gel*),
f) PERFORMATIVE (e.g. *tango*),
g) SIMILATIVE (e.g. *chauffeur*),
h) INSTRUMENT (e.g. *hammer*),
i) PRIVATIVE (e.g. *bark*), and
j) STATIVE (e.g. *bay*).

Table 1 shows the list of verbalizing affixes (including conversion) considered in this dissertation based on the affixes listed by Quirk et al. (1985), Plag (1999) and Bauer et al. (2013):

Table 1. List of verbal affixes based on Quirk et al. (1985), Plag (1999) and Bauer et al. (2013)

Quirk et al. (1985)	**Plag (1999)**	**Bauer et al. (2013)**[25]
-ate	*-ate*	*-ate*
-en	*-en*	*-en*
-ify/*-fy*	*-ify*	*-ify*
-ize/*-ise*	*-ize*	*-ize*
conversion	conversion	conversion
en-/*em-*	*en-*	*en-*/*em-*
be-		*be-*

[25] Bauer et al. (2013) also include back-formation and clipping as processes deriving verbal forms. However, these two are not considered in this dissertation.

4.3.2 Data source selection

This section summarizes the resources considered for data collection, specifically corpora (section 4.3.2.1) and dictionaries (section 4.3.2.2). In order to check their suitability, each resource was tested by extracting pairs of potential competitors formed by a converted verb and a suffixed verb in *-ate*, *-ize*, *-ify* or *-en*.

4.3.2.1 Corpora

4.3.2.1.1 Synchronic corpora

Frequency lists have been used in previous research into morphological competition (see Fernández-Domínguez 2017). Specifically, the *BNC Frequency List* contains 616,568 lemmas ordered by frequency and tagged for word-class and, within frequency, in alphabetical order. The main advantage of using a frequency list is that it gathers all the types found in the BNC and provides information regarding word-class and frequency. Data extraction from the list is easily done by using the software *Scáthach* (Lara-Clares & Lara-Clares 2016), which allows filtering results by word-class, word-size and affix. It also allows to remove strings containing numbers or punctuation marks such as hyphens, slashes or brackets.

An initial list containing 2,368 verbs ending in *-ate*, *-ize*, *-ify* and *-en* was extracted from the *BNC Frequency List*. The aim was to identify pairs of competing verbs comparing non-affixed verbs (and, therefore, potential derivatives by conversion) with suffixed verbs.[26] Entries were

[26] The selection of pairs containing suffixed and non-suffixed verbs for the test does not reduce competition to the rivalry between conversion and suffixation. The choice of converted/suffixed pairs is justified because: i) in principle, bases derived by suffixation can also undergo conversion (Plag 1999: 231), and ii) the pairing of converted and suffixed verbs can be easily done automatically.

filtered by word-class ('verb'), and lemmas containing numbers or punctuation marks (-, /, \, *[ ]*, *( )* and .) were discarded. Lemmas containing less than four characters were also omitted, as suffixed verbs are expected to be larger in size. Table 2 shows the sizes of the lists classified according to the filters applied, if any:[27]

Table 2. Verbal forms extracted from the *BNC Frequency List* using *Scáthach* (Lara-Clares & Lara-Clares 2016). In the table, *Raw* refers to all the lemmas tagged as 'verb' by the BNC, *Filtered* refers to all the verbs without numbers or punctuation marks, and *Filtered by affix* refers to verbs ending in *-ate, -ize, -ify* or *-en*

Filters	Verbs
Raw	35,757
Filtered	28,892
Filtered by suffix	2,368

As the pairing of potential competitors was done automatically based on formal identity, the list obtained needed manual checking in order to discard forms sharing a similar string of characters but not a common base (e.g. *beat* 'strike repeatedly' vs *beatify* 'pronounce a person to be in enjoyment of heavenly bliss').

Table 3 shows the number of pairs of potential and true competitors before and after manual checking.[28]

Table 3. Competing pairs of suffixed and non-suffixed verbs before and after manual revision

	Pairs
Potential competitors	164
True competitors	68

[27] Please note that not all the forms extracted are derived verbs, as in some cases they do not contain an affix but a string of letters that matches the form of one of the affixes (e.g. *abate*).

[28] The label 'true competitors' is used here to refer to those pairs that were attested to have competing senses according to the OED (e.g. *bald*/*balden* 'make bald') as opposed to those verbs that share the same base but do not overlap in meaning (e.g. *author* 'be the author of a book' vs *authorize* 'endow with authority').

The lists obtained for the pairs of suffixed and non-suffixed competitors show different sizes. Whereas the initial list extracted contained 164 pairs, only 68 remain after manual revision. This is because some of the forms were discarded from the final list of sources of derivatives, as a result of being unwanted elements such as:

i) proper names (e.g. *Batt*/*batten*),
ii) nouns (e.g. *computer*/*computerize*),
iii) adjectives (e.g. *coarse*/*coarsen*),
iv) past participles (e.g. *clove*/*cloven*),
v) archaic forms (e.g. *seke*/*seken*),
vi) foreign forms (e.g. *mort*/*morten*, from Latin *post mortem*), or
vii) typos (e.g. *indent*/*indentify* instead of *identify*).

In some other cases, verbs are derived from the same base but they cannot be considered competitors:

i) they do not attest semantic overlap (e.g. *church*, 'perform a ceremony in church' or 'put on trial in church' vs *churchify*, 'imbue with the ideas of Christian church'),[29] or
ii) they are not the result of word formation, but possibly of borrowing (e.g. *alter*/*alterate*).

Finally, there seem to be mismatches between the forms recorded in the *BNC Frequency List* and those in the corpus. Some forms such as *slogan*,

[29] There is, however, another verb derived from *church*^{N} and not recorded in the BNC: *churchize* ('churchify', 1843–2001, OED3) that may compete with *churchify* (1719–2003, OED3). In the OED, the *-ify* form is marked as 'colloquial'.

tagged as 'verb' in the *BNC Frequency List*, are recorded neither in corpora nor in lexicographic resources.

In conclusion, the use of the *BNC Frequency List* has advantages regarding additional information about context and the possibility of using a tool specifically designed for dealing with corpus data (i.e. *Scáthach*). However, some of the clusters obtained in this way may be incomplete, because not all the possible competitors for the forms extracted may be recorded in the corpus (e.g. *churchize*, see footnote 29), and this prevents use of the BNC for this dissertation.

4.3.2.1.2 Diachronic corpora

Given the dia-synchronic nature of this thesis, an alternative to the *BNC Frequency List* was the use of lists extracted from diachronic corpora. Specifically, the corpora selected for the pilot were:

i) The *Penn-Helsinki Parsed Corpus of Early Modern English* (henceforth, PPCEME) is a syntactically annotated corpus that consists of c. 1.8 million words. It includes sample from prose text samples dated between 1500 and 1710.
ii) The *Early English Book Online corpus* (henceforth, EEBO) is an annotated corpus containing texts from the 1470s to the 1690s. It consists of 755 million words.[30]

To test the suitability of the diachronic corpora, the same test described in section 4.3.2.1.1 was carried out using two frequency lists containing

[30]Accessed via https://kontext.korpus.cz/.

suffixed verbs extracted from the PPCEME and the EEBO. Table 4 shows the figures for the verbal forms extracted from both corpora:

Table 4. Verbs extracted from the PPCEME and the EEBO. *Raw* refers to all the forms tagged as 'verb' in the corpora, and *Suffixed* refers to verbs ending in *-ate*, *-ize*(*-ise*), *-ify* or *-en*

	PPCEME	**EEBO**
Raw	5,402	1,888
Suffixed	286	201

Suffixed and non-suffixed forms were paired in order to extract groups of potential competitors. The results obtained are listed in Table 5:

Table 5. Pairs of potential competitors extracted from the PPCEME and the EEBO

	Pairs of potential competitors
PPCEME	*abrogat*/*abrogate* *awake*/*awaken* *chast*/*chasten*/*chastise* *enlighten*/*light*/*lighten* *like*/*liken* *loose*/*loosen*
EEBO	*equal*/*equalize* *glory*/*glorify* *hast*/*hasten* *like*/*liken* *scandal*/*scandalize* *sharp*/*sharpen* *warrant*/*warrantize* *wash*/*washen*

Despite the information the corpora provide about context, the disadvantages outnumber their benefits as regards research into competition. Some of these disadvantages are:

i) the low number of potential competing pairs obtained (six pairs from the PPCEME and eight from the EEBO),
ii) the extraction of apparently competing verbs but which are in fact orthographical variants (e.g. *abrogat* vs *abrogate*) or archaic forms (e.g. *hast* vs *hasten*, where the former is the 2nd person singular of the verb *have*), and
iii) the restriction of corpora to a certain period, which may hinder the identification of cases of competition across periods. Instances of pairs where the members are first attested in different periods are common (e.g. *English* 1450–/*Englishize* 1799–).

4.3.2.2 Lexicographic resources

In view of the problems posed by the use of corpora, a list of suffixed and non-suffixed verbs was collected from the OED. Since the dictionary is continually updated and in order to guarantee the comparability of the data, the extraction of competing forms is restricted to those forms updated in the OED3. This decision is supported by fact that the study of the availability of competing processes largely relies on attestation dates. The information from the OED used in the data description of the competitors was gathered from November 2018 to February 2019.

Entries are apparently updated in a stratified way. This has both advantages and disadvantages. On the one hand, some competitors where one of the forms appears to be frequent in use need to be excluded because the entry was not updated, e.g. the latest attestation date for the verb *lengthen* in the OED goes back to 1891, even though it is relatively frequent in Present-Day English. On the other hand, the fact that the updating process does not proceed in alphabetical order allows the collection of entries throughout the dictionary. Furthermore,

morphologically related entries usually belong to the same OED version, and this makes the comparison of competitors and their derivatives easier.

Previous research (Fernández-Alcaina 2017) relies on a list of 816 verbs in *-ize* extracted from the OED filtered by affix (i.e. *-*ize*), word-class (i.e. verb), language of origin (i.e. English) and the keywords contained in the definitions used for the gloss of the semantic category CAUSATIVE (typically 'make', 'render' and 'cause'). Filtering the verbs by their language of origin may make identification of potential competitors and exclusion of borrowings easier. The first 20 entries of the list used in previous research were manually checked and compared with the first 20 verbal entries of a list where no filters were applied, in order to compare the type of entries excluded with those that were not. After comparison, verbs described as 'From a proper name, combined with an English element' (e.g. *Aladdinize*) were excluded, leaving out verbs with foreign bases but derived within English which are also, for this reason, of relevance for this dissertation. In view of these problems, a list of 6,784 verbs was collected from the OED filtered by the suffixes *-ate*, *-ize*, *-ify* and *-en*.

Following the same test used with synchronic and diachronic corpora, suffixed verbs were screened for potential converted competitors that share the same base (e.g. *adjective*/*adjectivize*). A total of 351 clusters was identified as involving instances of true competition. Therefore, it seems preferable to extract potential verb forms directly from a dictionary.

4.3.2.3 Summary

Three distinct resources were tested for the collection of competing verbs and, specifically, for the competition between suffixed and converted verbs. Table 6 is a comparison of the sizes of the list obtained:

Table 6. A comparison of competing clusters according to the sources tested

Synchronic corpora	Diachronic corpora	OED
64	13	351

Both synchronic and diachronic corpora have limitations in their use for data extraction, mainly related to the low number of relevant competing pairs obtained. Whereas corpora have the advantage of providing information about the context, the number of competing pairs obtained is low (64 pairs from the *BNC Frequency List* and 13 pairs from the PPCEME and the EEBO), compared with the data collected from the OED (351 clusters).

Although lexicographic resources also have drawbacks (e.g. biased information as a result of unsystematic lexicographic practice), they supply information about etymology, meaning and use, all essential for research on competition. The use of the OED also allows collection of competing forms across periods without the need for combining sources.

4.3.3 Data processing

The data extracted are described according to the template in Table 7. The information regarding the base of each verb and its word-class is based on the OED, as well as the definition of each sense, with specification on whether it is transitive or intransitive.

Table 7. A template for the description of competing verbs based on the information prov
and semantically classified

Lemma	Sense	Base		Meaning			Senses				
		Form	Word-class	Semantic category	Definition	Trans./ Intr.	In use	Obs./ Rare	Arch	Dial.	Reg./ Dom	T
adjective	1	*adjective*	Adj	CAUSATIVE/ RESULTATIVE	make into an adjective	trans.	2	0	0	0	1	
adjectivize	1	*adjective*	Adj		make into an adjective	trans.	0	0	0	0	1	
adjective	2	*adjective*	Adj	INSTRUMENT	qualify using adjectives	intr.	2	0	0	0	1	
adjectivize	1	*adjective*	Adj		qualify using adjectives	intr.	0	0	0	0	1	

The senses, the status and the timeline of each verb are also based on dictionary data.[31] Furthermore, the number of quotations (*Quots* in Table 7) for each entry has also been noted. The minus sign (–) indicates that the number of quotations is lower than three. Otherwise, a plus sign (+) is used. This does not mean that the number of quotations is considered an indicator of frequency: it is rather a way of telling entries with restricted use from those that seem to be more common. Forms marked with a minus sign (–) may be:

i) once-attested forms (e.g. *angelify* 'make into an angel'),
ii) unique forms attested only in works by a specific author (e.g. *blithen* 'make blithe' in Galt 1824, 1830), or
iii) forms attested as a dictionary entry or as part of a dictionary definition (e.g. *enstrait* 'make narrow').

The clusters have been semantically described according to the semantic categories used by Bauer et al. (2013) in Table 8:

[31] The latest attestation date has been specified for all the entries, whether they are marked as 'obsolete/rare', or not.

Table 8. Semantic categories used for the classification of competing verbs (Bauer et al. 2013: 282–286)

Affix	Semantic category	Example
be-	ORNATIVE	*beblood*
	PRIVATIVE	*behead*
	CAUSATIVE	*befoul*
	LOCATIVE/DIRECTIONAL	*encapsule*
em-/en-	ORNATIVE	*enhat*
	RESULTATIVE	*enchurch*
	CAUSATIVE	*enlarge*
-ate	ORNATIVE	*mercurate*
	RESULTATIVE	*phosphate*
	CAUSATIVE	*passivate*
-en	CAUSATIVE	*deafen*
-ify	INCHOATIVE	*acidify*
	CAUSATIVE	*diversify*
	RESULTATIVE	*yuppify*
	ORNATIVE	*youthify*
	LOCATIVE	*tubify*
	SIMILATIVE	*Lewisify*
	PERFORMATIVE	*speechify*
-ize	LOCATIVE	*hospitalize*
	ORNATIVE	*accessorize*
	CAUSATIVE	*randomize*
	RESULTATIVE	*crystallize*
	INCHOATIVE	*aerosolize*
	PERFORMATIVE	*Boswellize*
Conversion	LOCATIVE	*archive*
	ORNATIVE	*marmalade*
	CAUSATIVE	*sober*
	RESULTATIVE	*package*
	INCHOATIVE	*gel*
	PERFORMATIVE	*tango*
	SIMILATIVE	*chauffeur*
	INSTRUMENT	*hammer*
	PRIVATIVE	*bark*
	STATIVE	*bay*

The timelines for the competitors under analysis were built using the OED earliest and latest attestation dates for each verb, and represented according to the chart model in Figure 3:

i) The *x* axis specifies the years, from 500 to 2000. The years 500 and 800, which are OED Early Old English (henceforth, eOE) and Old

English (henceforth, OE) attestations, are convenient labels for easier data comparison.

ii) The *y* axis specifies the base of the competing verbs within a cluster (e.g. *legend*^{N}).

iii) The lines represent competing derived forms. In the example shown in Figure 3, the broken line stands for *-ize* derivatives (e.g. *legendize*) and the solid line stands for converted verbs (e.g. *legend*^{V}).

Method

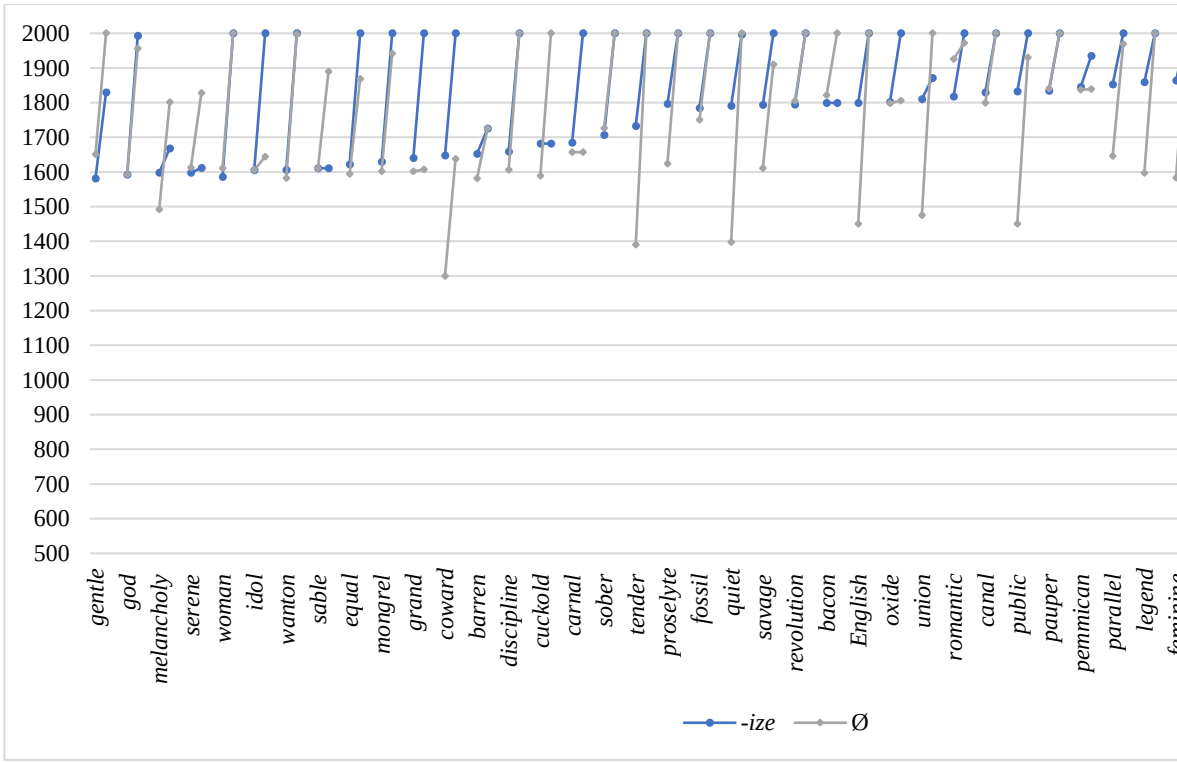

Figure 3. Timeline chart model for the historical development of verbal competing bases (Fer
Blue stands for the verbs ending in *-ize*; grey, for converted verbs

Whenever there is a gap in the attestation dates cited in the OED, the gap has been noted and represented in the timeline chart (e.g. Conversion2, *-ify*2). Thus, in the cluster *monster*/*monsterfy*, *monster* dates back to 1584, but the next attestation date is 1996 (Figure 4). Gaps in attestation dates may also be found in both competitors, as in the cluster *lady*/*ladyfy*: competition between the forms is first attested in the 17th century, and then again in the 20th century after a gap in the attestation dates.

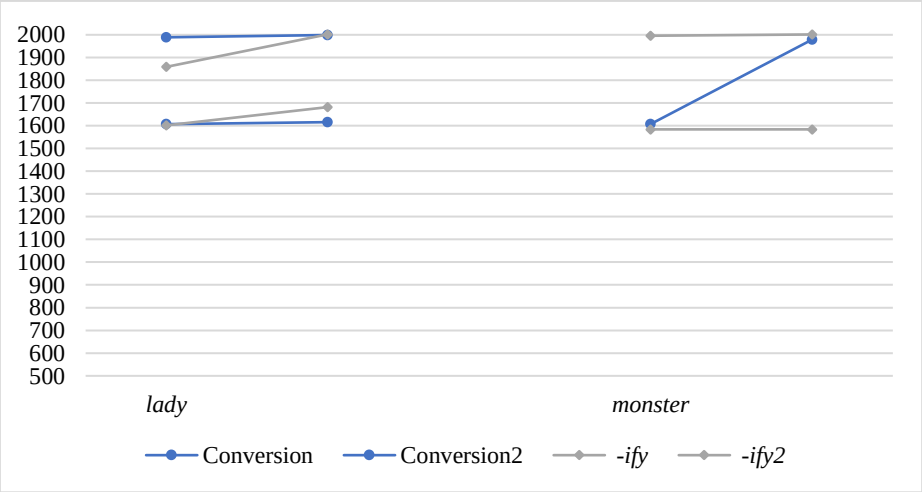

Figure 4. An example of two entries with a gap in the attestation dates cited in the OED

In order to complement the information provided by the OED for the study of competition in verbs, additional data have been considered using:

i) two historical corpora:

a) *English Historical Book Collection* (henceforth, EHBC),[32] is a corpus collection containing texts dated

[32] Accessed via *Sketch Engine* (https://www.sketchengine.eu/) (accessed 2021–04–07).

between 1472 and 1820 from three corpora: EEBO Phase I, ECCO and Readex's Evans. The collection has a size of 826,296,048 words (987,242,247 tokens). The collection has been used for the study of diachronic competition of adjectival doublets (Smith 2020).

b) *Corpus of Historical American English* (henceforth, COHA), containing more than 475 million words from texts between 1820s and 2010s and well-balanced by genre and decade.

ii) two contemporary corpora:

a) COCA, containing more than one million words from texts dated from 1990 to 2019 and well-balanced as regards genre.

b) *iWeb: The 14 Billion Web Corpus* (henceforth, iWeb) contains 14 billion words from 22 million websites.

iii) the derivational paradigms where the competitors are allocated, in order to check whether the mapping of a particular sense onto the derivative can shed light on the prevalence of a form over its competitor.

Whenever required, contemporary dictionaries (*Collins Cobuild* and the *Merriam-Webster*) have also been used as complementary information regarding the definition and the status of the competitors analysed, especially for those attested to be in use in Present-Day English.

4.4 PARADIGM CONSTRUCTION

4.4.1 Data selection

The data collection method used for the construction of paradigms is partly based on Fernández-Alcaina & Čermák (2018) for the competition between conversion and *-ize* suffixation. In previous research, derivatives were extracted both from the OED and the COCA. This was in order to collect as many derived forms as possible. However, as this thesis is wider in scope than the above reference and focuses on verbal affixation rather than on two specific processes, it collects potential members of the verbal subparadigms exclusively from the OED.

In accordance with an inclusive approach, data collection for the construction of paradigms considers:

i) available and unavailable derived forms in the creation of the subparadigms, and

ii) forms derived by combining forms and affixoids. In view of the difficulty to separate combining forms and affixoids from compounding (excluded from this dissertation), only the combining forms and affixoids classified as such in Quirk et al. (1985), Stockwell & Minkova (2009) and Bauer et al. (2013) are considered. Table 9 shows the list of combining forms and affixoids classified according to their position:

Table 9. Combining forms and affixoids used for data selection based on Quirk et al. (1985), Stockwell & Minkova (2009) and Bauer et al. (2013)

Initial position						**Final position**
anti- *demi-* *hyper-* *mega-*	*micro-* *mid-* *multi-* *nano-*	*non-* *post-* *pre-* *pro-*	*proto-* *pseudo-* *quasi-* *re-*	*semi-* *sub-* *super-* *supra-*	*ultra-* *under-*	*-like* *-some* *-wise*

For the identification of derivatives in the OED, forms were searched for using the expression **lemma** (e.g. **tender**),[33] resulting in a list containing a high number of derivatives from a particular base. The lists were then analysed to exclude irrelevant cases of accidental formal identity (e.g. *pretender* < *pretend* 'a person who makes a profession or assertion, esp. falsely or hypocritically') and compounds (e.g. *tender-foreheaded* 'modest, meek').

4.4.2 Data processing

The data obtained were analysed following the template in Table 10, which is partly based on the template designed for the international *Projekt Monika* (Körtvélyessy et al. 2020) on cross-linguistic derivational networks. An example of the partial paradigm of the base *mongrel* ('the offspring or result of cross-breeding, miscreation, mixed married') is given in Table 10.

Information regarding the word-class of the forms, the earliest and latest attestation dates and the definition is according to the OED. All the forms are classified semantically following Bauer et al. (2013).

In the case of the subparadigm in Table 10, the verbs *mongrel* and *mongrelize* began to compete around 1630 (when the form in *-ize* is first attested), but in the second half of the 17th century, the converted form was lost and only the *-ize* verb remained. The preference for the *-ize* verb is supported by further derivation in *-ation* (*mongrelization*), *-ing* (*mongrelizing*^{N}) and *-ed* (*mongrelized*).[34]

[33] In some bases, such as *discipline*, the last grapheme is dropped as it is one of the requirements for suffixes to attach (e.g. *disciplinable*, *disciplinize*).

[34] In order to follow the most inclusive approach possible, the suffixes *-ed* and *-ing* are included in this dissertation whenever they are recorded in the OED as separate entries, either as adjectives (in *-ed* or *-ing*) or as nouns (in *-ing*), despite their controversial nature as intermediate cases on the inflection/derivation cline.

Table 10. A sample of the data file where the word-class of the base, the timeline and the hyperonymic de
forms are classified semantically (Fernández-Alcaina & Čermák 2018)

Base	1st Derivative	Word -class	Timeline *	†	Meaning	Semantic category	2nd Derivative	Word -class	T *
mongrel	*mongrel*	V	1602	1662	make (mongrel)	CAUSATIVE			
							mongrelized	Adj	18
	mongrelize	V	1629	–	make (mongrel)	CAUSATIVE	*mongrelization*	N	18
							mongrelizing	N	19

4.5 SUMMARY

This chapter summarizes the method used for the collection and analysis of competition in verbal clusters. In particular, 321 clusters where forms have been identified to compete for the expression of a particular sense have been extracted from the OED3.

The use of the OED3 for the study of diachronic competition presents a series of advantages over corpora, e.g. identification of a higher number of competing forms, attestation dates and information regarding status and use. However, it also presents disadvantages that are inherent to its very nature, such as the lack of available records or inconsistencies in the structure of the definitions provided, which may hinder the identification of competitors.

Since the study of past competition and its resolution inevitably relies on the attestation dates provided by the dictionary, the clusters analysed in this dissertation are restricted to those forms that have been updated in the third version of the OED. Otherwise, the inclusion of data from the OED2 could lead to misleading results of competition in respect of attestation dates and status.

Although the OED has proved to be a useful tool for data collection, the assessment of historical competition requires the combination of various sources. Specifically, this dissertation complements lexicographic information with historical (EHBC and COHA) and contemporary (COCA, iWeb) corpora, as well as with synchronic dictionaries (*Collins Cobuild* and *Merriam-Webster*). Besides, based on previous research (Fernández-Alcaina & Čermák 2018), the study of competition considering the paradigms where the competing forms are allocated may also shed light on the direction in the resolution of competition.

5 RESULTS

5.1 INTRODUCTION

The study of the competition in verbalizing affixes lends itself to a wealth of further descriptive results. This chapter presents only the most relevant results obtained, supported by examples.[35]

The chapter is structured as follows: section 5.2 is an overview of the profile of competition on the basis of the clusters analysed, specifically of the features displayed by verbal competition regarding formal and semantic properties, and the outcomes of such competition, i.e. whether resolved or not and in which way. The following sections focus on the analysis of the competition in clusters with three or more members (section 5.3) and in doublets (section 5.4). Details on the resolution of competition in doublets are described in sections 5.5 for resolved and 5.6 for ongoing competition. The chapter closes with a summary of the results in section 5.7.

5.2 GENERAL REMARKS

This section introduces the general profile displayed by the clusters in the sample regarding competing patterns in terms of their meaning and the resolution of the competition they are involved in.

[35] The y-axis of the charts presented in this chapter has been set to 50, 250, 500 or 2000. Scale values are specified for each chart.

A total of 265 groups of verbal competitors were extracted from the OED.[36] Specifically:

i) 237 pairs of competitors, and
ii) 29 groups of three or more competing forms.

Tables 11 and 12 show the patterns identified in competition ordered by their frequency in the sample:

Table 11. Competing doublets

Pattern	%	Groups	Example
Ø vs *-ize*	42%	100	*mongrel/mongrelize*
Ø vs *-en*	14%	34	*pink/pinken*
-ify vs *-ize*	10%	24	*alkalify/alkalize*
Ø vs *-ify*	10%	24	*palsy/palsify*
-ate vs *-ize*	8%	20	*objectivate/objectivize*
Ø vs *-ate*	8%	19	*petition/petitionate*
Ø vs *em-/en-*	5%	12	*power/empower*
Ø vs *be-*	2%	4	*lord/belord*

Table 12. Competing triplets (or above)

Pattern	%	Groups	Example
Ø vs *-ate* vs *-ize*	38%	11	*carbon/carbonate/carbonize*
Ø vs *-ify* vs *-ize*	31%	9	*immune/immuniy/immunize*
-ate vs *-ify* vs *-ize*	10%	3	*personate/personify/personize*
Ø vs *-en* vs *-ify*	7%	2	*neat/neaten/neatify*
Ø vs *en-* vs *-ize*	7%	2	*empatron/patron/patronize*
Ø vs *-en* vs *-ize*	3%	1	*quiet/quieten/quietize*
Ø vs *-ate* vs *-ify* vs *-ize*	3%	1	*fossil/fossilate/fossilify/fossilize*

[36] Unless otherwise specified, 'OED' in the remaining of the chapter refers to OED3.

Tables 11 and 12 show that:

i) Conversion appears as the most common process in competition: of the 265 clusters where competition is attested, 208 clusters have a converted verb as one of the competitors, i.e. 78% of the total.

ii) Overt affixation is a secondary competitor, with the following affixes in decreasing order of frequency:
    a) Patterns where one of the forms is a suffixed verb in *-ize* amount to 171 clusters, i.e. 65%.
    b) Patterns where one of the forms is a suffixed verb in *-ify* amount to 63 clusters, i.e. 24%.
    c) Patterns where one of the forms is a suffixed verb in *-ate* amount to 55 clusters, i.e. 21%.
    d) Patterns where one of the competitors is a suffixed verb in *-en* amount to 37 clusters, i.e. 14%.

iii) Overt affixation by a verbalizing prefix is marginal:
    a) Patterns where one of the forms is a prefixed verb in *em-*/*en-* amount to 14 clusters, i.e. 5%.
    b) Patterns where one of the forms is a prefixed verb in *be-* amount to 4 clusters, i.e. 2%.

The above are shown in Figures 5a and 5b, where the results obtained point at conversion and *-ize* suffixation as the two most common competitors:

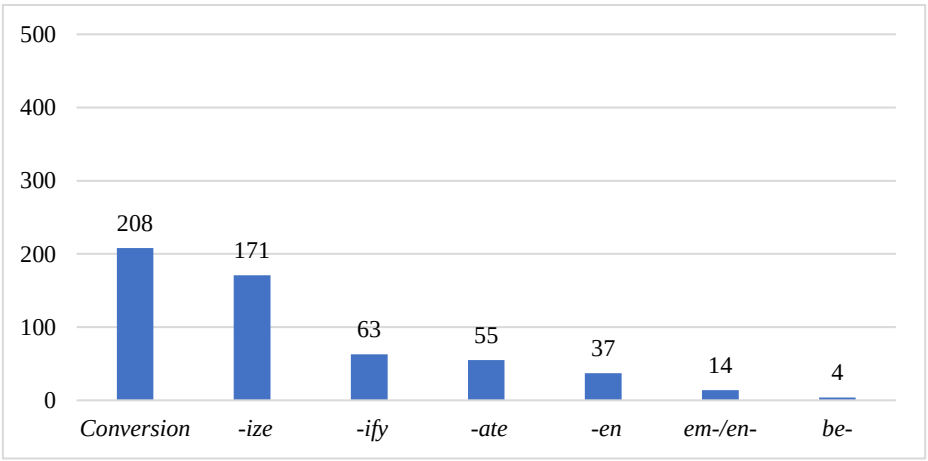

Figure 5a. Competing forms in doublets (absolute values) (chart scale set at a 500-point scale)

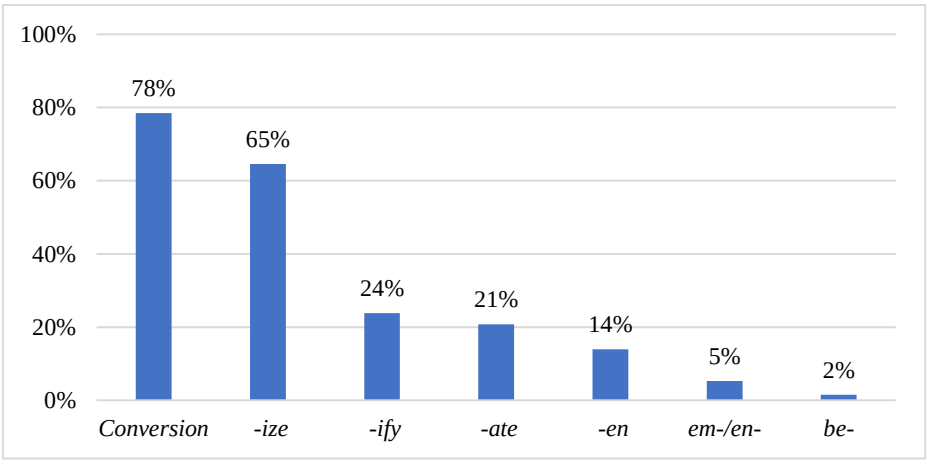

Figure 5b. Competing forms in doublets (percentages)

The data above refer to the pairs or groups of verbs where competition occurs, without distinguishing those clusters in which the competition affects more than one sense according to the definitions provided by the OED. In some clusters, competition occurs between verbs for which the dictionary lists only one sense, e.g. *mongrel*/*mongrelize* (‘make mongrel in breed, ethnic type, composition, character, etc.), where the converted verb is marked as ‘rare’ in the OED (Table 13):

Table 13. An example of competition between forms with one sense in the OED

Lemma	S	Definition	Senses	Status	*	†
mongrel	-	= *mongrelize*	1	rare	1602	1662/1941[37]
mongrelize	-	make mongrel in breed	1	in use	1629	1991

This is relatively rare, as competition in monosemic verbs is attested only in 32 out of the 265 clusters under study, i.e. 12%. In the remaining 233 clusters, at least one of the competitors has two or more senses (e.g. *objectify*/*objectize*) or both forms have more than one sense (e.g. *mission*/*missionize*). This piece of evidence gives further support to the theoretical standpoint presented in section 2.4.2, whereby it is claimed that competition needs to be assessed by senses in order to better capture the relations between competitors.

Cluster classification by semantic category results in 351 clusters, 320 of which are doublets and 31 are clusters containing three or more competing forms, i.e. 91% and 9% respectively. Figures 6a and 6b represent the semantic categories where competition is attested:

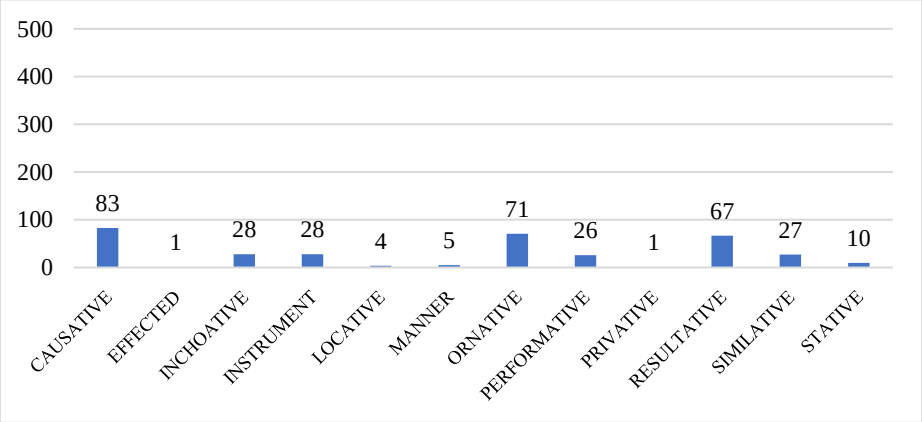

Figure 6a. Cluster classification by semantic category (absolute values) (chart scale set at a 500-point scale)

[37] This example also illustrates cases where there is a gap in the earliest and latest attestation date of each competitor provided by the dictionary (see Chapter 4, section 4.3.3).

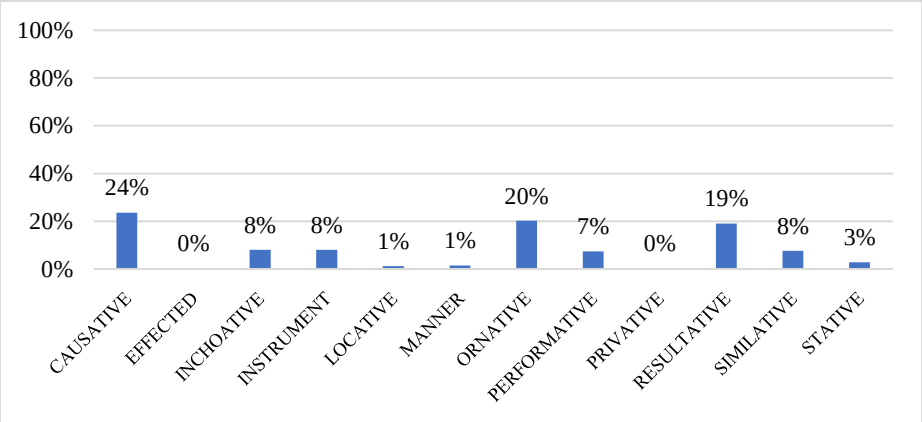

Figure 6b. Cluster classification by semantic category (percentages)

Figures 6a and 6b show that competition is attested in 12 different semantic categories, where more than half the groups are distributed into three semantic categories:

i) CAUSATIVE (83 clusters), i.e. 24%,
ii) ORNATIVE (71 clusters), i.e. 20%, and
iii) RESULTATIVE (67 clusters), i.e. 19%.

At the other end of the list, EFFECTED and PRIVATIVE represent the categories with the lowest number of clusters (one cluster), i.e. far below 1% in both cases.

The polysemy of the patterns in competition as well as the varying degrees of synonymy shown by the competitors is addressed in section 5.2.1.

5.2.1 Polysemy and synonymy in competition

5.2.1.1 Polysemy

Figures 6a and 6b represent the categories expressed by the patterns in competition. It must be noted that the distribution of competing patterns

in semantic categories is uneven, partly due to the heterogeneity displayed by competition as regards the forms involved.

For illustration purposes, Figures 7a and 7b show the distribution of the most common patterns of competition according to the most frequent semantic categories identified in the sample:

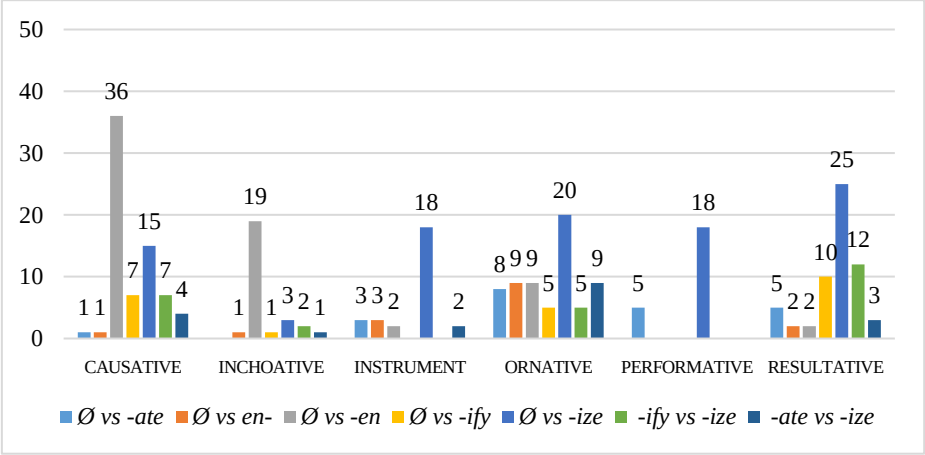

Figure 7a. Most frequent semantic categories and their patterns (absolute values) (chart scale set at a 50-point scale)

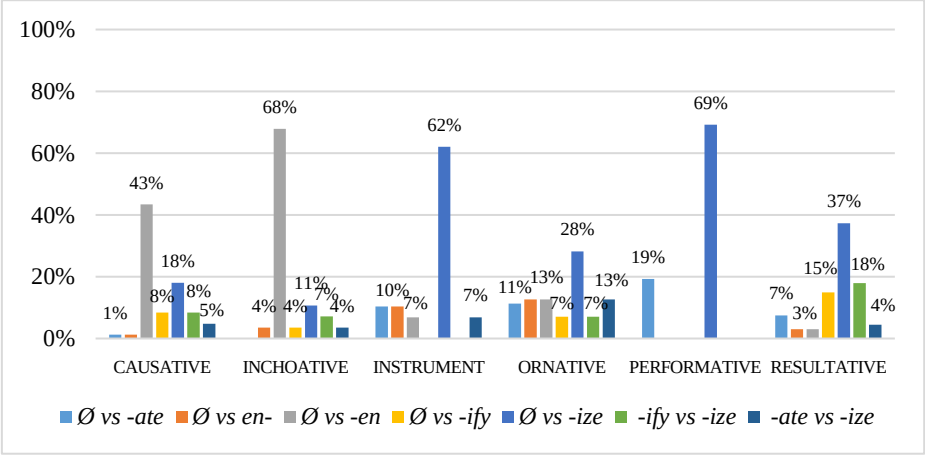

Figure 7b. Most frequent semantic categories and their patterns (percentages)

The data show:

i) Some patterns display a bias towards a certain specific category, e.g. clusters where a converted form competes with a verb in *-en* outnumbers the rest of patterns. Specifically, 34 of the 83 CAUSATIVE clusters in the sample are clusters involving conversion vs *-en* suffixation (e.g. *pink*/*pinken* 'make pink'), i.e. 41% (see section 5.4.2.3 for a detailed account of the competition between conversion and *-en* suffixation).
ii) In turn, the ORNATIVE category is common in clusters where conversion competes with *-ize* suffixation. The rest of clusters for this category show more similar results in respect of frequency, in particular conversion vs *-ate* suffixation, conversion vs *en-* prefixation, conversion vs *-en* suffixation and *-ate* suffixation vs *-ify* suffixation.

A classification in terms of semantic categories allows the distinction of various clusters from the same pair or group of competing patterns. The various types of clusters regarding the degree of competition and the senses involved in competition are explored in the next section.

5.2.1.2 Degree of synonymy in clusters

5.2.1.2.1 One-to-one sense competition

Apart from clusters formed by monosemic verbs, as in the example of *mongrel*/*mongrelize* above, competition may be attested in only one of the senses of a polysemous verb. For example, in the cluster *savage*/*savagize*, the verbs competed for some time for the expression of the meaning 'make savage' (CAUSATIVE), as illustrated in Table 14:

Table 14. An example of competition only in one sense

Lemma	S	Semantics	Definition	Senses	Status	*	†
savage	2	CAUSATIVE	make savage	3	rare	1611	1910
savagize	-		make savage	1	in use	1794	2005

Notably, the converted verb *savage* has two more senses for which no competitor is attested in the OED:

(1) *savage*[38] 1. (intr.) To act in a savage manner; to be cruel or barbarous. *Obsolete*.
3. a. (trans.) To attack verbally.
b. (trans.) Of an animal or person: to attack ferociously.
c. (trans.) More generally: to damage or harm; to treat savagely.

The second (or third) attested form may not be necessarily a monosemic verb, as is the case of *savagize* ('make savage', cf. Table 14 above). In clusters where all the forms are polysemous, competition may still be restricted to one sense, e.g. *history*/*historify*/*historize*:

Table 15. An example of competition between polysemous verbs

Lemma	S	Semantics	Definition	In use	Status Obs./ Rare	Total	*	†
historify	1		relate the history of	1	1	2	1586	1986
historize	1	PERFORMATIVE	relate the history of	2	1	3	1572	1995
history	1		write the history of	1	1	2	1475	2001

5.2.1.2.2 Many-to-many sense competition

Competition may also occur between various senses, resulting in the intertwining of the senses of both competitors. In these cases, the same

[38] Sense numbering as in the OED.

group of competing forms may lead to the distinction of various clusters according to the semantic category for which the forms compete. This can occur to several degrees: from clusters where competition is attested in some of the senses, e.g. verbs in the cluster *soft*/*soften* have seven and eleven senses recorded in the OED, respectively, and competition occurs only in three of them (Table 16), to those where overlaps in meaning occur in all the senses listed in the dictionary, e.g. *character*/*characterize* (Table 17).

Table 16. An example of competition between different senses in polysemous verbs

	Lemma		Semantic category	Definition	Sense classification				*	†
					In use	Obs./ Rare	Reg./ Dom	Status		
1	*soft*	2	CAUSATIVE	assuage	1	6	0	rare	1225	1669/ 1997
	soften	3a		assuage	8	0	3	in use	1415	2006
2	*soft*	4	INCHOATIVE	become less harsh	1	6	0	rare	1300/ 1917	1650/ 1997
	soften	7a		become less harsh	8	0	3	in use	1565	2005
3	*soft*	6	CAUSATIVE	make soft	1	6	0	in use	1425	1994
	soften	4a		make soft	8	0	3	in use	1425	2011

The cluster *soft*/*soften* shows that:

i) Competition is resolved for the senses ‘assuage’ (CAUSATIVE) and ‘become less harsh’ (INCHOATIVE), according to the OED.

ii) Competition remains unresolved for the sense ‘make physically soft’ (CAUSATIVE), according to the OED.

For the competition between the verbs *character*/*characterize*, five clusters have been identified according to their semantic category (Table 17):

Table 17. An example of competition between various senses

	Lemma		Semantic category	Sense classification			*	†
				In use	Obs./ Rare	Status		
1	*character*	2	ORNATIVE	2	3	obsolete	1555	1831
	characterize	2		3	2	rare	1594	2004
2	*character*	1	INSTRUMENT	2	3	literary	1555	1963
	character	3		2	3	rare	1589	1928
	characterize	1		3	2	obsolete	1581	1886
3	*character*	4	PERFORMATIVE	2	3	obsolete	1618	2008
	characterize	4		3	2	in use	1610	2010
4	*character*	5a	ORNATIVE	2	3	in use	1621	2006
	characterize	5		3	2	in use	1786	2009
5	*character*	5b	STATIVE	2	3	in use	1621	2006
	characterize	3		3	2	in use	1602	2010

In the first cluster, the converted verb is latest attested in the first half of the 19th century and marked as 'obsolete', whereas the latest attestation for the *-ize* competitor is 2004. The suffix *-ize* prevails over conversion for the expression of ORNATIVE, but the form is marked as 'now somewhat rare':

(2a) *character* 2. To represent, symbolize, portray; to be a representative or symbol of. *Obsolete*.

(2b) *characterize* 2. To represent, symbolize, portray. Now somewhat *rare*.

In the second cluster, competition for the expression of the category INSTRUMENT is attested between senses 1 and 3 of *character* and sense 1 in *characterize*. Specifically, the OED defines them as follows:

(3a)	*character*	1. To distinguish by particular marks, signs, or features; to stamp, mark. Now *literary*. 3. To engrave, imprint, inscribe, or write on a surface. Frequently figurative and in figurative contexts. Now *somewhat rare*.
(3b)	*characterize*	1. To engrave, imprint, inscribe, or write (words, symbols, etc.) on or in something; to engrave, imprint, or inscribe (a surface, material, etc.) with something; also figurative and in figurative contexts. Also: to define in form or outline. *Obsolete*.

In the PERFORMATIVE cluster, competition seems to be resolved in favour of the *-ize* form, while the converted form is marked as 'obsolete' in the OED:[39]

(4a)	*character*	4. To describe the distinctive nature, features, or qualities.
(4b)	*characterize*	4. To describe the distinctive nature or features of; to specify the identifying qualities of, classify.

For clusters 4 and 5 (denoting the senses ORNATIVE and STATIVE), there does not seem to be a clear bias towards any of the forms at the time. For this reason, this type of clusters has been classified as 'ongoing competition':

(5a)	*character*	5a. To invest with a character, impart character to; usually in *passive*.
(5b)	*characterize*	5. To impart character to. †Also intransitive with object understood. In some cases difficult to distinguish from sense 3.
(6a)	*character*	5b. Of a feature or quality: to be typical or characteristic of.
(6b)	*characterize*	3. Of a feature or quality: to define the character or identity of, to mark, distinguish; to be typical or characteristic of. †Also with complement.

[39] Although the latest attestation date is 2008, dates preceding it refer back to the 19th century, the latest being from 1911.

As illustrated by the verbs *character*/*characterize*, clusters may not only differ in the categories for which the forms compete, but they may also evidence various stages in the resolution of competition. Thus, while the competition for the category PERFORMATIVE is resolved in favour of *-ize* suffixation, the two verbs remain in competition for the expression of the categories ORNATIVE and STATIVE.

5.2.2 The profile of competition

According to the profile of competition, the clusters analysed have been classified as three groups:

i) 172 clusters, i.e. 49%, display 'resolved competition': (at least) one of the members is attested to be in use in Present-Day English in the OED.
ii) 111 clusters, i.e. 32%, are classified as 'ongoing competition': their members are unmarked regarding use in the OED.
iii) 68 clusters, i.e. 19%, show 'past competition': all the forms are marked as in disuse by the OED (see section 5.2.2.3 for a distinction between 'resolved' and 'past' competition).

5.2.2.1 Resolved competition

Resolved competition is the most common outcome recorded in the clusters under study. In particular, of the 172 clusters classified as instances of resolved competition:

i) 167 clusters, i.e. 97%, show resolved competition, insofar as only one of the forms remains in use (Table 18).

Table 18. An example of resolved competition in a triplet

Lemma	S	Semantic category	Definition	Status	*	†
*statue*2	2	RESULTATIVE	turn a living being into a statue	rare	1628	1941
statuefy	2		turn a living being into a statue	in use	1868	2006
Statuize	-		make a statue of; turn into a statue	rare	1718	1944

ii) Six clusters, i.e. 3%, show partial resolution. Partial resolution is here considered to occur whenever one of the members in a cluster with three or more forms has been ousted from competition (as attested by OED records), while the rest of the members are attested to continue in use. For example, in the cluster *pauperize*/*pauper*/*pauperate* 'make a pauper of', the form in *-ate* is marked as 'obsolete' by the OED, whereas the converted and the *-ize* verb are attested to be in use in the OED (Table 19).

Table 19. An example of partial resolution of competition

Lemma	Semantics	Definition	Status	*	†
pauperize		make a pauper of *sb*	in use	1834	1992
pauper	RESULTATIVE	= *pauperize*	in use	1841	2002
pauperate		= *pauperize*	obsolete	1839	1839

The outcomes of the resolution of competition will be addressed in sections 5.3 for triplets and 5.4 for doublets. Whenever needed for further information, lexicographic data are complemented with corpus data.

5.2.2.2 Ongoing competition

Although the results suggest that most cases of competition are expected to be ultimately resolved,[40] the time resolution may take to be complete

[40] Note that competition may also be resolved in favour of a fourth form with a different (although morphologically related) base, e.g. forms in the cluster

is variable and competition may remain unresolved at present (Fernández-Alcaina 2017). This is evidenced by the categories ORNATIVE and STATIVE in the cluster *character*/*characterize*. A total of 111 clusters, i.e. 32%, have been classified as instances of 'ongoing competition', e.g. *aerosol*/*aerosolize* (Table 20):

Table 20. An example of ongoing competition

Lemma	S	Semantic category	Definition	Status	*	†
aerosol	1	RESULTATIVE	= *aerosolize*, v1	in use	1964	1998
aerosolize	1		make into an aerosol, disperse as an aerosol	in use	1944	2001

5.2.2.3 Past competition

As mentioned above, 68 clusters, i.e. 19%, are classified as past competition, in which none of the competitors remains in use. This has been set apart from the clusters showing resolved competition, where at least one of the members remains in use, because the end of competition is a consequence of the decay in the use of both forms. Table 21 is an example of a cluster where forms were in competition in the past:

Table 21. An example of past competition

Lemma	S	Semantic category	Definition	Status	*	†
niggard	1	SIMILATIVE	dispense in a niggardly fashion	obsolete	1596	1625
niggardize	-		=*niggard* v.1	rare	1606	1654

perfection/*perfectionate*/*perfectionize* are marked as 'rare', but the same sense seems to be expressed by the earlier attested verb *perfect*. This is one of the limitations of restricting the study of competition to morphologically related forms.

5.2.3 Competition across centuries

Clusters have been classified according to the earliest attestation date of the second and third forms (for triplets) attested in the OED. Figures 8a and 8b show the development of competition across centuries and according to the competition profile (i.e. resolved, ongoing, past):

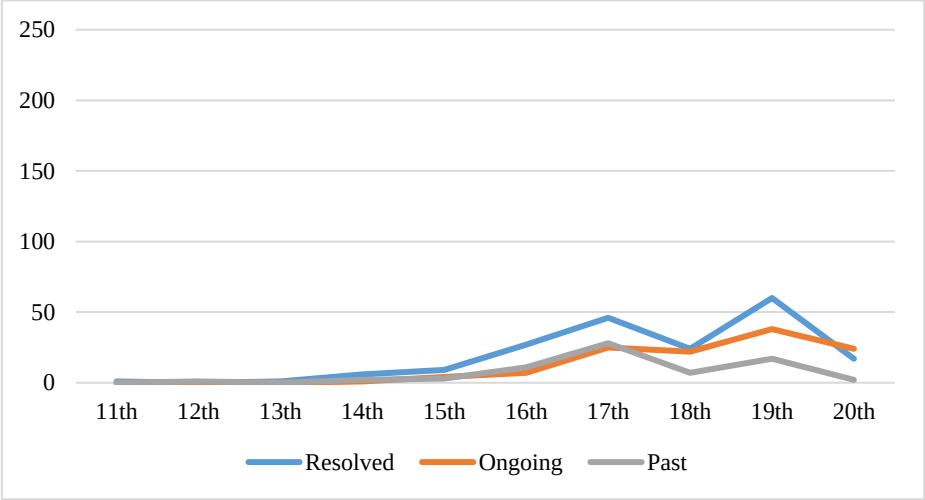

Figure 8a. Diachronic development of competition classified by resolution profile: resolved (blue), ongoing (orange) and past (grey) (absolute values) (chart set to a 250 point scale)

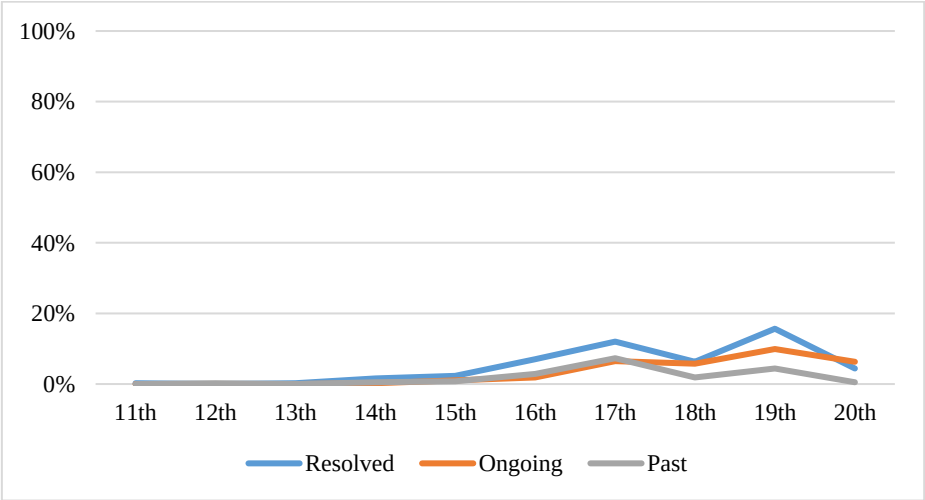

Figure 8b. Diachronic development of competition classified by the competition profile: resolved (blue), ongoing (orange) and past (grey) (percentages)

As shown in Figures 8b and 8b, there is a peak in the attestation of competing clusters in the 17th and 19th centuries for clusters classified as resolved and past competition, while there is a decrease in the 18th century. Interestingly, the clusters classified as ongoing competition apparently follow a different development in which the number of competing forms gradually increases from the 16th century onwards to peak in the 19th century. In the absence of statistical data to confirm a significant difference between resolved and ongoing competition regarding their diachronic development, the fact that the group of clusters classified as ongoing competition earliest attested in the 17th century is less numerous than those attested in the 19th century may be evidence for the direction of competition towards resolution.

5.2.4 Summary

The heterogeneity displayed by the clusters collected in the sample affects various levels of the description of competition. The main findings of this section are summarized below:

i) Regarding the form, the patterns identified vary widely, even if conversion is present in most of the verbal clusters, followed by *-ize* suffixation. The results obtained in this regard agree with the alleged productivity of the two processes in verbal derivation (Plag 1999).

ii) Regarding the meaning, an overview of the semantic categories of the clusters does not seem to provide much conclusive evidence about the competing patterns. Competition is attested in twelve semantic categories unevenly distributed among the patterns identified, CAUSATIVE, ORNATIVE and RESULTATIVE being the three

categories with the highest number of clusters. However, as noted in section 5.2.1.1, while the CAUSATIVE category is mainly expressed by clusters where conversion competes with *-en* suffixation, the results obtained for ORNATIVE clusters show, a priori, a more even distribution among the patterns.

iii) Regarding the diachronic development of the clusters analysed, the number of clusters classified as showing resolved and past competition increases in the 17th and 19th centuries. Those classified as ongoing competition, in contrast, present a gradual increase from the 16th century onwards.

The assessment of competition at the level of senses is crucial for two reasons:

i) It allows to gain insights into the various degrees of synonymy displayed by the clusters analysed: from those where competition is attested in only one of the senses of the forms (e.g. *history*/*historify*/*historize*) to those where competition extends over other senses as well (e.g. *character*/*characterize*).

ii) More importantly, competition between various senses may present different stages of resolution. In this respect, competition is resolved in 49% of the clusters, while those where competition is attested in Present-Day English amounts to 32%. The remaining 20% are clusters in which competition once occurred but where both forms are recorded in the OED as ‘obsolete’ (Figures 9a and 9b).

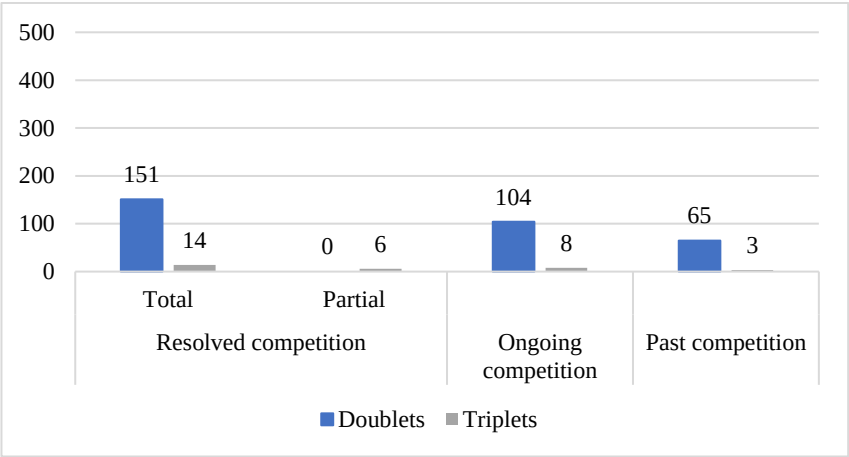

Figure 9a. Profile of the resolution of competition classified by the number of competitors in each cluster: two forms (blue) vs three or more forms (grey). Partial resolution is possible only for clusters with three or more members (absolute values) (chart scale set at a 500-point scale)

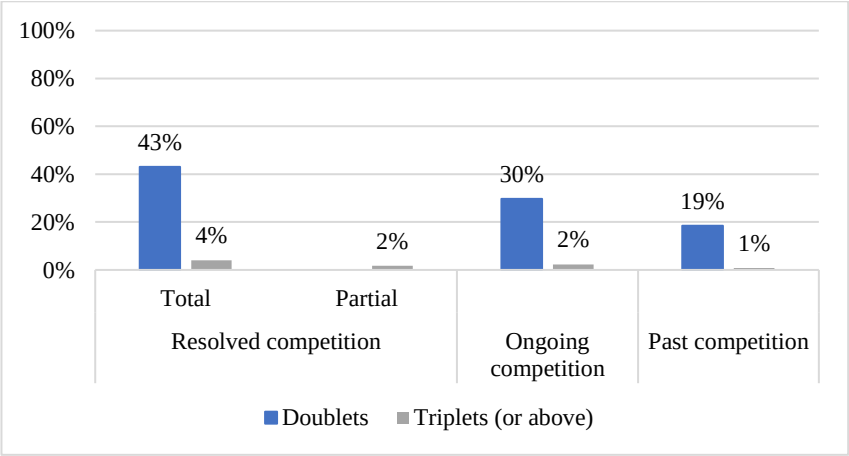

Figure 9b. Profile of the resolution of competition classified by the number of competitors in each cluster: two forms (blue) vs three or more forms (grey). Partial resolution is possible only for clusters with three or more members (percentages)

Since the resolution of competition may be partial in those clusters with three or more forms, they are addressed in detail in section 5.3. Section 5.4 focuses on the competition between doublets (including those that result from the obsolescence of a third form).

5.3 CLUSTERS WITH MORE THAN THREE COMPETITORS

5.3.1 Overview

The number of clusters where three (or, rarely, more than three)[41] verbs compete for the expression of the same category amounts to 31 clusters, i.e. 9%. The nature of the competition in clusters with three or more forms is that it is highly heterogeneous as regards both their form and their meaning. Specially, regarding the former, triplets display great variation as regards the patterns involved in competition (Table 22):

Table 22. Clusters per pattern and examples

Pattern	%	Clusters	Example
Ø/*-ate*/*-ize*	39%	12	*mission*/*missionate*/*missionize*
Ø /*-ify*/*-ize*/	29%	9	*immune*/*immunify*/*immunize*
-ate/*-ify*/*-ize*	10%	3	*carbonate*/*carbonify*/*carbonize*
Ø /*-en*/*-ify*	10%	3	*moist*/*moisten*/*moistify*
Ø /*en-*/*-ize*	6%	2	*empatron*/*patron*/*patronize*
Ø /*-en*/*-ize*	3%	1	*quiet*/*quieten*/*quietize*
Ø /*-ate*/*-ify*/*-ize*	3%	1	*fossil*/*fossilate*/*fossilify*/*fossilize*

As the data show in Table 22, conversion is the only process to occur in almost all the clusters, except for *carbonate*/*carbonify*/*carbonize*, *personate*/*personify*/*personize* and *passivate*/*passivify*/*passivize*.

Regarding the semantics of competition in triplets, the three most frequent categories are (Figures 10a and 10b):

i) CAUSATIVE (eleven triplets, i.e. 35%),
ii) RESULTATIVE (nine triplets, i.e. 29%), and
iii) PERFORMATIVE (three triplets, i.e. 13%).

[41] Only one of the 31 clusters analyzed (*fossil*/*fossilate*/*fossilify*/*fossilize*) contained four competitors, i.e. 3%.

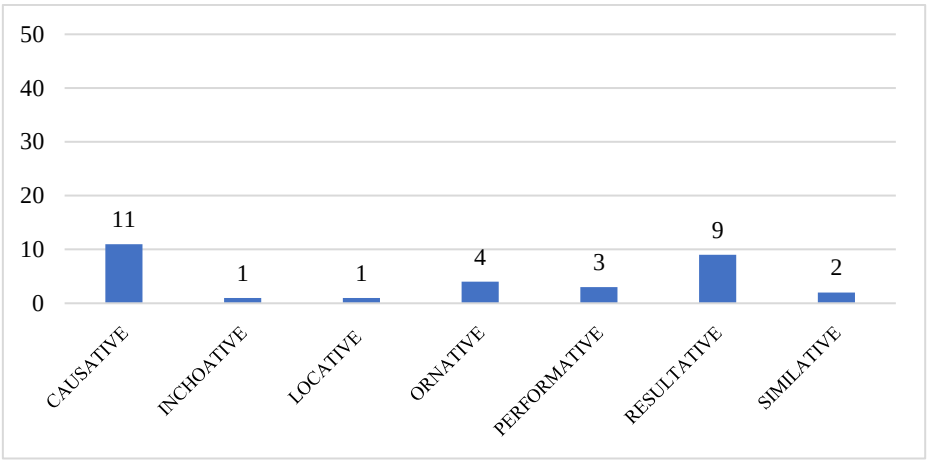

Figure 10a. Semantic categories in the competition in triplets (or above) (absolute values) (chart set at a 50-point scale)

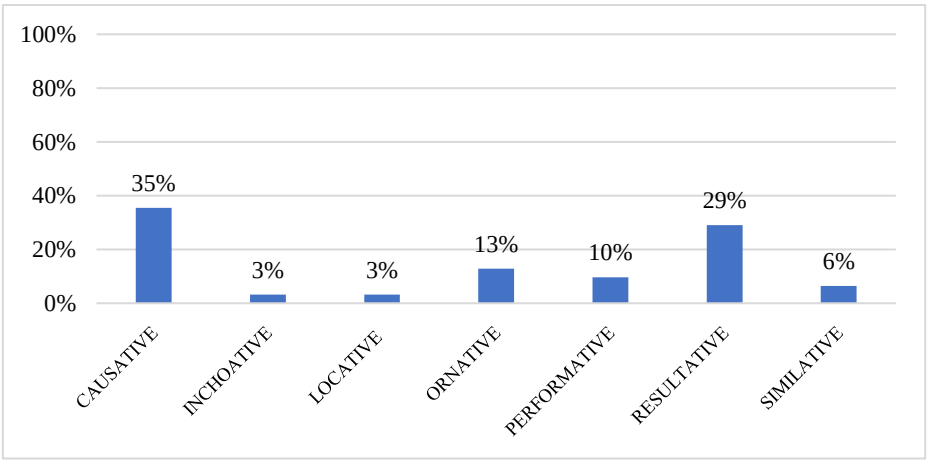

Figure 10b. Semantic categories in the competition in triplets (or above) (percentages)

In the next sections, the results obtained regarding the competition in this type of clusters are analysed both by profile of competition (section 5.3.2) and by decaying/succeeding competitor (section 5.3.3). Examples of clusters illustrating the results obtained are described in section 5.3.4. A summary highlighting the main aspects of the competition in this type of clusters is provided in section 5.3.5.

5.3.2 By profile of competition

Following the definitions and the attestation dates provided by the OED, the profile of competition displayed by the clusters is the following:

i) 20 clusters, i.e. 64%, show resolved competition, either completely (14 triplets, i.e. 45%) or partially (six triplets, i.e. 19%);

ii) eight clusters, i.e. 26%, display ongoing competition as their members are unmarked regarding status in the OED;

iii) three clusters, i.e. 10%, contain members marked as ‘obsolete’ or ‘rare’ in the OED.

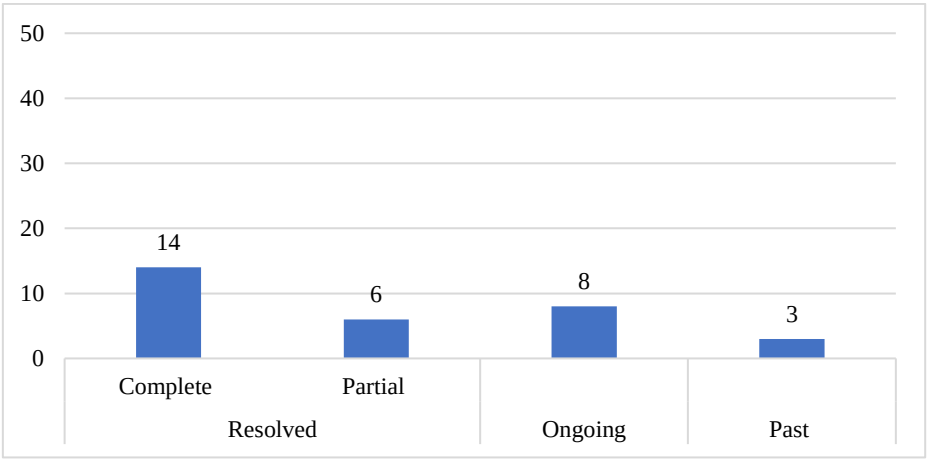

Figure 11a. Profile of competition in clusters with three or more members (absolute values) (chart scale set at a 50-point scale)

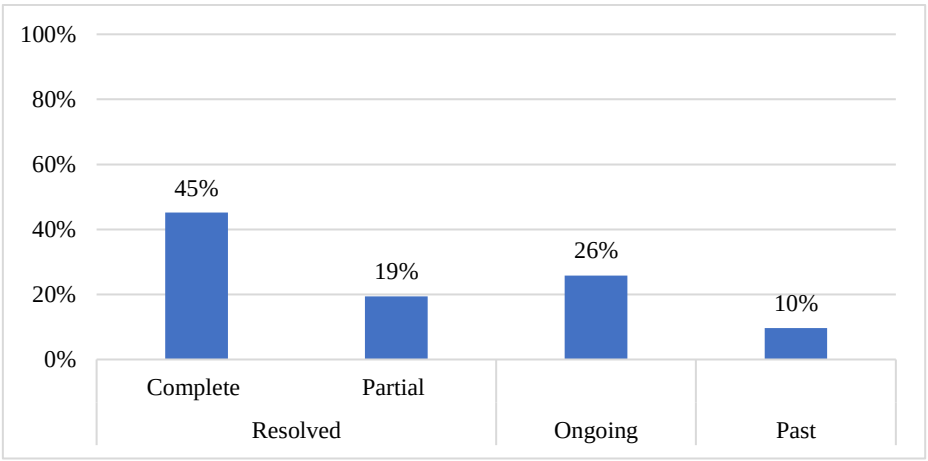

Figure 11b. Profile of competition in clusters with three or more members (percentages)

As shown in Figures 11a and 11b, resolved competition, either complete or partial, is the most widespread profile of resolution. The next section focuses on the patterns that decay or prevail in competition.

5.3.2.1 Resolution by semantic category

Figures 12a and 12b show the distribution of clusters into semantic categories according to their stage of resolution of competition:

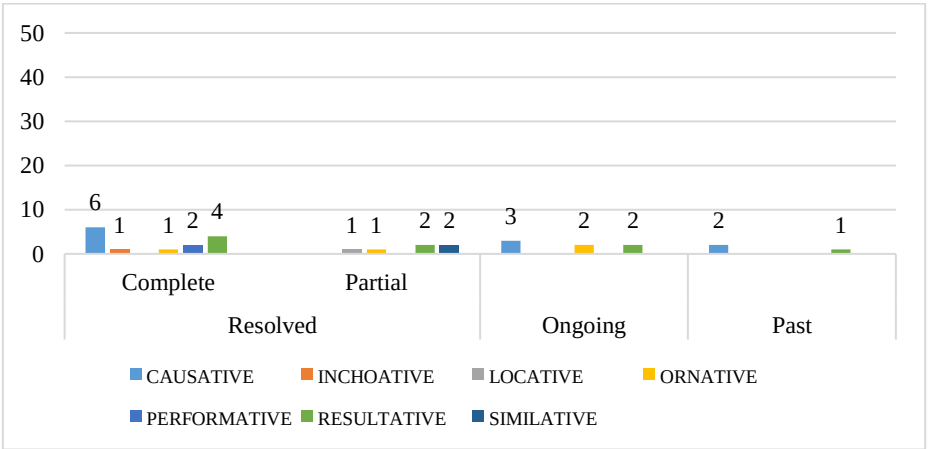

Figure 12a. Semantic distribution across profiles of resolution (absolute values) (chart scale set at a 50-point scale)

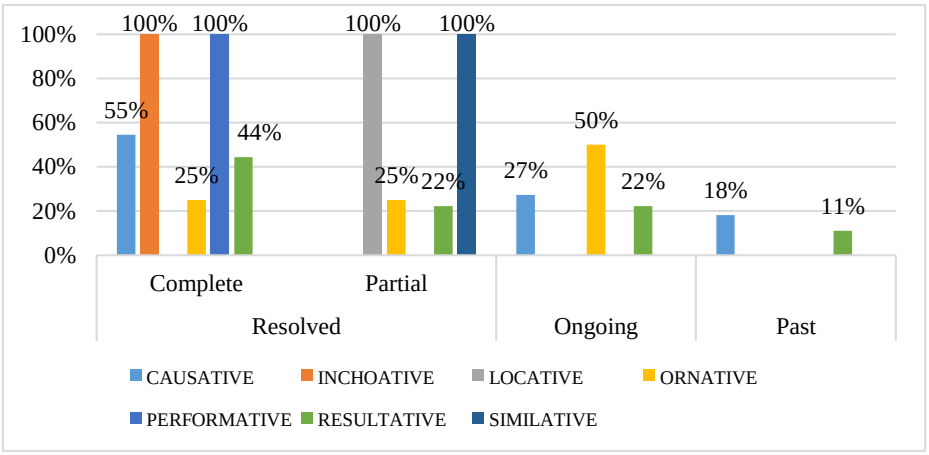

Figure 12b. Semantic distribution across profiles of resolution (percentages)

Figures 12a and 12b show that:

i) 20 of the 31 clusters identified, i.e. 65%, are cases of resolved competition (either completely or partially), regardless of the category they express.

ii) Of the 20 clusters where competition is resolved, 14, i.e. 70%, show complete resolution, divided into five categories:

   a) Six triplets, i.e. 43%, express the semantic category CAUSATIVE.

   b) Four triplets, i.e. 29%, express the semantic category RESULTATIVE.

   c) Two triplets, i.e. 14%, express the semantic category PERFORMATIVE.

   d) One triplet, i.e. 7%, expresses the semantic category ORNATIVE.

   e) One triplet, i.e. 7%, expresses the semantic category SIMILATIVE.

iii) For the two semantic categories with the highest number of clusters, CAUSATIVE and RESULTATIVE, the profile of clusters agrees with Figure 11a and 10b in that resolved competition is the most common outcome of competition: it is attested in six triplets for CAUSATIVE and in four triplets for RESULTATIVE cases.

Overall, the analysis by semantic category does not shed much light on the profiles of resolution, partly due to the low number of clusters, which also prevents any attempt at statistical analysis. In any case, the lack of obvious differences between semantic categories as regards resolution could only evidence the ultimate resolution of competition, independently of the category expressed by the clusters.

5.3.3 By decaying/prevailing competitor

Figures 13a and 13b show the percentages of decay and success of each pattern in the clusters where competition is resolved:

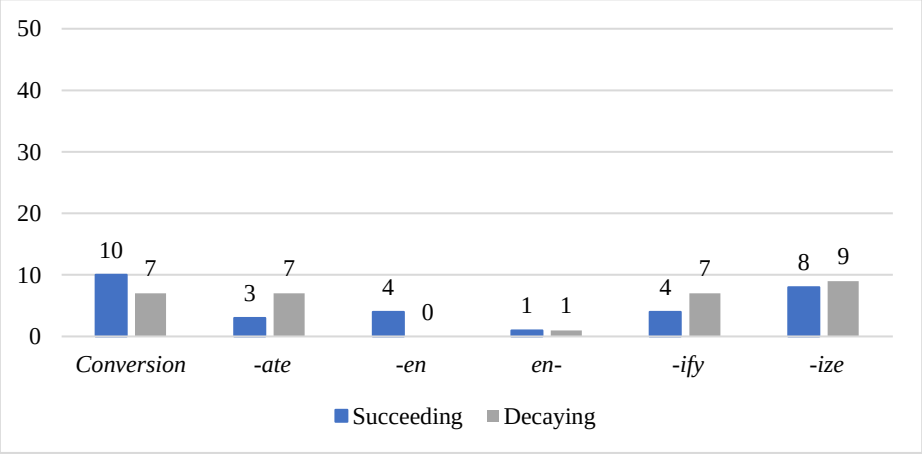

Figure 13a. Prevailing (blue) and decaying (grey) affixes in clusters with three or more competing forms (chart scale set at a 50-point scale)

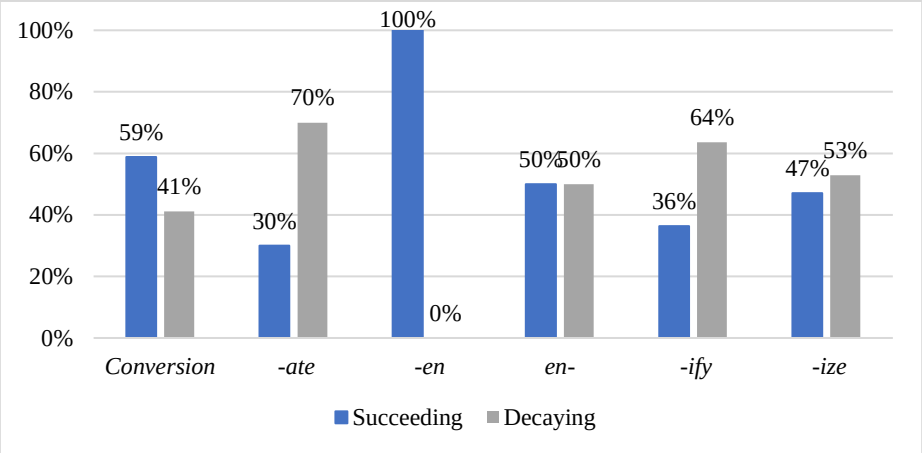

Figure 13b. Prevailing (blue) and decaying (grey) affixes in clusters with three or more competing forms (percentages)

As data in Figures 13a and 13b show:

i) Verbs in *-ate*, *-ify* and *-ize* show higher values for decay than for success in the clusters in which they are attested as competitors.

ii) Conversion and *-en* suffixation are the only competitors that show higher values for success than for decay:

   a) Conversion prevails in ten, i.e. 59%, of the 17 clusters where it is recorded.

   b) *-en* suffixation prevails in the four clusters where it is recorded, i.e. 100%.

As shown by Figures 13a and 13b, the presentation of data in percentages may be misleading when considering the low number of clusters in the sample representing certain patterns. Specifically, the complete success of *-en* suffixation in triplets may be explained by the fact that the suffix is attested in only four clusters. Similarly, the low number of clusters in which a prefixed verb in *en-* is attested as a competitor (two clusters)

does not allow further generalizations. The next section discusses the resolution of competition in the triplets analysed.

5.3.4 Discussion

5.3.4.1 Introduction

This section elaborates on the clusters displaying resolved competition (either completely or partially). The aim is to confirm whether there exist patterns of resolution that are common to various clusters or whether, by contrast, the resolution of competition is unique to each cluster. In particular, this section focuses on the resolution of competition in clusters where *-ize* suffixation is one of the competitors, as it appears in 17 of the 20 triplets where resolution occurs, i.e. 85%.[42]

The results obtained suggest that both possibilities are not mutually exclusive. Specifically, section 5.3.4.2 focuses on the clusters where, independently of the semantic category and the affixes in competition, *-ize* suffixation prevails over the rest of its competitors. Section 5.3.4.3 presents a number of clusters where the resolution of competition seems to be a consequence of the influence of other factors, such as borrowing (e.g. *personify*), or semantically related forms (e.g. *passivate*).

5.3.4.2 Resolved competition

5.3.4.2.1 *-ize* suffixation

-ize suffixation acts as a competitor in 17 of the 20 triplets displaying complete or partial resolution, i.e. 85%, where it remains in use in eight

[42] In the remaining three clusters, the competing pattern is conversion/*-en*/*-ify* (*moist*/*moisten*/*moistify*, *neat*/*neaten*/*neatify*).

of the 17 clusters regardless of the semantic category expressed, i.e. 47% (Table 23):

Table 23. Triplets (or above) with resolved competition where *-ize* suffixation remains in use

Lemma	S	Semantic category	Status	*	†
carbonate2	2	RESULTATIVE	obsolete	1799	1831
carbonify	2		rare	1801	1984
carbonize	1		in use	1798	-
missionate	-	PERFORMATIVE	now rare	1815	1966
missionize	1		in use	1826	-
mission	2b		obs rare	1898	1898
immune	-	CAUSATIVE	rare	1849	1989
immunize	1a		Medicine and Biology	1889	-
immunify	-		rare (now disused)	1892	1905
pollen	-	ORNATIVE	poetic	1877	1983
pollinate	1		in use	1873	-
pollinize	-		chiefly North American	1873	-
pauper	-	RESULTATIVE	in use	1841	-
pauperize	-		in use	1834	-
pauperate	-		obsolete	1839	1839
empatron	-	SIMILATIVE	rare	1609/1904	2010
patron	-		in use	1624	-
patronize	1a		in use	1593	-
heroify	-	SIMILATIVE	in use	1677	-
heroize	1a		in use	1695	-
heroize	1b		in use	1887	-
hero	-		rare	1762	1992
fossil	-	RESULTATIVE	chiefly in *passive*	1750	-
fossilize	2a		present (usually in passive)	1794	-
fossilize	3b		in use	1848	-
fossilate	-		rare	1822	1972
fossilify	-		rare	1843	1969

Table 23 shows, specifically, that:

i) -*ize* suffixation prevails over the rest of competitors, as it is the only verb attested to be in use according to the OED in three of the eight clusters, where the other two competitors are marked as 'obsolete' or 'rare' for this sense (*carbonize*, *missionize*, *immunize*).

ii) Competition is resolved by specialization in the cluster *pollen*/*pollinate*/*pollinize*. The converted form (*pollen*) is marked as 'poetic', while the verb in -*ize* (*pollinize*) is marked as dialectal ('chiefly North American').

iii) -*ize* suffixation allegedly remains in use alongside another competitor where competition has been partially resolved (*pauper*/*pauperize*, *patron*/*patronize*, *heroify*/*heroize* and *fossil*/*fossilize*). However, a look at the paradigms formed by the competing forms shows that the -*ize* verb allows further derivation in the four clusters, especially for the forms *pauperize*, *patronize* and *fossilize* (Table 24). This alleged bias towards -*ize* suffixation is further supported by corpus data (Table 25).

Table 24. Derivatives as support for the prevalence of -*ize* suffixation over conversion in the cluster *pauper*/*pauperate*/*pauperize*[43]

Base	Competitors	*	†	Derivatives	W-class	*	†
pauper	*pauper*	1841	2002				
	pauperize	1806	-	*pauperized*	Adj	1807	-
				pauperizer	N	1826	2016
				pauperizing	Adj	1817	-
				pauperization	N	1812	-
	pauperate	1839	1839				

[43] Competition in the cluster *pauper*/*pauperize* is discussed in previous research (Fernández-Alcaina 2017; Fernández-Alcaina & Čermák 2018).

Table 25. Corpus data for clusters showing partial resolution

	EHCB		COHA		COCA		iWeb
fossil	-	-	-	-	-	-	-
fossilize	-	-	51	0.13	190	0.19	1637
fossilate	-	-	-	-	-	-	-
fossilify	-	-	-	-	-	-	-
pauper	na	na	-	-	-	-	-
pauperize	na	na	32	0.08	6	0.01	-
pauperate	na	na	-	-	-	-	-
empatron	-	-	-	-	-	-	-
patron	-	-	-	-	-	-	-
patronize	1700	1.72	1355	3.35	1389	1.4	7078
hero	-	-	-	-	-	-	-
heroify	1	>0.01	-	-	-	-	-
heroize	-	-	-	1	0.0	-	-

5.3.4.2.2 Special cases

In the remaining nine clusters where *-ize* suffixation appears as one of the competitors, several factors could explain the various outcomes observed in the resolution of competition. Some of the clusters are described below for illustration of the influence of several variables on morphological competition.

5.3.4.2.2.1 External influence: *function* and *personify*

The same competing pattern is observed in the three triplets *function*/*functionate*/*functionize*, *mission*/*missionate*/*missionize* and *pauper*/*pauperate*/*pauperize*, except that with an opposite resolution. Despite similarities regarding their bases (nominal Latinate trochaic bases), competition in the cluster *function*/*functionate*/*functionize* is resolved in favour of conversion, which can be partly explained by the influence of French. As the OED notes, the French verb *fonctionner* (1787; 1637 as *functionner*) is attested earlier.

Table 26. Lexicographic data for the triplet *function*/*functionate*/*functionize*

Lemma	S	Semantic category	Definition	Status	*	†
function	1a		fulfil one's function	in use	1844	-
functionate	-	PERFORMATIVE	fulfil one's function	now rare	1843	1961
functionize	-		fulfil one's function	obs, rare	1847	1927

Table 27. Corpus data for the triplet *function*/*functionate*/*functionize*

	EBCH		COHA		COCA		iWeb
function	163	0.17	4002	9.88	20370	20.51	360237
functionate	-	-	-	-	-	-	-
functionize	-	-	-	-	-	-	-

French influence may also be a possible reason for the resolution of competition in favour of *-ify* suffixation in the triplets *personate*/*personify*/*personize*. In this case, the OED notes that *personify* is 'modelled on a French lexical item'. This is also reflected in the derivatives based on this sense.

Table 28. Lexicographic information for the triplet *personify*/*personate*/*personize*

Lemma	S	Semantic category	Definition	Status	*	†
personify	1		represent or imagine as a person	in use	1728	-
personate	6	RESULTATIVE	represent or imagine as a person	rare	1612/ 1823	1997
personize	2		represent as a person; *personify*	rare	1726	1846

Table 29. Derivatives supporting the prevalence of *-ify* suffixation over *-ate* and *-ize* suffixation in the triplet *personate*/*personify*/*personize*

Lemma	*	†	Definition	Derivatives	*	†	Derivatives	*	†
*personify*1	1728	1989	represent as a person	*personifiable*	1890	1996			
				*personified*1	1753	2001	*unpersonified*	1775	2013
				personification	1728	2003	*personaficative*	1890	1983
							personificator	1834	1989
				*personifier*1	1805	1984			
				personifying	1728	1992			
				personifying	1804	1991			
				dispersonify	1846	1855			
*personize*2	1726	1846	= *personify*						
*personate*6	1612	1997	= *personify*	*personation*3	1832	1989			

5.3.4.2.2.2 Internal influence: *passivate*

For the CAUSATIVE triplet *passivate*/*passivify*/*passivate* (‘make metal unreactive’), lexicographic data point at the resolution of competition in favour of *-ate* suffixation (Table 30):

Table 30. Lexicographic information for the triplet *passivate*/*passivify*/*passivize*

Lemma	S	Semantic category	Definition	Status	*	†
passivate	1	CAUSATIVE	make (metal) unreactive	Metallurgy and Chemistry	1913	-
passivify	-		= *passivate*, v.1	Manufacturing, rare	1907	1934
passivize	1		= *passivate*, v.1	Manufacturing, rare	1910	1983

Resolution in favour of the *-ate* form in this cluster may be explained by the influence of a semantically related form. As the OED notes, both *passivate* (‘make unreactive’) and *passivation* (‘process or action of passivating a metal’) have been formed after *activate* (‘make more reactive’) and *activation* (‘process of making a substance more chemically or catalytically active’), respectively. As a result, the initial resolution observed between *-ate* suffixation, *-ify* suffixation and *-ize*

suffixation is in favour of the former, resulting in the obsolescence of *passivify*. The *-ize* verb, on the other hand, is restricted to the domain of *Grammar* meaning 'be converted/convert to the passive voice'). Notably, competition extends to the forms in their derivational paradigm (Table 31).

Table 31. Derivation paradigm for the triplet *passivate*/*passivify*/*passivize*

Competitors	*	†	**Definition**	**Derivatives**	*	†	**Definition**
*passivate*1	1913	1992	Metallurgy	*passivated*	1919	1992	Manufacturing Technology
				passivating	1914	1986	Manufacturing Technology
				passivating	1918	1993	Manufacturing Technology
				passivation	1912	1999	Manufacturing Technology
				passivator	1935	1996	Manufacturing Technology
*passivate*2	1964	1998	Electronics				
*passivize*1	1910	1983	Manufacturing Technology, rare	*passivizing*1	1975	1075	Metallurgy, rare
*passivize*2	1965	1984	Grammar				
*passivize*2b	1972	2002	Grammar	*passivizable*	1972	1990	Grammar
				passivizability	1967	1999	Grammar
				passivization	1965	1991	Grammar
				passivized	1975	2001	Grammar
				*passivizing*2	1977	2002	Various
passivify	1907	1934	Manufacturing Technology, rare	*passivification*	1907	1937	Manufacturing Technology, rare
				passivified	1911	1934	Manufacturing Technology, rare
				passivifier	1911	1921	Manufacturing Technology, rare
				passivifying	1907	1907	Manufacturing Technology, rare
				passivifying	1915	1938	Manufacturing Technology, rare

5.3.4.3 Past competition

Another reason for the resolution of competition among the members of the same cluster may be the existence of a lexical competitor, which may

be morphologically related or not. Thus, the verbs in the triplet *perfection*/*perfectionate*/*perfectionize* (‘bring to perfection’) compete with the earlier attested verb *perfect*. The three morphological competitors are marked as ‘rare’ in the OED (Table 32).

Table 32. Lexicographic information for the triplet *perfection*/*perfectionate*/*perfectionize*

Lemma	S	Semantic category	Definition	Status	*	†
perfect	2	CAUSATIVE	make perfect; bring to perfection	in use	1440	-
perfection	-		bring to perfection	rare	1651	1999
perfectionate	-		bring to perfection	now rare	1570	1993
perfectionize	-		bring to perfection	now rare	1805	1997

This is also supported by the information available in synchronic dictionaries (*Collins* and *Merriam-Webster*) for the verbs recorded (*perfectionate* and *perfectionize*) (Table 33):

Table 33. Lexicographic information for the triplet *perfection*/*perfectionate*/*perfectionize*

	Collins	***Merriam-Webster***
perfection	-	-
perfectionate	(rare) perfect; make perfect	(archaic) = *perfect*
perfectionize	-	(archaic) = perfect

5.3.4.4 Ongoing competition

Corpus data and derivational paradigms have proved to provide further information on the competition of triplets. Not only where lexicographic information points at a resolution towards a specific form (e.g. *cabornate*/*carbonize*/*carbonify*) but also in the clusters that display partial competition (e.g. *pauper*/*pauperate*/*pauperize*, *fossil*/*fossilate*/*fossilify*/*fossilize*), i.e. where two of the competitors were

attested as in use by the OED. Both corpora and the study of their derivatives have provided further data on a tentative preference for one of the forms.

However, since the resolution of competition takes time, there are also clusters for which there is no way to identify a bias towards any of the forms involved. In some cases, such unresolved competition extends to the derivatives. Consider the example *patine*/*patinate*/*patinize*, where the verbs compete for the sense 'cover with a patina' and where both competitors and derivatives are attested as in use in the OED:

Table 34. Derivational paradigm for the triplet *patine*/*patinate*/*patinize*

Lemma	*	†	**Definition**	**Derivatives**	*	†	**Definition**
patine	1896	-	= *patinate*	*patining*	1939	-	= *patinating*
patinate	1867	-	cover with a patina	*patinated*	1893	-	covered with a patina
				patinating	1914	-	process of covering with a patina
patination	1888	-	the condition of having a patina				
patinize	1948	-	cover with a patina; = *patinate*	*patinizing*	1904	-	= *patinating*

The corpora used do not provide much information regarding the competition, possibly as a consequence of the use of the forms in a specialized domain:

Table 35. Corpus data for the for the triplet *patine*/*patinate*/*patinize*

	EHCB		**COHA**		**COCA**		**iWeb**
patine	-	-	-	-	-	-	-
patinate	-	-	2	0	8	0.01	-
patinize	na	-	-	-	-	-	-

Such competition is also supported by the synchronic dictionaries used:

Table 36. Definitions for the triplet *patine*/*patinate*/*patinize* in synchronic dictionaries

	Collins	***Merriam-Webster***
patine	-	cover with a patina
patinate	coat the surface (of a metal)	give a patina to
patinize	coat with a patina	= *patinate*

5.3.5 Summary

The existence of clusters with three or more forms is relatively low, compared with the number of doublets identified. Although most of the clusters identified show a preference for suffixation *-ize* to prevail, other clusters illustrate how a series of factors, e.g. borrowing (e.g. *personify*), related forms (e.g. *activate*/*passivate*) or the existence of another form with the same sense (e.g. *perfect*) may interfere in morphological competition.

Both corpus data and derivational paradigms have proved to serve as further evidence for the study of competition in some clusters, such as *fossil*/*fossilize* or *pauper*/*pauperize*. Similarly, synchronic dictionaries may also help to shed light on the use of competitors, either to support resolved competition (e.g. *perfection*/*perfectionate*/*perfectionize*) or unresolved competition (e.g. *patine*/*patinate*/*patinize*).

5.4 COMPETITION IN DOUBLETS

5.4.1 Overview

Competition in verbal doublets mostly occurs between conversion and an affix. Specifically, of the 320 doublets extracted from the OED:

i) 273 doublets, i.e. 85%, have conversion as one of the competitors, and

ii) 47 doublets, i.e. 15%, show competition between suffixed forms.

Section 5.4.2 focuses on doublets where one of the competitors is conversion, while section 5.4.3 elaborates on the clusters where both competitors are derived by affixation, specifically by suffixation.

5.4.2 Conversion vs affixation

5.4.2.1 Overview

As mentioned in section 5.4.1, most of the doublets extracted in this sample belong to instances of overt vs covert affixation. The clusters for each of the patterns identified are represented in Figures 14a and 14b:

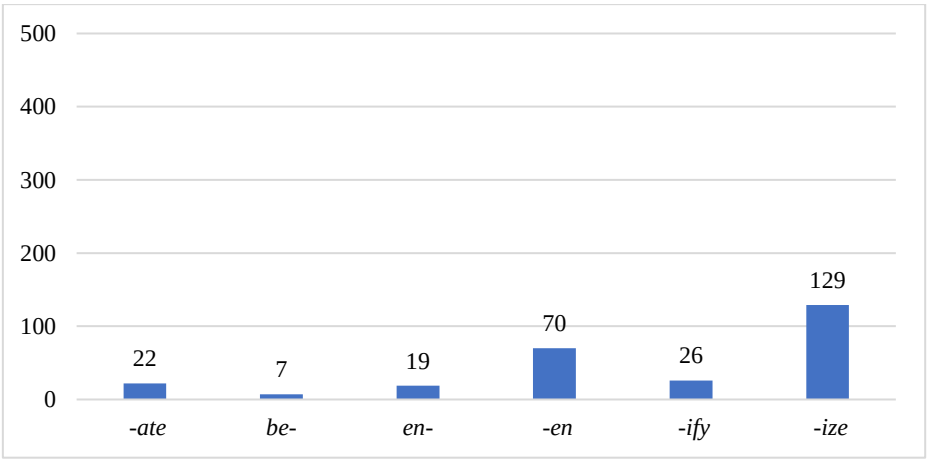

Figure 14a. Clusters classified by the affix competing with conversion (absolute values) (chart scale set at a 500-point scale)

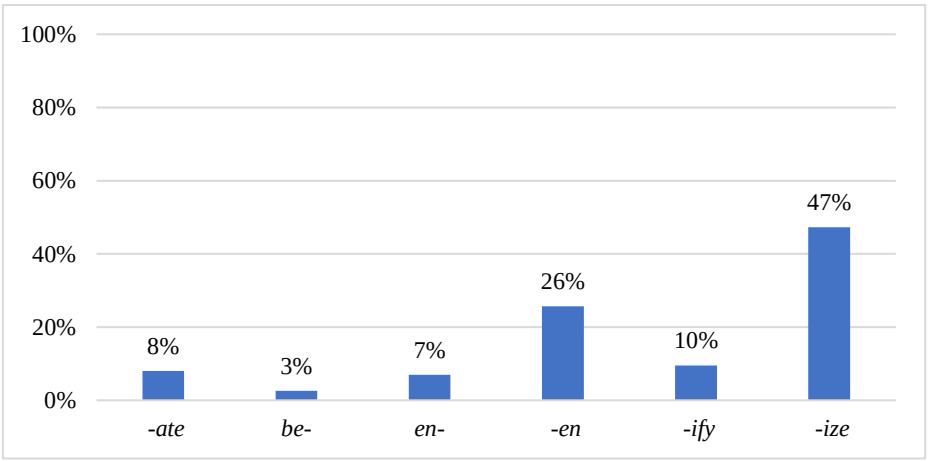

Figure 14b. Clusters classified by the affix competing with conversion (percentages)

Independently of semantic category, the most common competitor of conversion is *-ize* suffixation, which is only to be expected considering they are the two most common verb-forming processes in English (Plag 1999). Specifically, Figures 14a and 14b show that:

i) Doublets where conversion competes with *-ize* suffixation amount to 129 clusters, i.e. 47%.

ii) Competition vs *-en* suffixation amounts to 70 doublets, i.e. 26%.

iii) The two remaining suffixes identified in the sample amount to 48 doublets, i.e. 20%. In particular:

   a) Competition with *-ate* suffixation amounts to 22 doublets, i.e. 8%.

   b) Competition with *-ify* suffixation amounts to 26 clusters, i.e. 10%.

iv) The number of doublets where conversion competes with prefixation is marginal:

a) 19 doublets, i.e. 7%, have an *en*-prefixed verb as a competitor for conversion.

b) Seven doublets, i.e. 3%, have a *be*-prefixed verb as a competitor for conversion.

In terms of semantic classification, competition is highly heterogeneous regarding the semantic category for which the verbs compete. Semantic distribution is illustrated in Figures 15a and 15b:

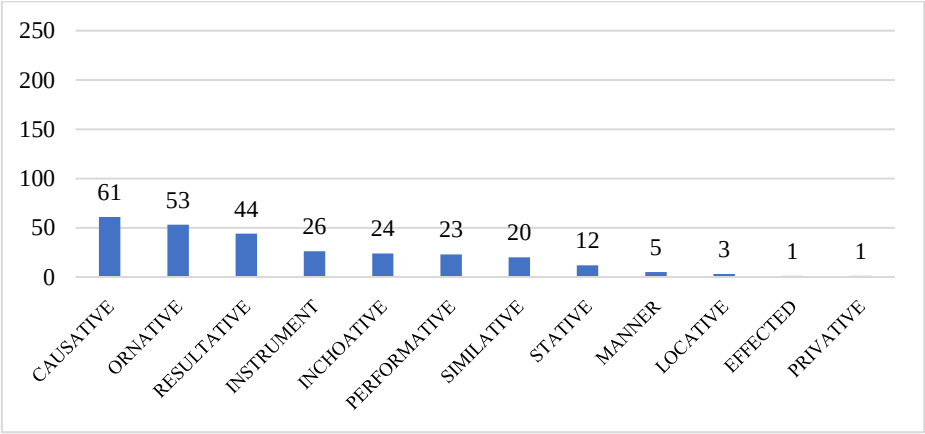

Figure 15a. Semantic categories expressed by doublets where conversion is in competition with affixation (absolute values) (chart scale set at a 250-point scale)

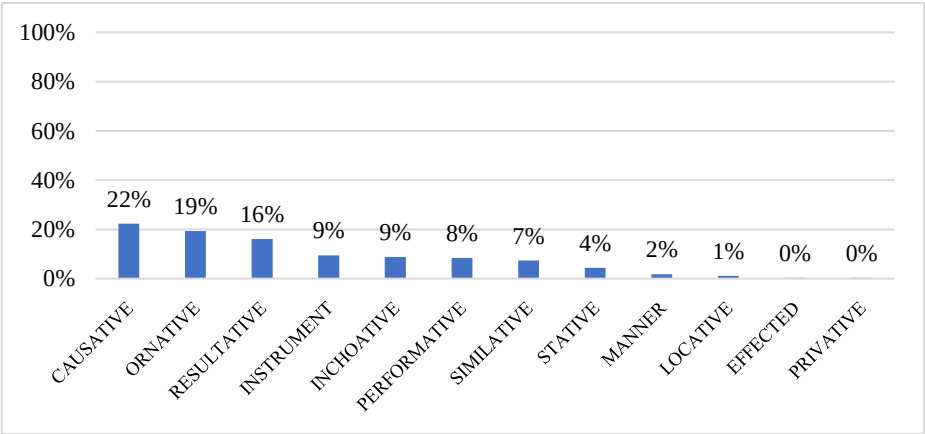

Figure 15b. Semantic categories expressed by doublets where conversion is in competition with affixation (percentages)

None of the categories in which competition occurs clearly stands out from the rest, as doublets are evenly distributed across semantic categories, as the values for the three most common semantic categories illustrate:

i) CAUSATIVE (61 clusters, i.e. 22%)
ii) ORNATIVE (53 clusters, i.e. 19%)
iii) RESULTATIVE (44 clusters, i.e. 16%)

As expected, the categories with the lowest number of competing clusters are those which are described as less common in the literature (e.g. Gottfurcht 2008; Valera 2020) (EFFECTED and PRIVATIVE).

The fact that clusters are evenly distributed across semantic categories does not imply that they are equally represented by all affixes. A look at the five most common semantic categories in the doublets analysed (Figures 16a and 16b) shows that, while CAUSATIVE and INCHOATIVE are the two most typical categories in clusters where conversion competes with *-en* suffixation, the categories INSTRUMENT, ORNATIVE, PERFORMATIVE and SIMILATIVE are the most common categories expressed by the clusters of conversion vs *-ize* suffixation:

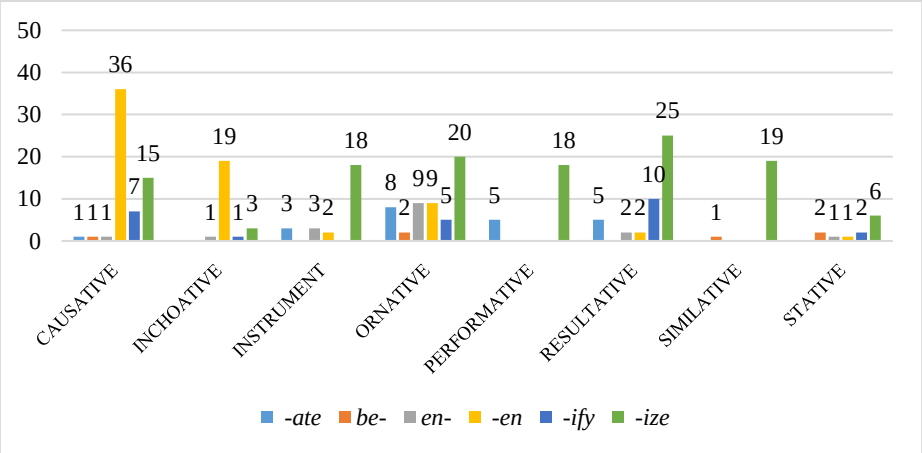

Figure 16a. Semantic categories represented by more than ten doublets classified by the affix competing with conversion (absolute values) (chart scale set at a 50-point scale)

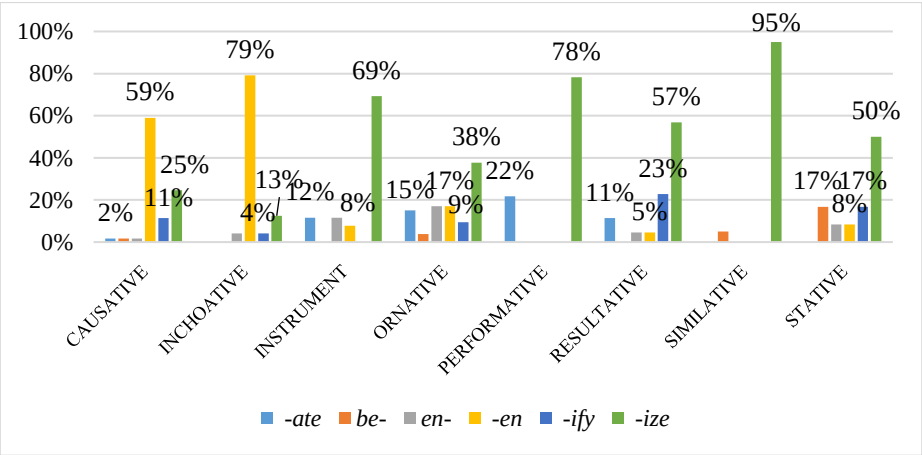

Figure 16b. Semantic categories represented by more than ten doublets classified by the affix competing with conversion

Competition for the expression of the semantic categories represented seems to be restricted to a particular pattern:

i) Conversion vs *-en* suffixation in the categories CAUSATIVE and INCHOATIVE.

ii) Conversion vs *-ize* suffixation in the categories INSTRUMENT, ORNATIVE, PERFORMATIVE, RESULTATIVE, SIMILATIVE and STATIVE.

iii) Unlike the rest of categories governed by the competition between conversion and *-ize* suffixation, ORNATIVE doublets obtain more even values irrespective of the patters in competition.

5.4.2.1.1 By profile of competition

Figures 17a and 17b show the distribution of doublets according to their profile of resolution:

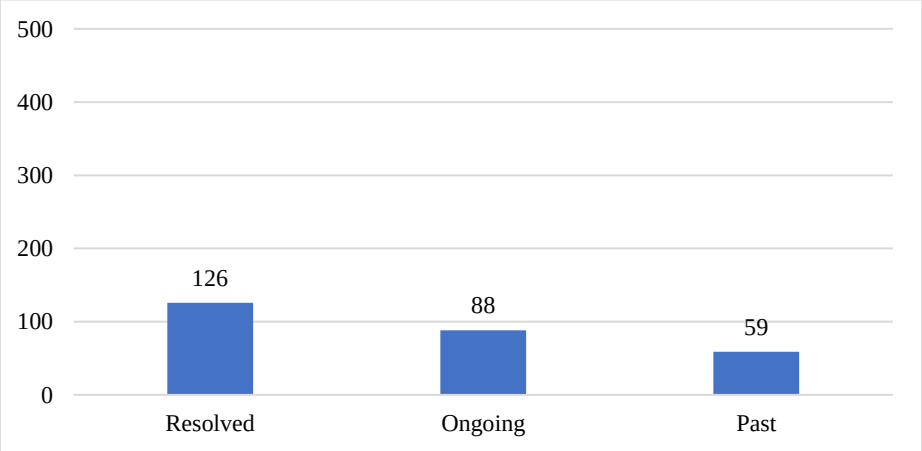

Figure 17a. The profile of competition in doublets where conversion is in competition with affixation (absolute values) (chart scale set at a 500-point scale)

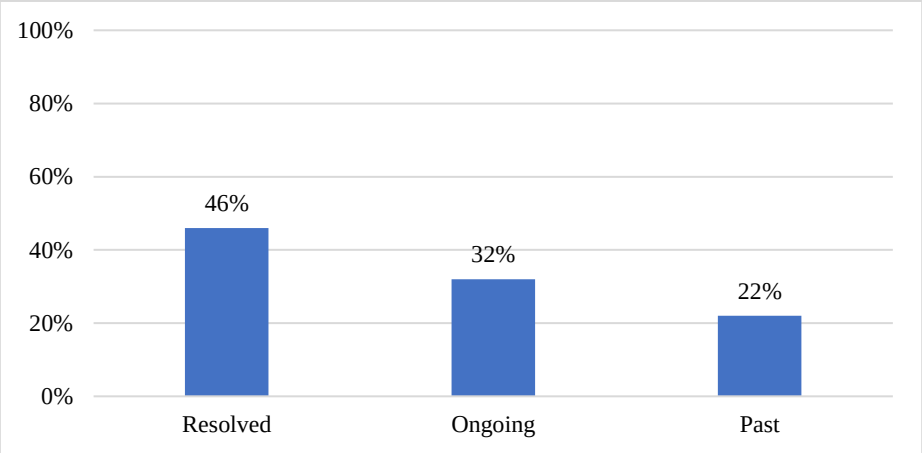

Figure 17b. The profile of competition in doublets where conversion is in competition with affixation (percentages)

Figures 17a and 17b show that:

i) Competition is resolved in 126 doublets, i.e. 46%, where one of the forms is attested in Present-Day English.

ii) Competition remains unresolved in 88 doublets, i.e. 32%, where both forms remain in ongoing competition.

iii) Past competition amounts to 59 doublets, i.e. 22%, where conversion competes with affixation.

5.4.2.1.1.1 Resolution by semantic category

The profile of competition of doublets for the competition between overt and covert affixation for each semantic category is represented in Figures 18a and 18b:

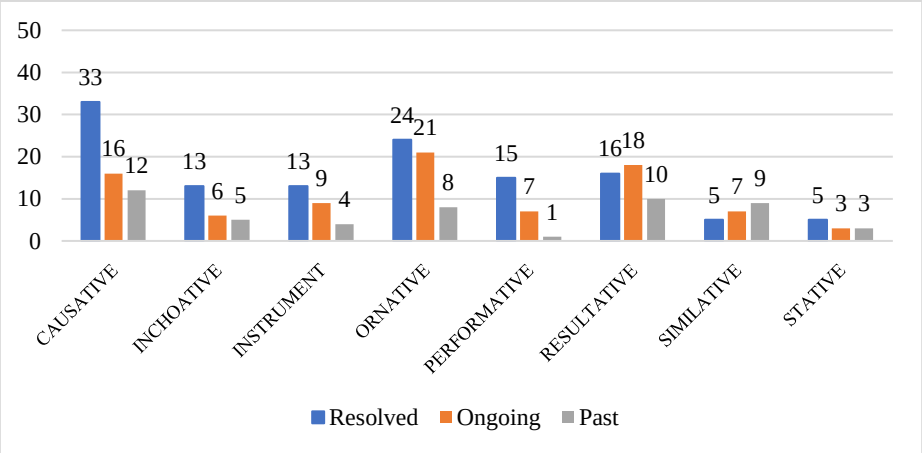

Figure 18a. Resolved (blue), ongoing (orange) and past (grey) competition in doublets of competition between conversion and affixation by semantic category (absolute values) (chart scale set at a 50-point scale)

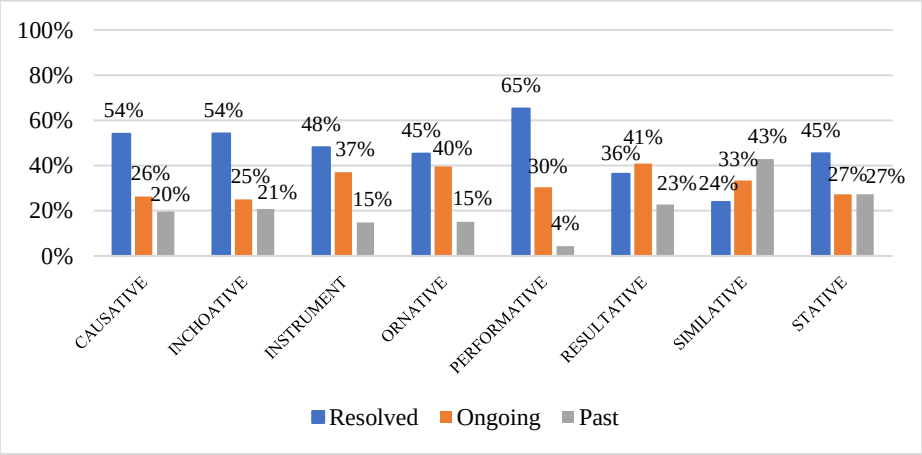

Figure 18b. Resolved (blue), ongoing (orange) and past (grey) competition in doublets of competition between conversion and affixation by semantic category (percentages)

Figures 18a and 18b reveal that:

i) Resolved competition prevails in all the semantic categories, except for RESULTATIVE and SIMILATIVE.

ii) SIMILATIVE is the only category for which the number of doublets classified as past competition is higher than that of resolved and ongoing competition.

The semantic categories EFFECTED (one doublet), LOCATIVE (three doublets), MANNER (five doublets) and PRIVATIVE (one doublet) have been excluded from the representation, because data are insufficient to draw conclusions regarding the resolution of competition in these doublets.

The next two sections focus on the doublets where competition is resolved according to lexicographic data. Specifically, section 5.4.2.1.2 compares the number of clusters where overt affixation prevails over covert affixation. Section 5.4.2.1.2.1 compares both types of competitors by semantic category.

5.4.2.1.2 By decaying/prevailing competitor

Doublets have been classified according to the prevailing competitor. Figures 19a and 19b show the clusters where competition is resolved in favour of affixation and in favour of conversion:

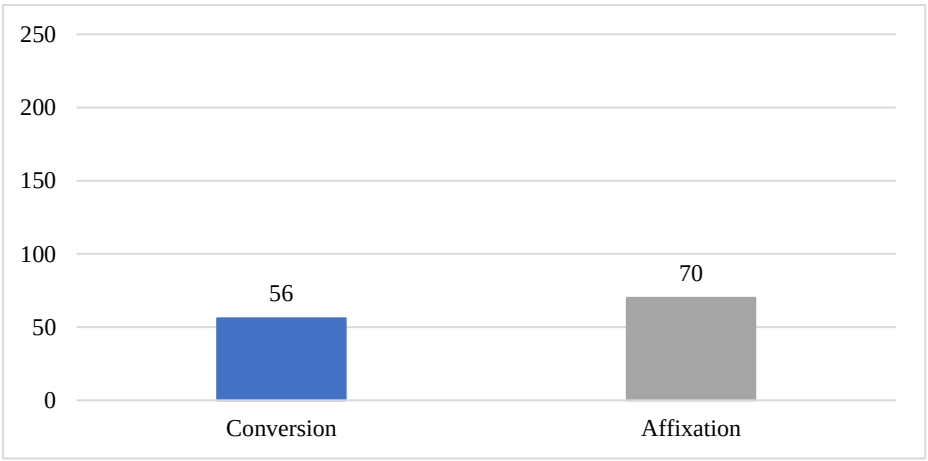

Figure 19a. The distribution of clusters according to the prevailing process, either for conversion (blue) or affixation (grey) (absolute values) (chart scale set at a 250-point scale)

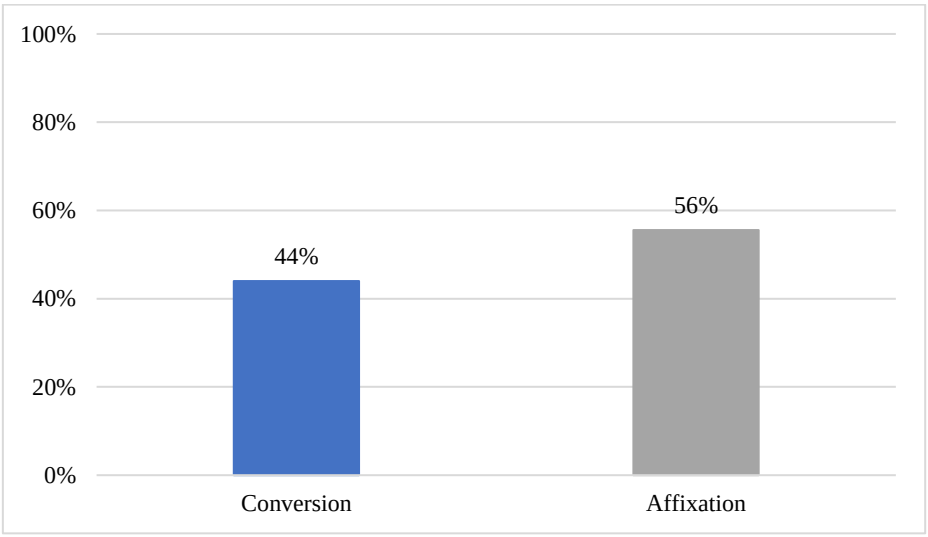

Figure 19b. The distribution of clusters according to the prevailing process, either for conversion (blue) or affixation (grey) (percentage)

Overall, affixation prevails over conversion in the resolution of competition, but not relevantly so. Also, such preference is not equally distributed across semantic categories (see section 5.4.2.1.2.1). Similarly, it must also be highlighted that the alleged preference for affixation does not necessarily translate into the obsolescence of the

converted competitor. By using ‘preference’ here instead of ‘success’, it is also implied that the resolution of competition retains both forms in use with a similar but specialized meaning, e.g. by domain, register or dialectal variety.

5.4.2.1.2.1 By semantic category

Figures 20a and 20b represent the clusters where affixed and converted verbs are preferred for the resolution of competition classified by semantic category:[44]

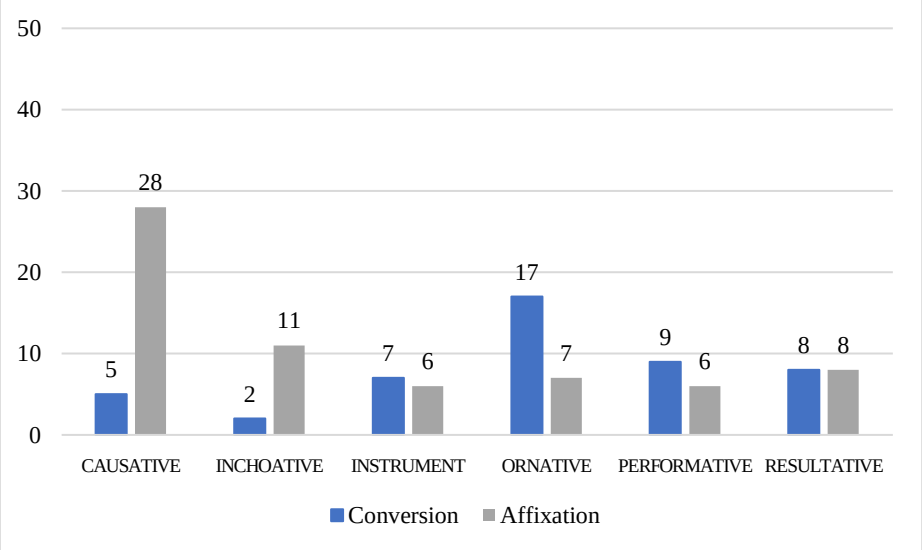

Figure 20a. The resolution of competition in favour of conversion (blue) and affixation (grey) (absolute values) (chart scale set at a 50-point scale)

[44] Five categories (EFFECTED, LOCATIVE, MANNER, SIMILATIVE and STATIVE) have been excluded from the chart, as the number of clusters collected in all of them is lower than ten.

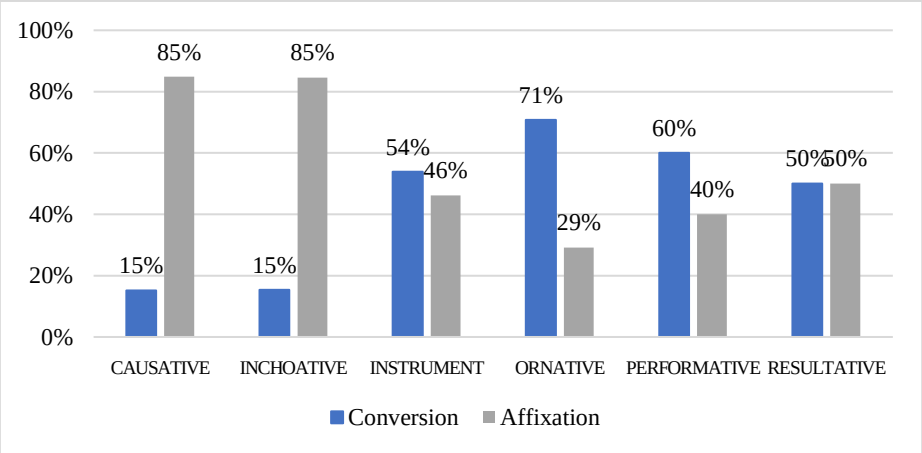

Figure 20b. The resolution of competition in favour of conversion (blue) and affixation (grey) (percentages)[45]

The results represented in Figures 20a and 20b reveal that:

i) Affixation is preferred in only two of the six categories represented. Specifically, resolution in favour of affixation clearly outnumbers conversion for the expression of CAUSATIVE (85%) and its intransitive counterpart INCHOATIVE (85%).

ii) For the category ORNATIVE, the number of clusters where conversion prevails over affixation is 17, i.e. 71%.

iii) Resolution in INSTRUMENT and PERFORMATIVE doublets also occurs in favour of conversion, as follows:

   a) INSTRUMENT (54%)

   b) PERFORMATIVE (60%)

iv) Conversion and affixation obtain the same values for the category RESULTATIVE.

[45] The categories DIRECTION, EFFECTED and MANNER have been excluded from representation, as there are no instances of resolved competition. Categories represented by one doublet, i.e. LOCATIVE and PRIVATIVE, have been excluded as well.

It must be noted, however, that the disparate results obtained for the categories CAUSATIVE and INCHOATIVE may be a consequence of the prevalence of *-en* suffixation for the expression of both categories. Thus, competition in doublets displays a heterogeneous character that demands an individual assessment of competition for each of the patterns identified. These are described in detail in sections 5.4.2.2 to 5.4.2.6.

5.4.2.2 Conversion vs *-ize* suffixation

A total of 129 clusters show competition between conversion and *-ize* suffixation for the expression of ten semantic categories (Figures 21a and 21b):

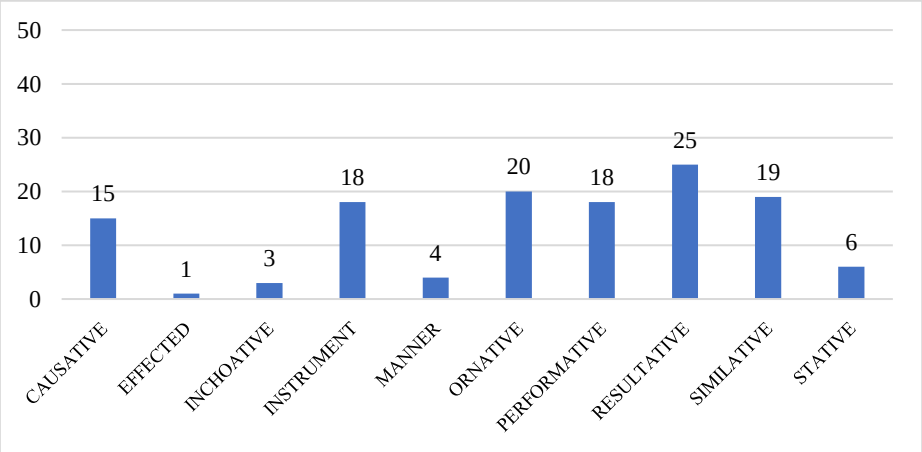

Figure 21a. The distribution of clusters of competition between conversion and *-ize* suffixation by semantic category (absolute values) (chart scale set at a 50-point scale)

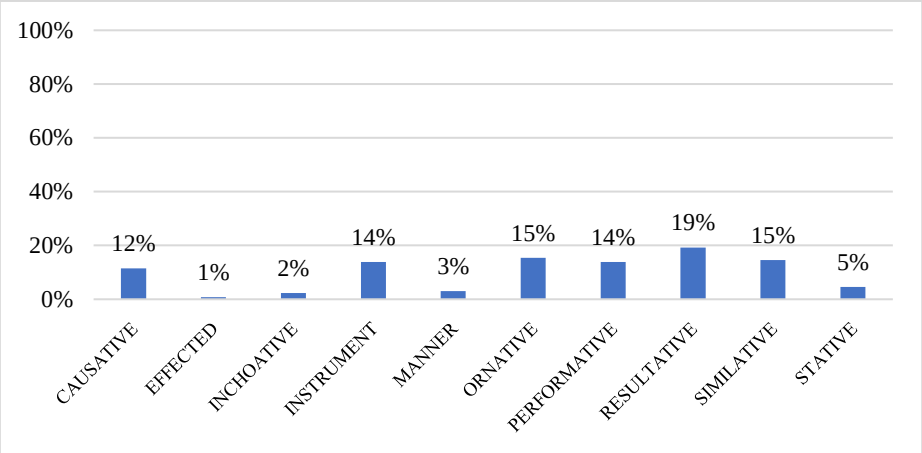

Figure 21b. The distribution of clusters of competition between conversion and *-ize* suffixation by semantic category (percentages)

The values for the semantic categories identified in the doublets in Figures 21a and 21b show that the most frequent categories are:

i) 25 doublets, i.e. 19%, express the category RESULTATIVE (e.g. *powder*/*powderize* 'reduce to powder').

ii) 20 doublets, i.e. 15%, express the category ORNATIVE (e.g. *artery*/*arterize* 'provide with arteries').

iii) 19 doublets, i.e. 15%, express the category SIMILATIVE (e.g. *parrot*/*parrotize* 'repeat words mindlessly').

iv) 18 doublets, i.e. 14%, express the category INSTRUMENT (e.g. *adjective*/*adjectivize* 'qualify using adjectives').

v) 18 doublets, i.e. 14%, express the category PERFORMATIVE (e.g. *monologue*/*monologuize* 'talk in monologue').

vi) 15 doublets, i.e. 12%, express the category CAUSATIVE (e.g. *savage*/*savagize* 'make savage').

The rest of the semantic categories expressed is represented by less than 5% of the clusters (i.e. EFFECTED, INCHOATIVE, MANNER and STATIVE) or non-attested (LOCATIVE, PRIVATIVE).

Figures 22a and 22b show the profile of competition in doublets of competition between conversion and *-ize* suffixation:

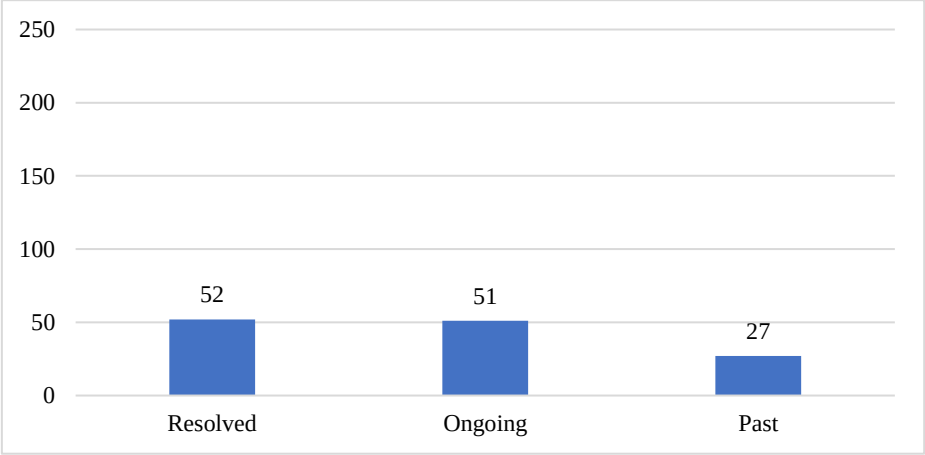

Figure 22a. The profile of competition in clusters of competition between conversion and *-ize* suffixation (absolute values) (chart scale set at a 250-point scale)

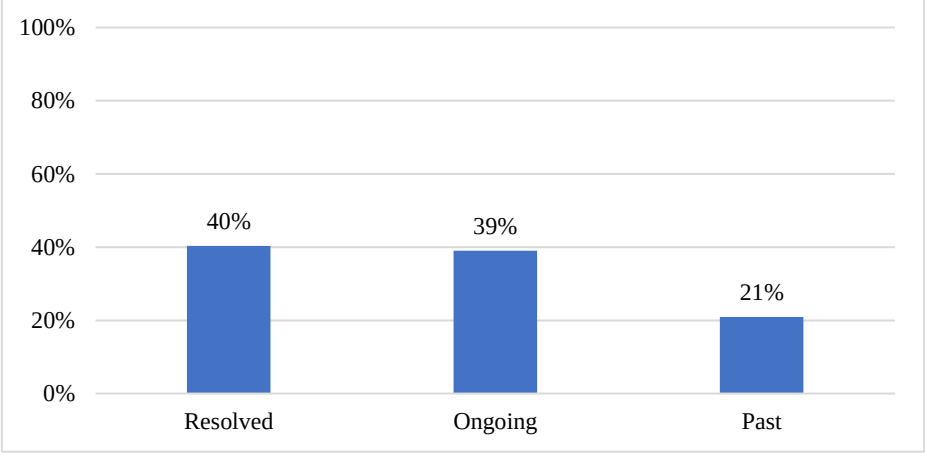

Figure 22b. The profile of competition in clusters of competition between conversion and *-ize* suffixation (percentages)

Of the 129 doublets analysed:

i) 52 doublets, i.e. 40%, are classified as resolved competition by:
   a) Obsolescence of one of the forms with the competing sense (e.g. *hazard*/*hazardize* 'put in danger or jeopardy') (47 doublets, i.e. 90%), and
   b) Specialization (e.g. *verbal*/*verbalize* 'talk, speak', where the converted form is marked as *colloquial* by the OED) (five doublets, i.e. 10%).

ii) 50 doublets, i.e. 39%, show ongoing competition, as both forms are attested in Present-Day English (e.g. *adjective*/*adjectivize* 'qualify using adjectives').

iii) 27 doublets, i.e. 21%, are instances of past competition (e.g. *epicure*/*epicurize* 'indulge oneself by luxurious living').

5.4.2.2.1 Resolved competition

Figures 23a and 23b represent the clusters where competition is resolved in favour of conversion or *-ize* suffixation:

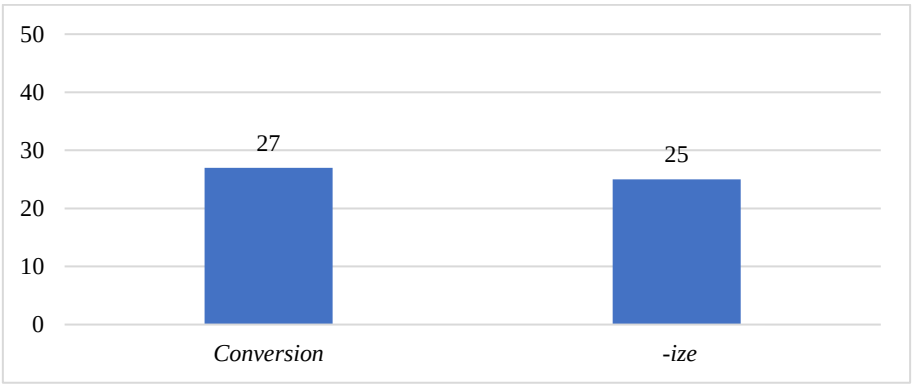

Figure 23a. The resolution of competition in favour of conversion or *-ize* suffixation (absolute values) (chart scale set at a 50-point scale)

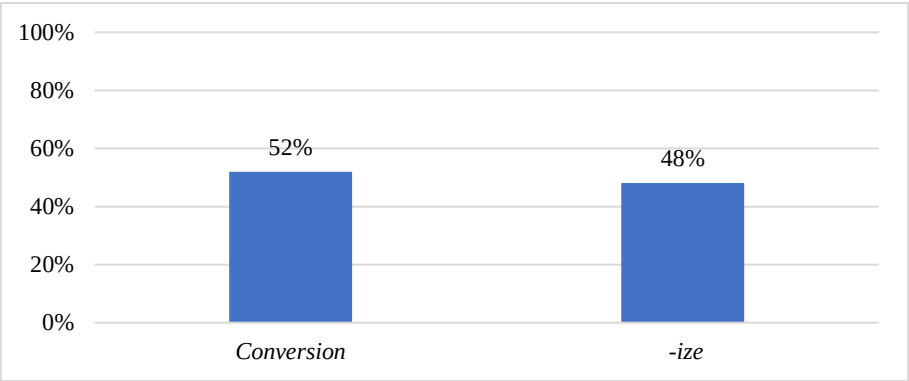

Figure 23b. The resolution of competition in favour of conversion or *-ize* suffixation (percentages)

Overall, there does not seem to be a clear preference for the resolution of competition in favour of conversion or *-ize* suffixation.

5.4.2.2.1.1 By semantic category

The outcomes in resolved competition between conversion and *-ize* suffixation are represented in Figures 24a and 24b:

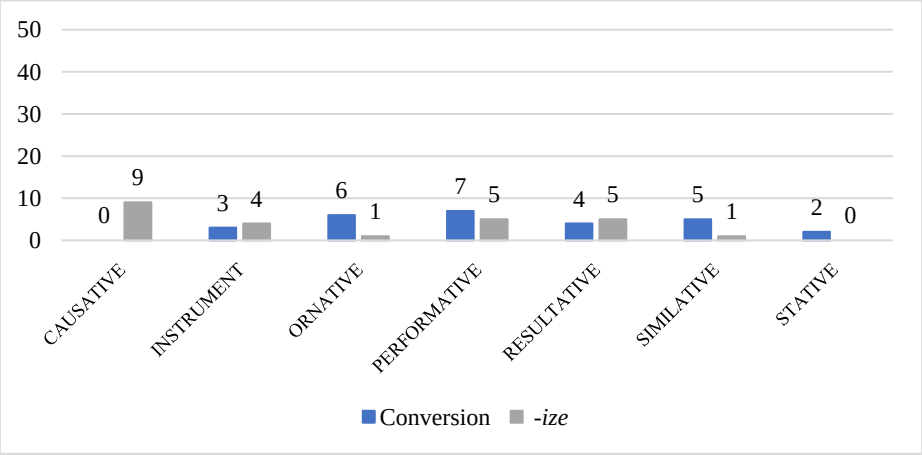

Figure 24a. Resolved competition in favour of conversion (blue) or *-ize* suffixation (grey). Only categories with more than five clusters have been included (absolute values) (chart scale set at a 50-point scale)

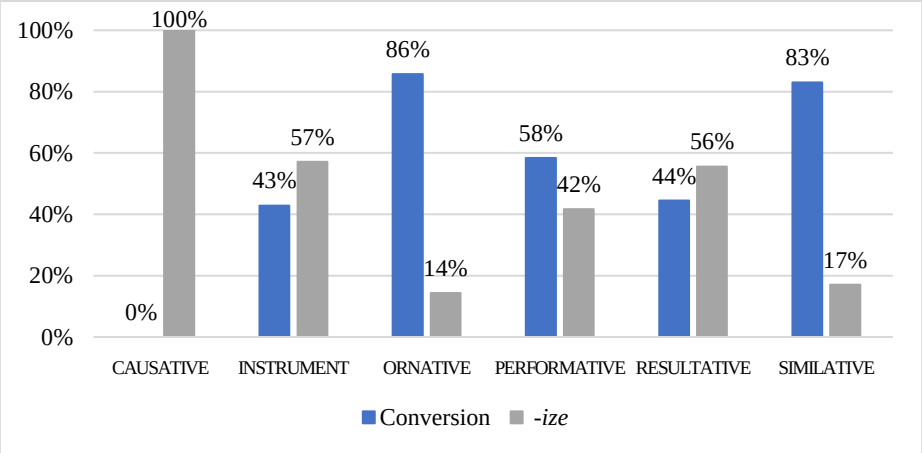

Figure 24b. Resolved competition in favour of conversion (blue) or *-ize* suffixation (grey). Only categories with more than five clusters have been included (percentages)

Of the seven semantic categories identified in doublets with resolved competition:

i) *-ize* suffixation prevails over conversion for the expression of:
   a) CAUSATIVE (nine doublets, i.e. 100%) (e.g. *parallel*/*parallelize* 'make parallel'),
   b) INSTRUMENT (four doublets, i.e. 57%) (e.g. *signal*/*signalize* 'communicate by means of signals'), and
   c) RESULTATIVE (five doublets, i.e. 59%) (e.g. *atom*/*atomize* 'reduce to atoms').

ii) In ORNATIVE doublets, conversion prevails over suffixation in six doublets, i.e. 86% (e.g. *alkali*/*alkalize* 'treat with alkali').

iii) Conversion prevails in five doublets, i.e. 83% of SIMILATIVE (e.g. *satellite*/*satellize* 'accompany someone as or like a satellite').

iv) Conversion prevails in seven doublets, i.e. 58% for the category PERFORMATIVE (e.g. *psalmody*/*psalmodize* 'sing psalms').

Therefore, the semantic classification of competitors in doublets involving competition between conversion and *-ize* suffixation allows a better understanding of the cases in which one or the other competitor prevails. However, the low number of clusters for each category hinders any attempt of generalization. The following section examines whether a preference for one or the other pattern may be observed in those clusters where competition is unresolved, based on lexicographic data.

5.4.2.3 Conversion vs *-en* suffixation

Conversion vs *-en* suffixation is the second most frequent pattern identified in the sample. Specifically, this type of competition amounts to 70 doublets distributed into seven semantic categories (Figures 25a and 25b):

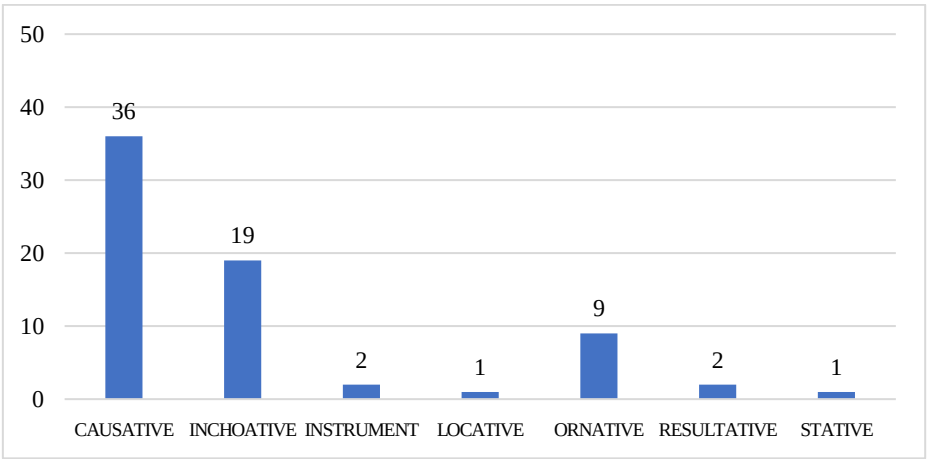

Figure 25a. The semantic distribution of doublets of competition between conversion and *-en* suffixation (absolute values) (chart scale set at a 50-point scale)

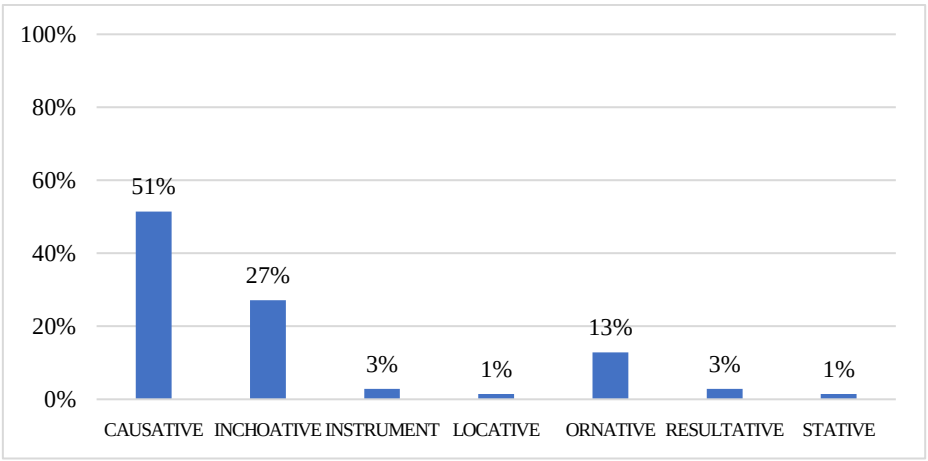

Figure 25b. The semantic distribution of doublets of competition between conversion and *-en* suffixation (percentages)

The semantic classification of the doublets shows that:

i) 36 doublets, i.e. 51%, express the category CAUSATIVE.
ii) 19 doublets, i.e. 27%, express the category INCHOATIVE.
iii) Nine doublets, i.e. 13%, express the category ORNATIVE.
iv) Competition for the rest of the categories represented (i.e. INSTRUMENT, LOCATIVE, RESULTATIVE and STATIVE) is considered to be marginal.

Figures 26a and 26b show the profile of competition in doublets of competition between conversion and *-en* suffixation:

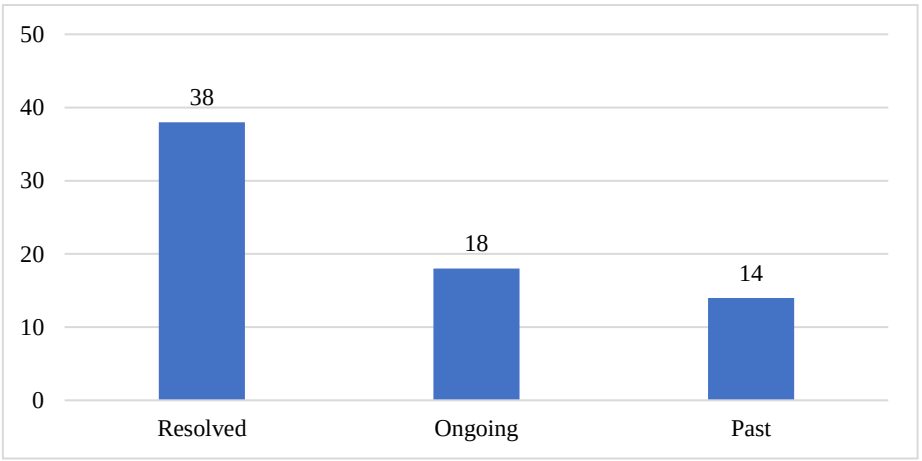

Figure 26a. The profile of competition for clusters involving competition between conversion and *-en* suffixation (absolute values) (chart scale set at a 50-point scale)

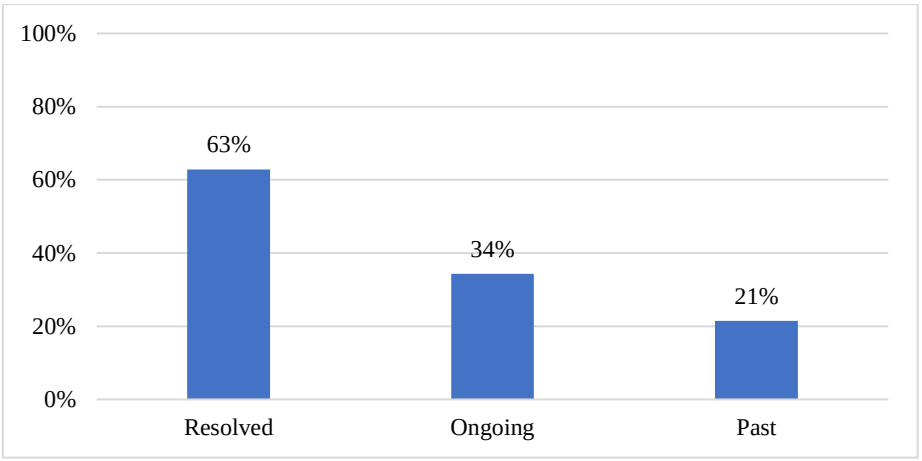

Figure 26b. The profile of competition for clusters involving competition between conversion and *-en* suffixation (percentages)

Of the 70 doublets analysed:

i) 38 doublets, i.e. 63%, show resolved competition.

ii) 18 doublets, i.e. 34%, show ongoing competition.

iii) 14 doublets, i.e. 21%, show past competition.

Regarding the direction in the resolution of competition, *-en* suffixation prevails over conversion in the two most common semantic categories identified (CAUSATIVE, e.g. *red*/*redden* 'make red', and INCHOATIVE, e.g. *red*/*redden* 'become red'), as illustrated in Figures 27a and 27b:

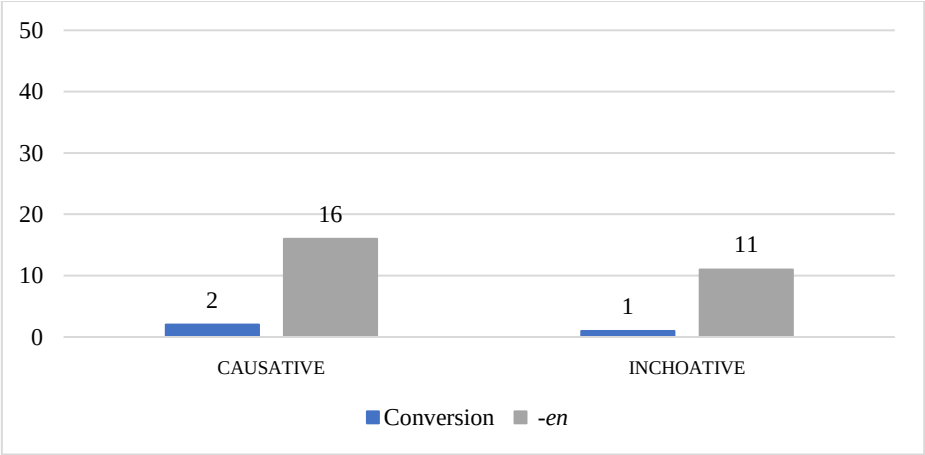

Figure 27a. Resolution in favour of conversion (blue) or *-en* suffixation (grey) for the categories CAUSATIVE and INCHOATIVE (absolute values) (chart scale set at a 50-point scale)

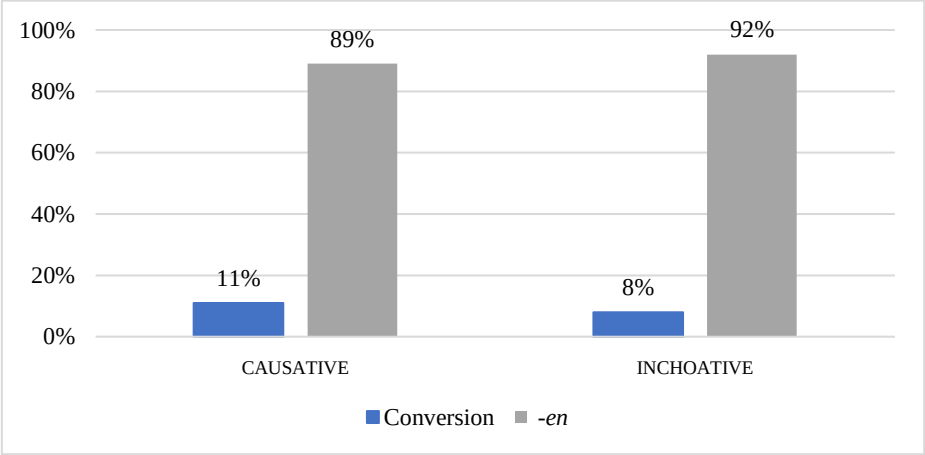

Figure 27b. Resolution in favour of conversion (blue) or *-en* suffixation (grey) for the categories CAUSATIVE and INCHOATIVE (percentages)

Results show a clear bias towards *-en* suffixation when in competition with conversion. A closer look at the doublets where conversion prevails reveals that:

i) The converted form is attested in Present-Day English, but apparently restricted to a specific variety (e.g. *just* 'adjust for accuracy' is marked as characteristic of Orkney and Shetland). Dialectal differentiation is also observed in other doublets where conversion competes with *-en* suffixation, e.g. *less*/*lessen*, *piece*/*piecen*, *sad*/*sadden*, *smart*/*smarten*, *stark*/*starken*, *quiet*/*quieten*, or *trust*/*trusten*.

ii) The suffixed verb is a monosemic form, sometimes with only one quotation attested in the OED (e.g. *mist*/*misten*).

5.4.2.4 Conversion vs *-ate* suffixation

Doublets where conversion competes with *-ate* suffixation amount to 21, for which the following five semantic categories are identified:

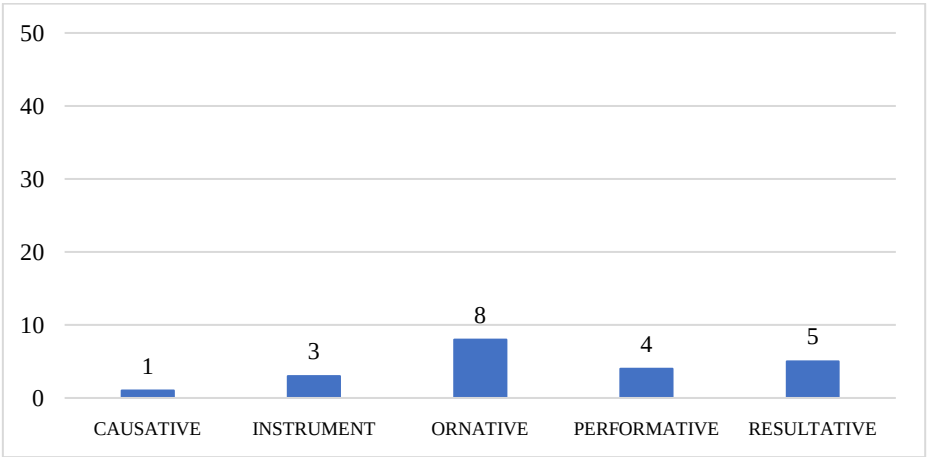

Figure 28a. The semantic distribution of doublets of competition between conversion and *-ate* suffixation (absolute values) (chart scale set at a 50-point scale)

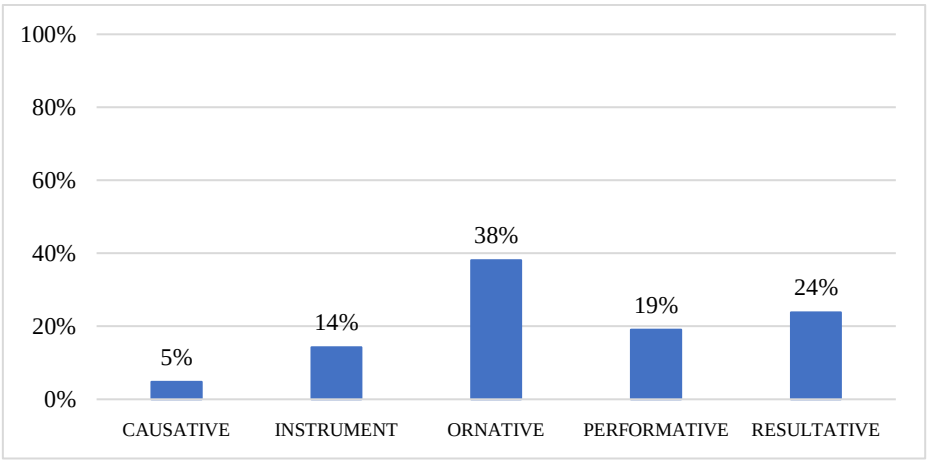

Figure 28b. The semantic distribution of doublets of competition between conversion and *-ate* suffixation (percentages)

Figures 28a and 28b show that:

i) Eight doublets, i.e. 38%, express the category ORNATIVE (e.g. *motive*/*motivate* 'provide with a motive').

ii) Five doublets, i.e. 24%, express the category RESULTATIVE (e.g. *faction*/*factionate* 'make into factions').

iii) Four doublets, i.e. 19%, express the category PERFORMATIVE (e.g. *culture*/*culturate* 'cultivate soil, plants').

iv) Three doublets, i.e. 14%, express the category INSTRUMENT (e.g. *alembic*/*alembicate* 'distil in an alembic').

v) One doublet, i.e. 5%, expresses the category CAUSATIVE (e.g. *active*/*activate* 'distil in an alembic').

Figures 29a and 29b show the profile of competition in doublets of competition between conversion and *-ate* suffixation:

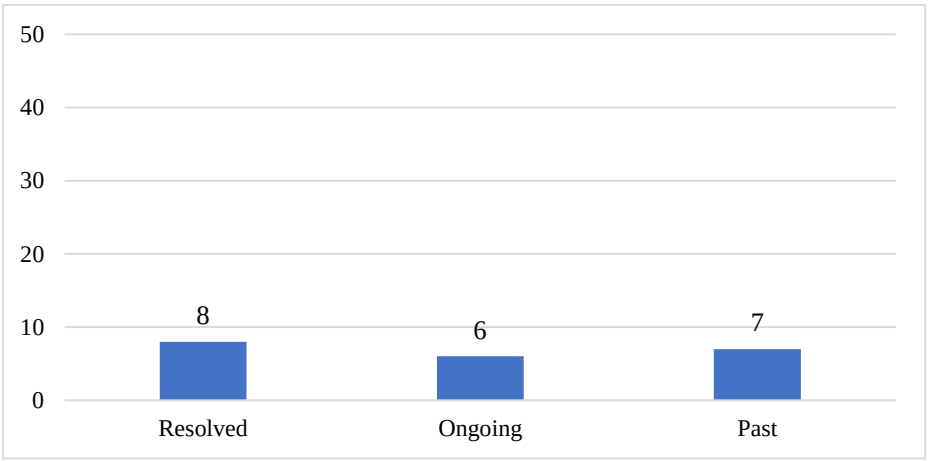

Figure 29a. The profile of competition for clusters involving competition between conversion and *-ate* suffixation (absolute values) (chart scale set at a 50-point scale)

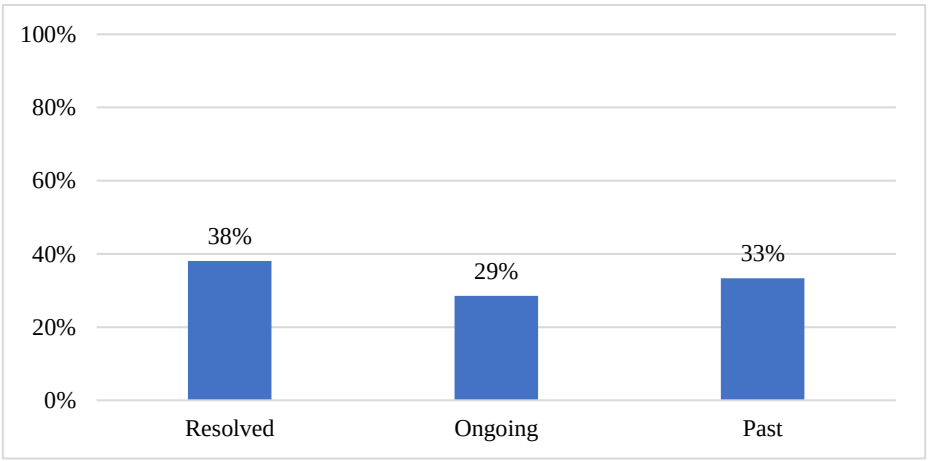

Figure 29b. The profile of competition for clusters involving competition between conversion and *-ate* suffixation (percentages)

Of the 21 doublets analysed:

i) Eight doublets, i.e. 38%, show resolved competition for this pattern, with well-balanced results. Specifically, conversion prevails in six, i.e. 75%, of the eight doublets (e.g. *culture*/*culturate* ‘cultivate (soil, plaints)’), while *-ate* verbs

prevail in two, i.e. 25%, of the eight doublets (e.g. *alembic*/*alembicate* 'distil in alembic').

ii) Six doublets, i.e. 29%, show ongoing competition, according to lexicographic data (e.g. *active*/*activate* 'make active').

iii) Seven doublets, i.e. 33%, show past competition (e.g. *quintessence*/*quintessentiate* 'extract the quintessence of or from something').

5.4.2.5 Conversion vs *-ify* suffixation

Competition between conversion and *-ify* is attested in 26 doublets, for which the following six semantic categories are identified:

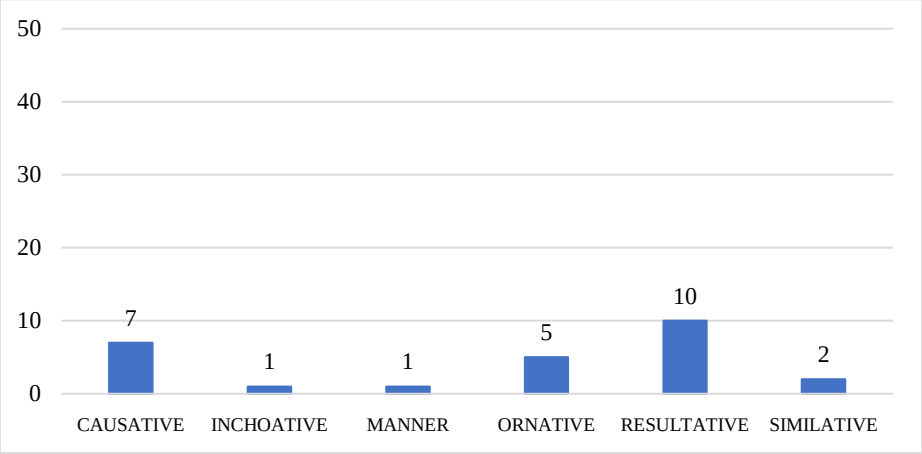

Figure 30a. The semantic distribution of doublets of competition between conversion and *-ify* suffixation (absolute values) (chart scale set at a 50-point scale)

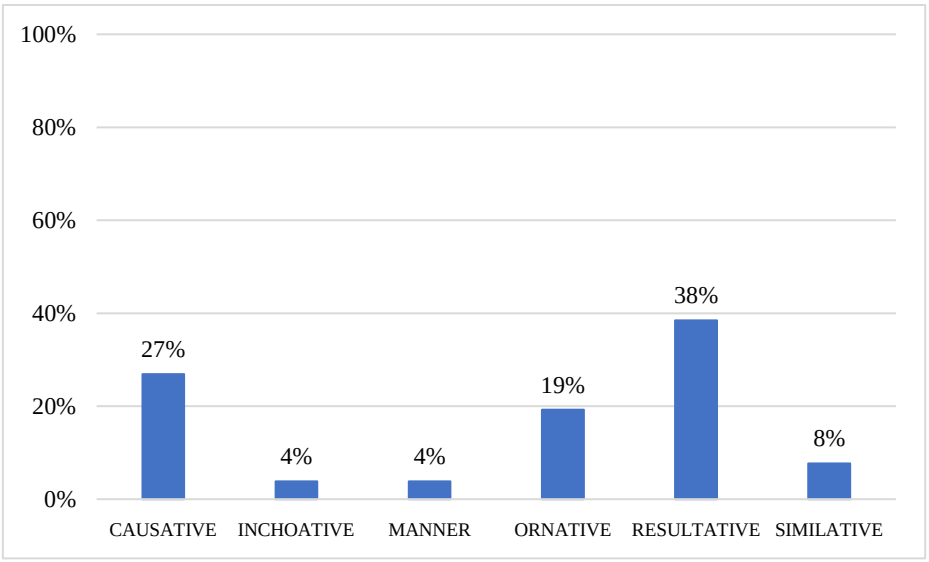

Figure 30b. The semantic distribution of doublets of competition between conversion and *-ify* suffixation (percentages)

Figures 30a and 30b show that:

i) Ten doublets, i.e. 38%, express the category RESULTATIVE.
ii) Seven doublets, i.e. 27%, express the category CAUSATIVE.
iii) Five doublets, i.e. 19%, express the category ORNATIVE.
iv) Two doublets, i.e. 8%, express the category SIMILATIVE.
v) One doublet, i.e. 4%, expresses the category INCHOATIVE.
vi) One doublet, i.e. 4%, expresses the category MANNER.

Figures 31a and 31b show the profile of competition in doublets of competition between *-ify* suffixation and *-ize* suffixation:

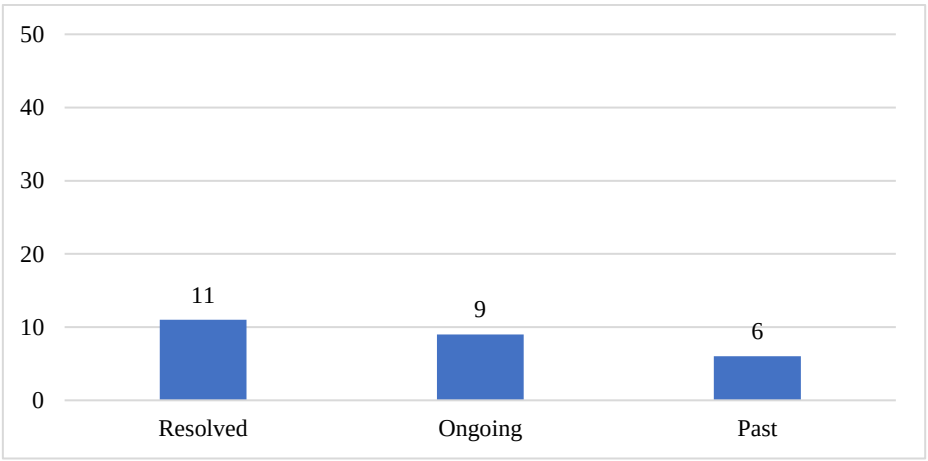

Figure 31a. The profile of competition for clusters involving competition between conversion and *-ify* suffixation (absolute values) (chart scale set at a 50-point scale)

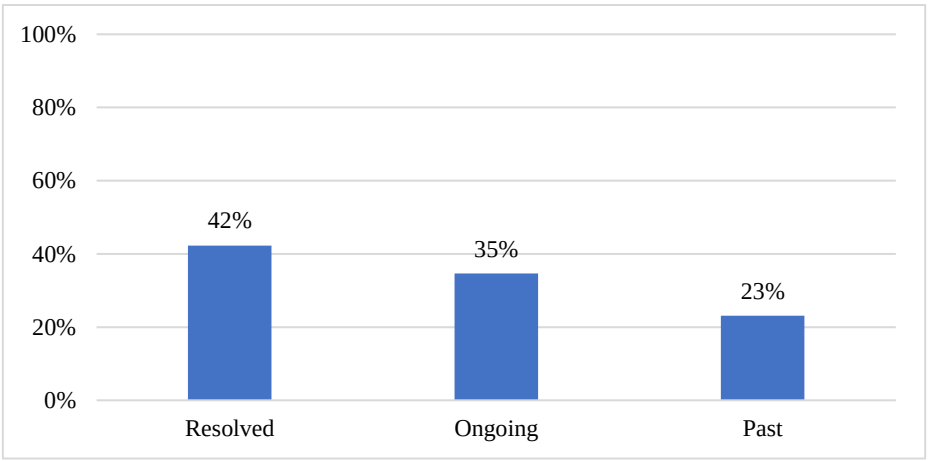

Figure 31b. The profile of competition for clusters involving competition between conversion and *-ify* suffixation (percentages)

Of the 26 doublets analysed:

i) Eleven doublets, i.e. 42%, show resolved competition (e.g. *beautify*/*beauty* 'make beautiful'). Specifically:
   a) *-ify* suffixation prevails in six of the eleven doublets, independently of the semantic category.
   b) Conversion prevails in five of the eleven doublets.

ii) Nine doublets, i.e. 35%, show ongoing competition (e.g. *dunce*/*duncify* ‘make a dunce of’).

iii) Six clusters, i.e. 23%, show past competition (e.g. *prince*/*princify* ‘make into a prince’).

5.4.2.6 Conversion vs prefixation

The doublets identified as instances of the competition between conversion and prefixation are restricted to conversion vs *be*- prefixation and conversion vs *en*-/*em*- prefixation. Specifically:

i) Conversion vs *be*- prefixation amounts to seven doublets (e.g. *belittle*/*little* ‘reduce in size, amount or importance’), for which the following five semantic categories are identified:

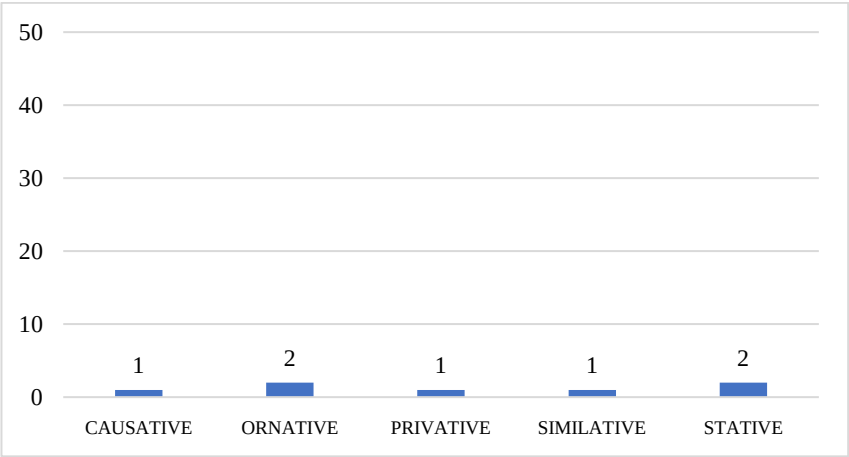

Figure 32a. The semantic distribution of doublets of competition between conversion and *be*- prefixation (absolute values) (chart scale set at a 50-point scale)

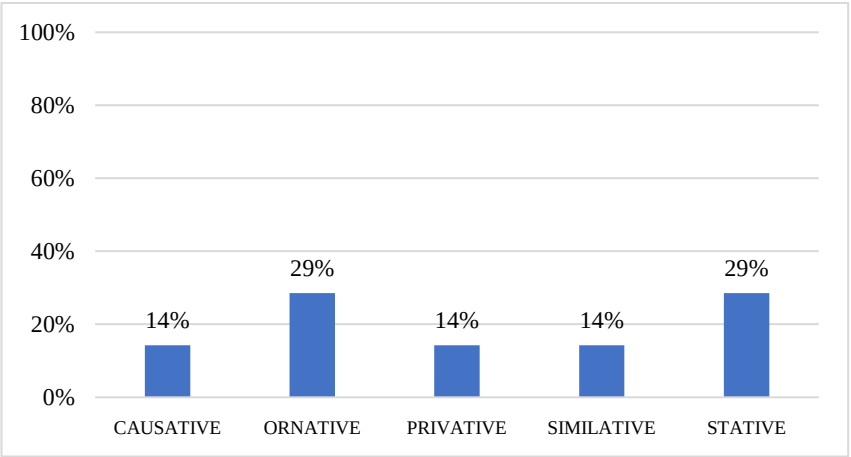

Figure 32b. The semantic distribution of doublets of competition between conversion and *be*- prefixation (percentages)

Figures 32a and 32b show that:

a) Two doublets, i.e. 29%, express the category ORNATIVE.

b) Two doublets, i.e. 29%, express the category STATIVE.

c) One doublet, i.e. 14%, expresses the category CAUSATIVE.

d) One doublet, i.e. 14%, expresses the category PRIVATIVE.

e) One doublet, i.e. 14%, expresses the category SIMILATIVE.

Figures 33a and 33b show the profile of competition doublets of competition between conversion and *be*- prefixation:

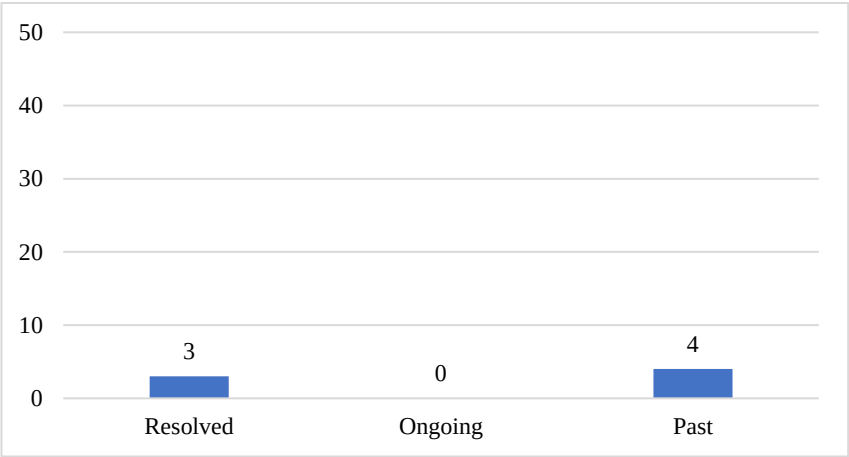

Figure 33a. The profile of competition for clusters involving competition between conversion and *be-* prefixation (absolute values) (chart scale set at a 50-point scale)

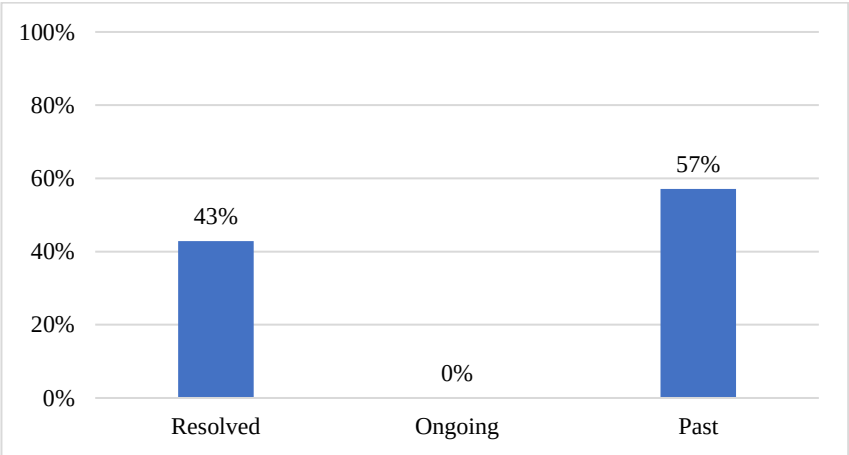

Figure 33b. The profile of competition for clusters involving competition between conversion and *be-* prefixation (percentages)

Of the seven doublets analysed:

a) Three doublets, i.e. 43%, show resolved competition (e.g. *belord*/*lord* ‘act or behave tyrannically’).

b) Four doublets, i.e. 57%, show past competition (e.g. *bedung*/*dung* ‘enrich with dung’).

c) No instances of ongoing competition are attested.

ii) Conversion vs *en-* prefixation amounts to 19 doublets, for which the following seven semantic categories are identified:

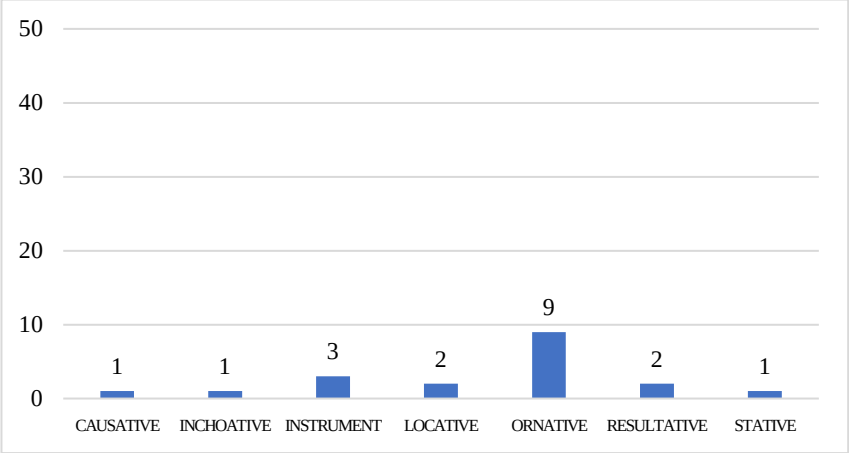

Figure 34a. The semantic distribution of doublets of competition between conversion and *en-* prefixation (absolute values) (chart scale set at a 50-point scale)

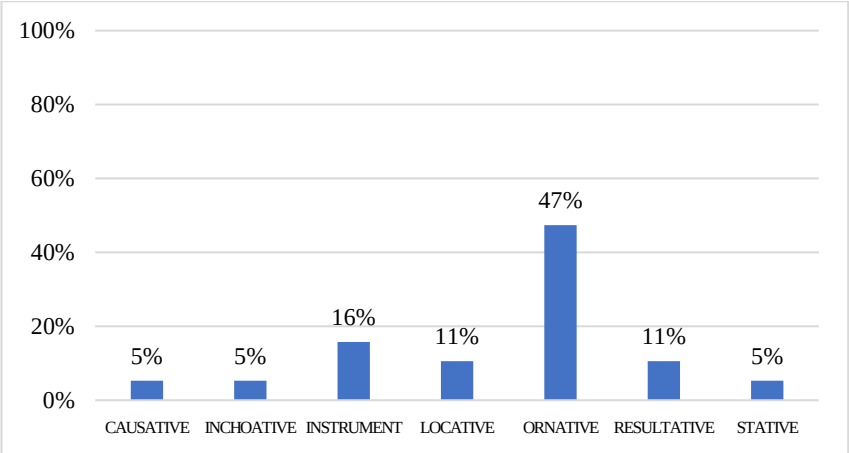

Figure 34b. The semantic distribution of doublets of competition between conversion and *en-* prefixation (percentages)

Figures 34a and 34b show that:

a) Nine doublets, i.e. 47%, express the category ORNATIVE.

b) Three doublets, i.e. 16%, express the category INSTRUMENT.

c) Two doublets, i.e. 11%, express the category LOCATIVE.

d) Two doublets, i.e. 11%, express the category RESULTATIVE.

e) One doublet, i.e. 5%, expresses the category CAUSATIVE.

f) One doublet, i.e. 5%, expresses the category INCHOATIVE.

g) One doublet, i.e. 5%, expresses the category STATIVE.

Figures 35a and 35b show the profile of competition in doublets of competition between conversion and *en*- prefixation:

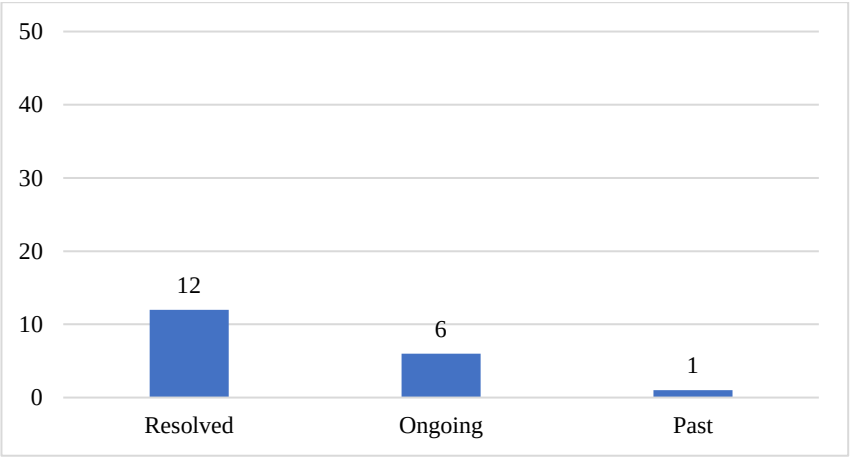

Figure 35a. The profile of competition for clusters involving competition between conversion and *en*- prefixation (absolute values) (chart scale set at a 50-point scale)

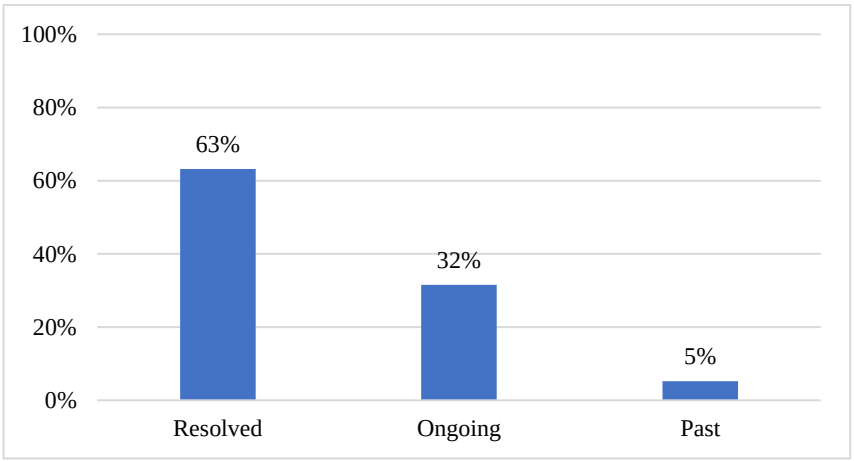

Figure 35b. The profile of competition for clusters involving competition between conversion and *en-* prefixation (percentages)

Of the 19 doublets analysed:

a) Twelve doublets, i.e. 63%, show resolved competition (e.g. *empower*/*power* 'make powerful').

b) Six doublets, i.e. 32%, show ongoing competition (e.g. *enqueue*/*queue* 'place or add in a queue').

c) One doublet, i.e. 5%, shows past competition (e.g. *empride*/*pride* 'make proud').

5.4.3 Competition in affixation

This section addresses the competition in doublets where both competitors are derived through affixation and which amount to 47 doublets. Specifically, competition is attested between:

i) *-ize* suffixation vs *-ate* suffixation (e.g. *myelinize*/*myelinate* 'enclose a nerve fibre or fibres in myelin') amounts to 21 doublets, for which the following six semantic categories are identified:

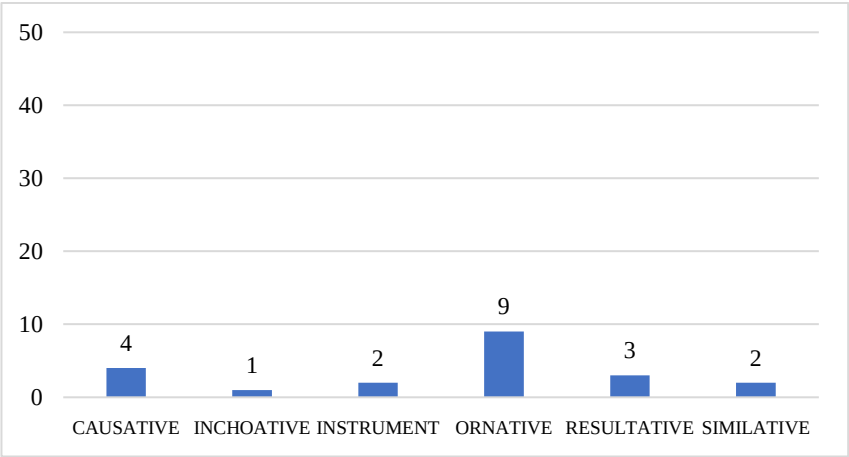

Figure 36a. The semantic distribution of doublets of competition between *-ize* suffixation and *-ate* suffixation (absolute values) (chart scale set at a 50-point scale)

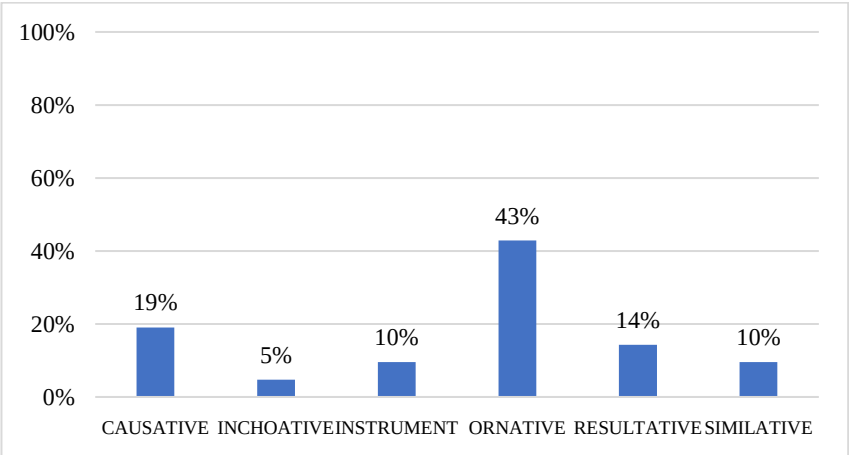

Figure 36b. The semantic distribution of doublets of competition between *-ize* suffixation and *-ate* suffixation (percentages)

Figures 36a and 36b show that:

a) Nine doublets, i.e. 29%, express the category ORNATIVE.

b) Four doublets, i.e. 19%, express the category CAUSATIVE.

c) Three doublets, i.e. 14%, express the category INSTRUMENT.

d) Three doublets, i.e. 14%, express the category RESULTATIVE.

e) Two doublets, i.e. 10%, express the category SIMILATIVE.

f) One doublet, i.e. 5%, expresses the category INCHOATIVE.

Figures 37a and 37b show the profile of competition in doublets of competition between *-ize* suffixation and *-ate* suffixation:

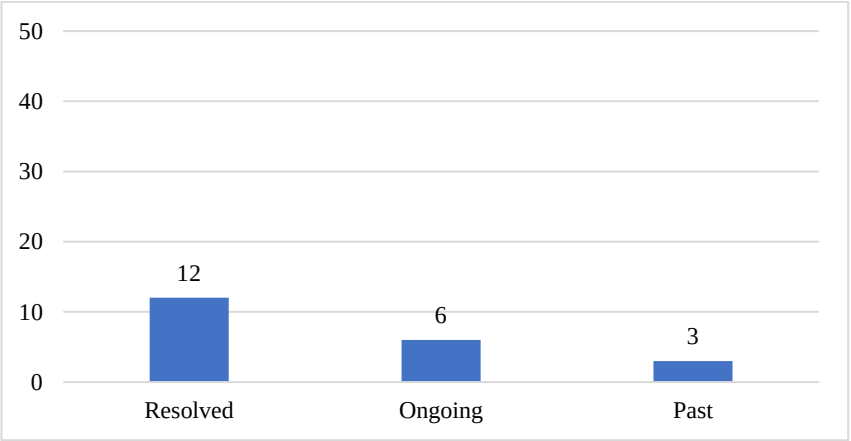

Figure 37a. The profile of competition for clusters involving competition between *-ize* suffixation and *-ate* suffixation (absolute values) (chart scale set at a 50-point scale)

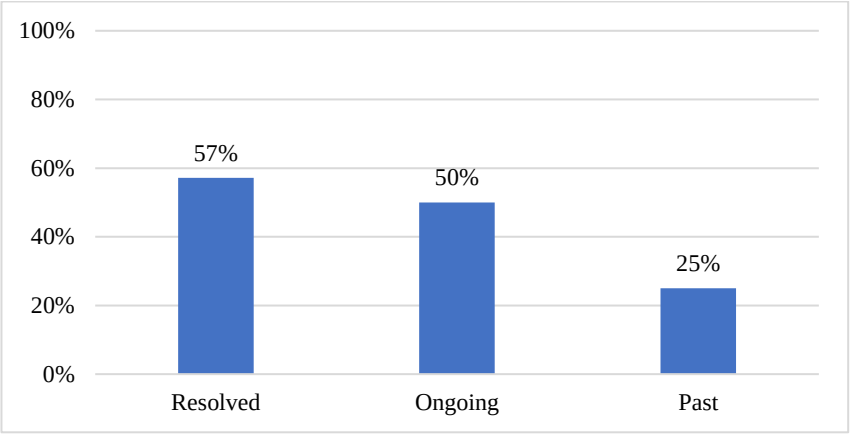

Figure 37b. The profile of competition for clusters involving competition between *-ize* suffixation and *-ate* suffixation (percentages)

Of the 21 doublets analysed:

a) Twelve doublets, i.e. 57%, show resolved competition (e.g. *pendulate*/*pendulize* 'dangle, sway to and fro').

b) Six doublets, i.e. 19%, show ongoing competition (e.g. *oxygenate*/*oxygenize* ‘supply or mix a substance with oxygen’).

c) Three doublets, i.e. 14%, show past competition (e.g. *pedestrianate*/*pedestrianize* ‘act as a pedestrian’).

ii) *-ize* suffixation vs *-ify* suffixation (e.g. *etherify*/*etherize* ‘convert into an ether’) amounts to 26 doublets, i.e. 55%, for which the following five semantic categories are identified:

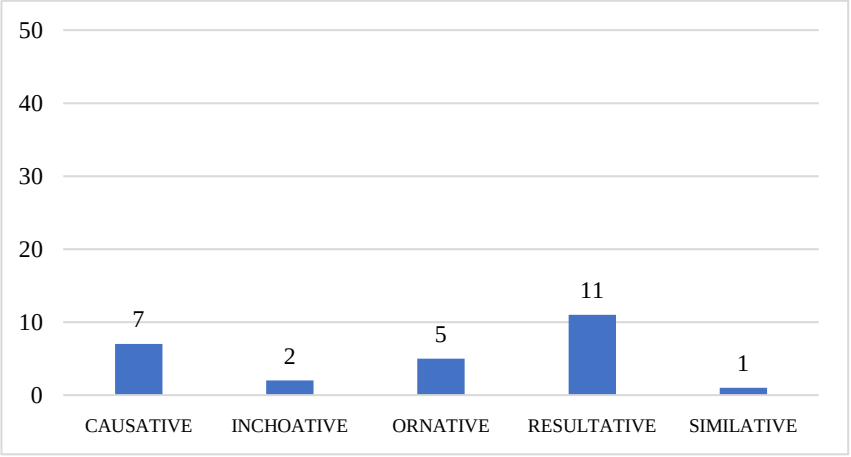

Figure 38a. The semantic distribution of doublets of competition between *-ize* suffixation and *-ify* suffixation (absolute values) (chart scale set at a 50-point scale)

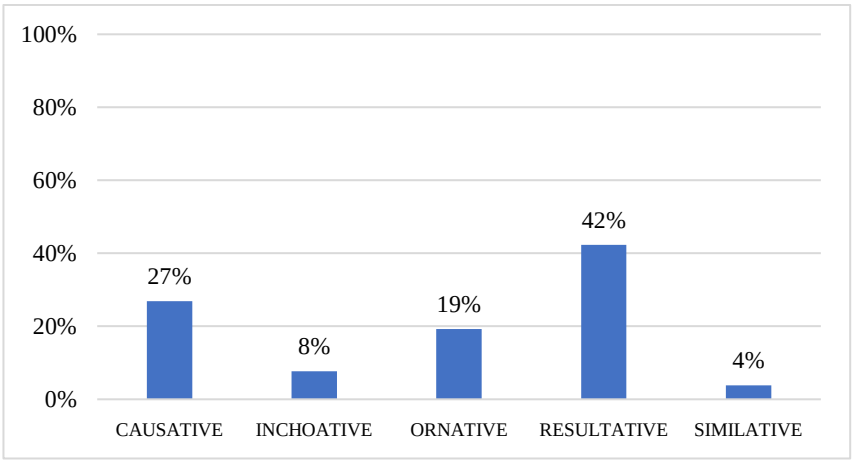

Figure 38b. The semantic distribution of doublets of competition between *-ize* suffixation and *-ify* suffixation (percentages)

Figures 38a and 38b show that:

a) Twelve doublets, i.e. 46%, express the category RESULTATIVE.

b) Seven doublets, i.e. 27%, express the category CAUSATIVE.

c) Five doublets, i.e. 19%, express the category ORNATIVE.

d) Two doublets, i.e. 8%, express the category INCHOATIVE.

e) One doublet, i.e. 4%, expresses the category SIMILATIVE.

Figures 39a and 39b show the profile of resolution of competition in doublets of competition between *-ize* suffixation and *-ify* suffixation:

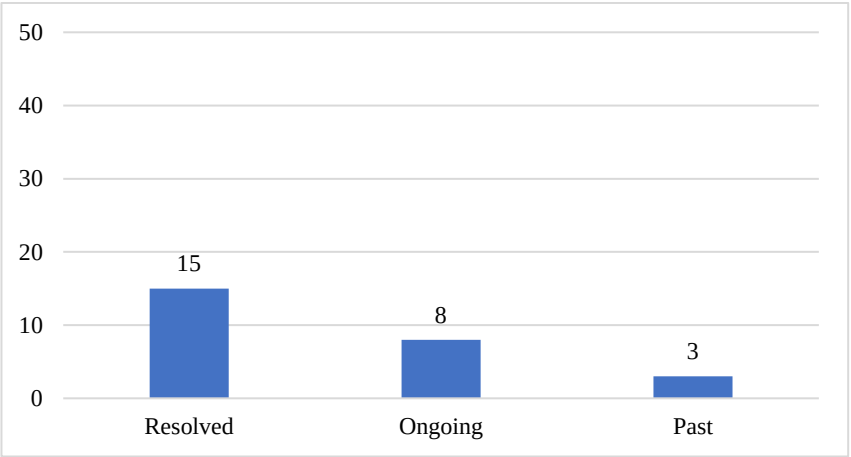

Figure 39a. The profile of competition for clusters involving competition between *-ize* suffixation and *-ify* suffixation (absolute values) (chart scale set at a 50-point scale)

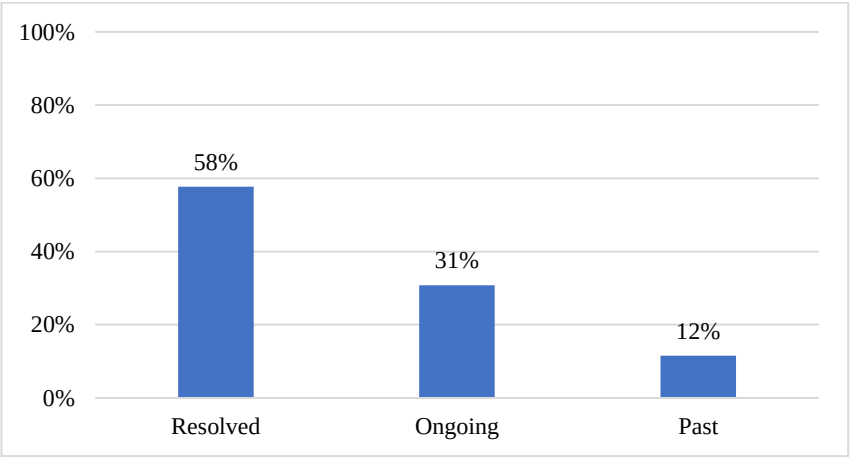

Figure 39b. The profile of competition for clusters involving competition between *-ize* suffixation and *-ify* suffixation (percentages)

Of the 26 doublets analysed:

a) Fifteen doublets, i.e. 58%, show resolved competition (e.g. *resinify*/*resinize* 'convert into resin').

b) Eight doublets, i.e. 31%, show ongoing competition (e.g. *rigidify*/*rigidize* 'make a material rigid').

c) Three doublets, i.e. 12%, show past competition (e.g. *pyritify*/*pyritize* 'impregnate with pyrites').

5.4.4 Summary

The results obtained from the comparison of the 320 doublets extracted from the OED evidence the heterogeneity of competition regarding formal and semantic aspects.

Regarding the form, doublets have been divided into two groups according to their competition patterns: overt vs covert affixation (273 doublets) and competition in overt affixation (47 doublets). The patterns with the highest number of forms in competition recorded in the dictionary are conversion vs *-ize* suffixation (129 doublets) and conversion vs *-en* suffixation (70 doublets).

Regarding the meaning, competition is attested in twelve semantic categories in overt vs covert affixation, and in six categories in the competition in overt affixation. The study of competition according to senses and its classification into semantic categories allows to draw a distinction in the forms preferred for the resolution of competition. Specifically, regarding the competition between conversion and affixation, the former prevails for the expression of the categories ORNATIVE and PERFORMATIVE, while the latter prevails in the categories CAUSATIVE and INCHOATIVE.

Regarding the profile of competition in doublets, the results obtained show that the number of clusters displaying resolved competition (46%) is higher than those where forms remain in ongoing competition (32%). Section 5.5 elaborates on the profiles of resolution observed in the doublets studied as regards the form that declines as a

result of competition. Section 5.6 discusses the doublets where forms are attested to be in use in Present-Day English.

5.5 RESOLVED COMPETITION

As suggested by the results obtained in the competition in triplets and doublets, clusters displaying resolved competition outnumber those where all the forms are attested to be in use in Present-Day English according to the OED. This section elaborates on the profiles of such resolution according to the prevailing competitor in terms of attestation dates. Specifically:

i) Most competitors are earlier attested within a short span of time, (e.g. *beautify*/*beauty*, *method*/*methodize*).[46]

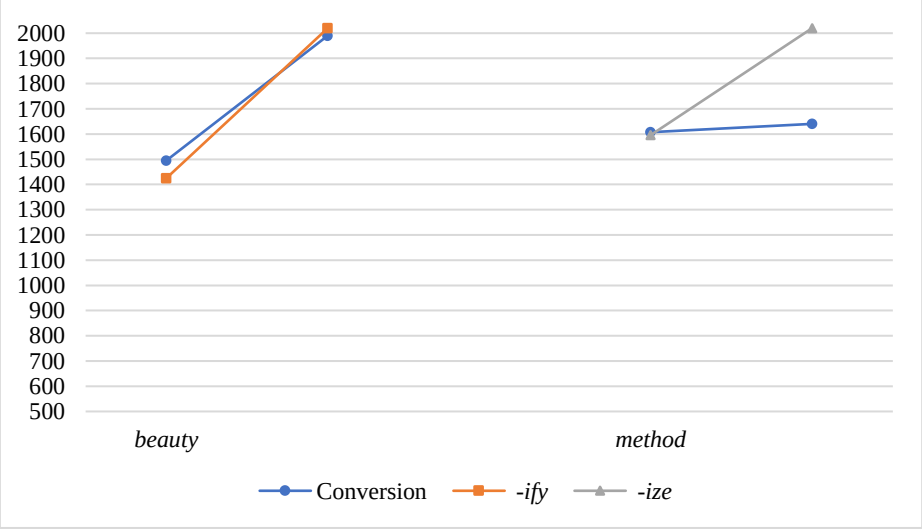

Figure 40. Both competitors are earlier attested within a short span of time

[46] Less than 50 years.

ii) Although to a lesser extent, there are clusters where the later attested competitor prevails by replacing an already attested verb (e.g. *less*/*lessen*, *statue*/*statufy*, *mirrorize*/*mirror*).

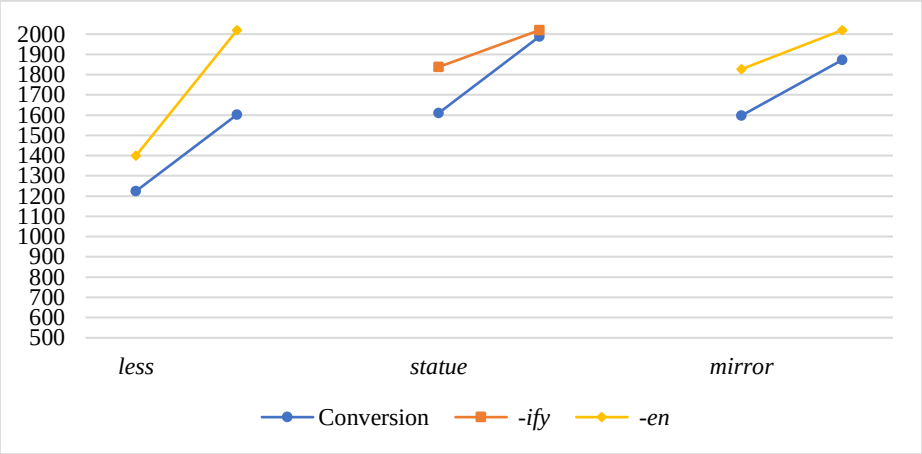

Figure 41. The latest attested competitor replaces an already existing form

iii) The opposite scenario, i.e. clusters in which the earliest attested form remains after the appearance of a competitor, are also recorded (e.g. *palsy*/*palsify*, *powder*/*powderize*, *pendulate*/*pendulize*).

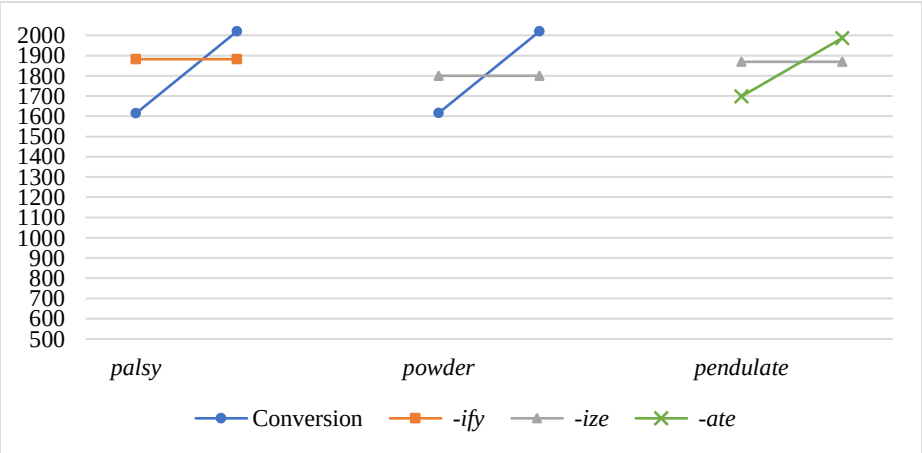

Figure 42. The earliest attested competitor remains in use despite the appearance of a later form

It must be noted that, in some cases, competition is short-lived, as the second form is attested only once in the OED. As Allan (2012: 26, footnote 6) concludes, '[s]ince the earliest and latest available quotations are given for each sense, a single quotation suggests that no others have been found'. In fact, in the doublets where this occurs (labelled here as 'incidental competition'), the later attested form is always marked as 'obsolete' for the sense in competition (e.g. *powder*/*powderize*, *mist*/*misten*, *palsy*/*palsify*, *nullify*/*nullize* or *mylinate*/*mylinize*).

Remarkably, in those doublets where conversion and affixation compete, competition is resolved in favour of conversion (Table 37):

Table 37. Incidental competition[47]

Earliest attested verb		**Incidental competitor**	
action	1734–1996	*actionize*	1871–1871
alkalize	1666–2000	*alkali*	1849–1849
pattern	1567–2001	*patternize*	1615–1615
raven	1570–2006	*ravenize*	1677–1677
station	1609–2009	*stationize*	1598–1598
powder	1616–2002	*powderize*	1800–1800
humour	1598–1982	*humorize*	1598–1598
peacock	1654–1990	*peacockize*	1598–1598
wanton	1634–2011	*wantonize*	1673–1673
petition	1611–1994	*petitionate*	1625–1625
mist	1439–1994	*misten*	1599–1599
root	1450–1998	*rooten*	1652–1652
palsy	1615–2003	*palsify*	1882–1882

There is one exception to the above: the doublets *alkali*/*alkalize*, which may be explained by the influence of French. As noted by the OED, *alkalize* is apparently modelled on the French form *alcaliser*, which is already attested in French with this sense in 1628 in its participial form.[48]

[47] For easier reading, the number of the sense with which they are listed in the OED is not specified here.

[48] *Alkalize* competes with *alkalify* for the sense 'make alkaline' and also with other verbs which have a different base (*alkalinize*) or which are described as borrowed elements (*alkalizate*) in the OED.

5.6 ONGOING COMPETITION IN THE OED

5.6.1 Introduction

The aim of this section is to provide further evidence by combining lexicographic information with corpora and the information provided by the derivational paradigms in which the competitors are allocated. As discussed in Fernández-Alcaina & Čermák (2018) and in section 5.3.4 for triplets, lexicographic information may not provide enough evidence for the assessment of certain cases of competition. A look into the derivational paradigms of the forms in competition may provide further information on the resolution of competition. In the doublets where both forms are attested to be in competition at present, derivational paradigms, together with corpus data, synchronic dictionaries and, according to some authors, Google searches, can also shed light on a possible preference for one of the forms in some of the doublets. The cases explained below illustrate this point, thus underlining both the need for combining resources in the study of competition, as well as how this type of studies may be hindered by the lack of available evidence. Insufficient available evidence may be due to:

i) The forms in competition are attested earlier in the 16th or 17th centuries, but the lack of corpus records may indicate their low frequency (e.g. *dunce* (1649)/*duncify* (1594) 'make a dunce of'), or
ii) the forms are attested in the 20th century, so competition may still need time to be resolved (e.g. *acronym* (1967) / *acronymize* (1955) 'convert into an acronym').

The apparently restricted use of some forms to specialized domains (e.g. Mathematics, Manufacturing, Computing, etc.) may also make the study of competition difficult. Thus, the verbs *pellet*/*pelletize* are defined in the OED as 'form or shape into pellets'. For the nouns denoting the actions of these verbs (*pelleting* and *pelletizing*, formed as *pellet*^{N} + *-ing*), the information provided by the OED may not be enough to establish a difference in use.[49]

The remaining of the section is not intended to provide a detailed classification of the doublets displaying ongoing competition. Rather, the aim is to illustrate the directions competition may take. Specifically, section 5.6.2 describes two examples in which conversion seems to prevail, while 5.6.3 provides evidence of prevailing suffixation. In other cases, data seem to point at semantic specialization, as in the doublet described in section 5.6.4. As one might expect, competition remains unresolved in many other doublets, which may even extend to other members of the paradigm, as illustrated in section 5.6.5.

5.6.2 Conversion prevails

An example of a cluster where both competitors are attested as in use in the OED is the doublet *pillory*/*pillorize*. The verb *pillorize* is recorded in the dictionary as a synonym for *pillory* and latest attested in 2002. The

[49] According to the website of FEECO International, a company specialized in providing material for recovery systems, although commonly used interchangeably, *pelleting* and *pelletizing* in fact refer to two well distinguished processes:

> *Pelleting*: 'extrusion process, where cylindrical pellets are formed by forcing material through a die […] Pelleting produces an overall dusty product because the jagged, cylindrical edges rub against each other and break off.'
> *Pelletizing*: 'non-pressure agglomeration method, whereby material fines tumble against each other in the presence of a binding agent. The material fines become tacky, stick together, and pick up more fines as they tumble, in a process known as coalescence.'
> https://feeco.com/question-week-difference-pelleting-pelletizing/

combination of derivational paradigms, corpus data and synchronic dictionaries reveals that:

i) All the derivatives from *pillorize* are marked as 'obsolete' by the OED, except for *pillorization*. However, the OED provides only two quotations for this form, one from 1688 and one from 1998 (Table 38).

Table 38. Paradigm for *pillory*/*pillorize*

Lemma	*	†	Definition	Derivative	*	†	Definition
*pillory*1A	1600	1994	put a person in a pillory	*pilloried*	1671	-	placed in a pillory
				pillorying	1653	-	action/act of punishing a person in a pillory
*pillory*1B	1816	1863	constrict (a person) in a pillory				
*pillory*2	1699	-	ridicule a person or thing	*pilloried*	1671	-	subjected to public ridicule
				pillorying	1653	-	action/act of exposing a person to public abuse
pillorize	1647	-	= *pillory*, v	*pillorization*	1688/ 1998	1668/ 1998	punishment in a pillory
				pillorized	1656	1656	punished in a pillory
				pillorizing	1720	1891	= *pillorying*
				pillorizing	1890	1890	abusive, defamatory

ii) Corpus data show that conversion prevails (Table 39).

Table 39. Corpus data for *pillory*/*pillorize*

	EHCB		COHA		COCA	
pillory	64	0.06	140	0.35	376	0.38
pillorize	3	>0.01	-	-	-	-

iii) *Pillorize* is defined as a synonym for *pillory* in both the *Collins Cobuild* and the *Merriam-Webster*, except that it is marked as *archaic* in the former (Table 40).

Table 40. Lexicographic information for *pillory*/*pillorize*

	Collins Cobuild	***Merriam-Webster***
pillory	expose to public ridicule punish by putting in a pillory	set in a pillory as punishment expose to public ridicule
pillorize	archaic: to pillory	: pillory

5.6.3 Affixation prevails

The forms in the doublet *revolutionize*/*revolution* are both recorded as in use in the dictionary. However, only derivatives of the *-ize* verb are attested in the dictionary (Table 41).

Table 41. Paradigm for *revolution*/*revolutionize*

Lemma	*****	**†**	**Definition**	**Derivatives**	*****	**†**	**Definition**
revolutionize	1805	-	revolutionize				
*revolutionize*1A	1795	-	make revolutionary	*re-revolutionize*	1803	-	revolutionize again
				revolutionized	1798	-	-
				revolutionizing	1797	-	-
				revolutionizing	1797	-	-
				revolutionizement	1820	1820	-
				revolutionizer	1798	-	-
*revolutionize*1B	1796	-	bring a country under revolutionary form of government				
*revolutionize*1C	1817	1874	engage in revolutionary activity				
*revolutionize*2	1798	-	change a thing completely	*revolutionization*	1871	-	-

This is also supported by the corpus data, which show that the *-ize* verb is the most frequent form.

Table 42. Corpus data for *revolution*/*revolutionize*

	EHCB		COHA		COCA	
revolution	-	-	-	-	-	-
revolutionize	44	0.04	968	2.39	2654	2.67

The fact that there seems to be a bias towards one of the forms does not preclude, however, the possibility that the direction of resolution is reversed in the future or that the form gets to find a niche of lexical specialization. This may be the case of the example described in the next section.

5.6.4 Semantic specialization

According to the lexicographic and corpus data, *queue*^{V} can refer both to 'form a queue' in its general sense (1920) and to 'arrange people or things in or as in a queue or queues' and to 'place data, tasks, etc. in a queue', marked as restricted to the domain of Computing. It is in the latter sense where the form is attested to compete with the prefixed verb *enqueue*. *Enqueue* is earliest attested in 1971 with the sense 'place in or add in a queue' in the OED and marked as restricted to the domain Computing and Mathematics. It appears together with *dequeue* ('remove from a queue'). Their nominal derivatives, *enqueue*^{N} and *dequeue*^{N}, also extend this sense on. While *queue* has a broader domain of use, the few examples found in the corpus for *enqueue* are related to Computing. Table 43 shows the corpus records for the competitors:

Table 43. Corpus data for *enqueue*/*queue*

	EHCB		COHA		COCA	
enqueue	-		-		4	0
queue	17	0.02	162	0.4	1015	1.02

The examples below illustrate the context in which both forms are used:

(7) *There is no point using them if they don't work in IE6, don't* ***enqueue*** *their scripts correctly or take too long to load* (2012, wptavern.com).

(8) *"It's the anticipation, it's a better product, it's an amazing device", said Luis, who had been* ***queuing*** *outside the Apple store in New York since Thursday* (2012, hyldbz.com).

(9) *The move engine takes advantage of this by beginning the data movement operation in an available part of the block to be moved, avoiding* ***queuing*** *for memory resources* (1999, IBMR&D).

Unlike the doublets in sections 5.6.2 and 5.6.3, the alleged competition between both verbs is relatively new: it is attested back to the 1970s, so both forms are at the beginning of their competition.

5.6.5 Unresolved competition

In other cases, competition may extend to the rest of the members of the paradigm as well. For example, in the cluster, *factor*/*factorize*, the derivatives *factorable* and *factorizable* ('expressible as a product of factors') are recorded in the OED as synonyms, as well as *factoring* and *factorizing* ('the action of process of resolving a quantity into factors, or expressing it as a product or factors').

Similarly, the verbs *fluoridate* and *fluoridize* are both recorded to be in use with the sense 'add fluoride to drinking water, toothpaste, in order

to prevent or reduce tooth decay' in the OED, as well as the related forms *fluoridation*/*fluoridization* and *fluoridated*/*fluoridized*.

5.7 SUMMARY

This chapter presents the main findings in the competition of the verbal doublets analysed. Overall, the results point out to a marked heterogeneity of the phenomenon, regarding the forms and semantic categories involved, the individual peculiarities of some clusters, and the limitations inherent to the use of dictionary and corpora.

Regarding the number of competitors, the results obtained suggest that competition is more likely to involve two competitors (321 doublets), while clusters with three forms are much less numerous (30 triplets). Of the 351 clusters analysed, competition among more than three forms is attested in only one cluster (*fossil*/*fossilate*/*fossilify*/*fossilize*).

Regarding the form, the competition between conversion and *-ize* suffixation amounts to the highest number of clusters (129 doublets out of 320 doublets), followed by the competition between conversion and *-en* suffixation (70 doublets out of 320 doublets).

Regarding semantic classification, clusters are distributed across 12 semantic categories, of which CAUSATIVE, ORNATIVE and RESULTATIVE amount to 63% of the total number of the clusters analysed. It is important to highlight that semantic classification has been made at the level of the sense, not the lexeme, as it is crucial for the assessment of competition to identify the particular senses in which two or more forms may overlap. This is especially relevant if we consider that competition between monosemic verbs is attested in only 32 clusters, thus indicating

that in most cases clusters contain at least a polysemous verb for which competition occurs at a specific sense.

Whether meaning influenced the direction of the resolution of competition or not is unclear. The results obtained for the competition between conversion and affixation seem to indicate that CAUSATIVE and INCHOATIVE categories show a bias towards affixation, while the success of conversion is more common in other categories such as ORNATIVE and PERFORMATIVE. However, the low number of clusters identified for some of the categories prevents any attempt at generalization.

With respect to the profile of competition, 171 clusters displayed resolved competition, while those in which all the competitors are attested to be in use according to the OED amount to 112 clusters. Therefore, the results are in line with previous research in that competition is always expected to reach an end (Aronoff 2016).

Methodologically, despite the fact that the OED proves to be a valuable source for data collection, the heterogeneity displayed by the clusters analysed and the limitations inherent in historical research requires the combination of several resources in order to assess competition. In particular, historical and contemporary corpora, contemporary dictionaries and derivational paradigms may provide further information on the resolution of competition in some of the clusters described for illustration. In other cases, conversely, the lack of available data makes it impossible to draw conclusions on the profile of competition.

6 DISCUSSION

6.1 INTRODUCTION

The purpose of this thesis was to analyse the profile and resolution of competition in verbs derived from the same base but through different affixes in the context of the derivational paradigms in which they are allocated. To this end, an analysis of 265 groups of competitors, i.e. 562 verbs, extracted from the third version of the OED provides an overview of the diachronic competition in verbal clusters.

Overall, the profile displayed by the clusters analysed demonstrates the highly heterogeneous character of competition as regards:

i) formal and semantic features of the base and the competitors,
ii) outcomes in the resolution of competition, and
iii) factors for the resolution of competition in favour of one of the forms.

The variety in the profile of competition, together with the low number of clusters representing certain patterns, often forces an individual description of clusters. This is illustrated by the competition in triplets (section 5.3.4), where a number of clusters seem to follow a pattern of resolution, i.e. prevalence of *-ize* suffixation (section 5.3.4.2.1), while resolution in others is better explained by the influence of a variety of

both external (section 5.3.4.2.2.1) and internal (section 5.3.4.2.2.2) aspects.

For a comprehensive account of the features displayed by verbal competition, this discussion of the results described in Chapter 5 revolves around the examples of competition between conversion vs *-ize* suffixation, and conversion vs *-en* suffixation. This choice is based on three reasons:

i) they are represented by the highest number of clusters;
ii) they are illustrative enough to account for both the general and specific features of competition, and
iii) they allow comparison with previous research (Bauer et al. 2010; Fernández-Alcaina 2017; Fernández-Alcaina & Čermák 2018).

The remainder of the chapter discusses the results obtained in the context of the objectives established in Chapter 1, which are repeated below for easier reference. The objectives were to examine:

i) the profile of competition displayed by verbal clusters,
ii) the possible reasons for the resolution of competition in favour of a particular form, and
iii) the extent to which the analysis of derivational paradigms can provide further evidence on the prevalence of a certain form.

6.2 PROFILE OF COMPETITION

6.2.1 The nature of competition

The results of this thesis provide further quantitative evidence for the need of assessing competition by sense. Specifically, the initial list of

265 groups of verbs where competition is attested in at least one of their senses has been expanded up to 351 clusters (section 5.2). This is especially relevant for doublets where the distinction of clusters according to sense allows the identification of 320 doublets out of the 237 pairs extracted from the OED. This highlights the need for assessing competition by sense and is in line with methodological decisions in previous research on competition (e.g. Díaz-Negrillo 2017; Fernández-Domínguez 2017; Fradin 2019; Smith 2020).

As mentioned in the introduction to this chapter, the profile of competition is highly heterogeneous as regards both the competing patterns and the semantic categories involved.

In the case of doublets, this thesis identifies eight patterns of competition (Table 11, section 5.2), of which 42% of the groups represent the competition between conversion and *-ize* suffixation (100 pairs). In fact, both conversion and *-ize* suffixation are the two processes with the highest number of attestations in the groups of competitors identified: conversion appears in 208 of the 265 groups (78%), while *-ize* suffixation appears in 171 groups (65%). Since both processes are described as displaying high productivity in English verb formation in previous research (Plag 1999; Gottfurcht 2008), it is reasonable to think that the higher the number of new verbs, the more likely a competitor for an existing form is attested. This is supported by diachronic data as well, as illustrated by the comparison of the results obtained by Gottfurcht (2008) regarding the creation of new denominal verbs (Figure 43) and the periods of attestation of the competitors in this thesis (Figure 44). In both cases, the charts show a similar development as regards the dates of attestation of the new verbs:

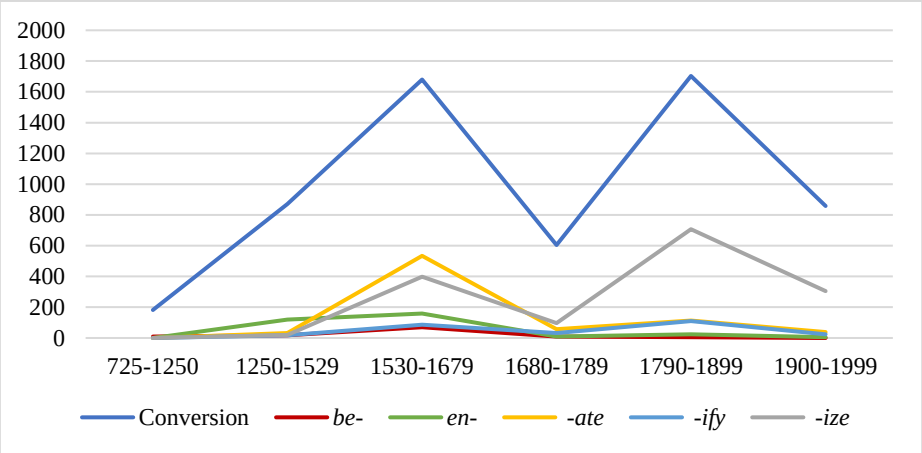

Figure 43. New denominal verbs across centuries (based on the data extracted from Gottfurcht 2008: 180–113) (chart scale set at a 2000-point scale)

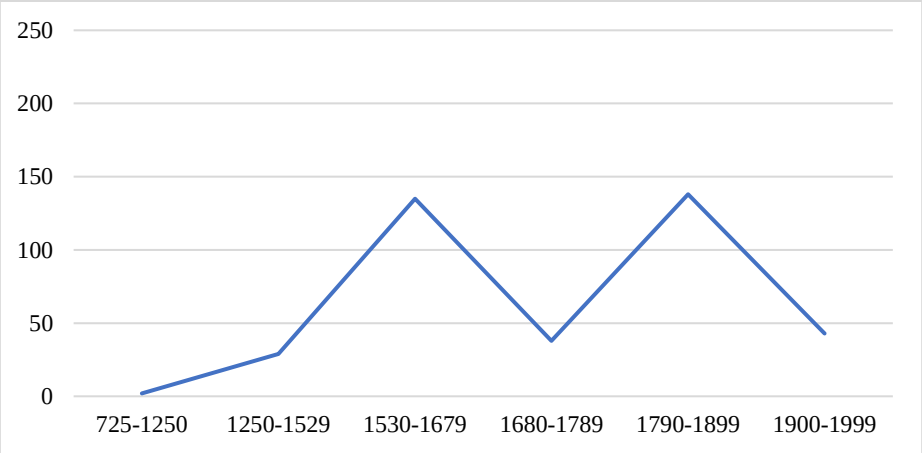

Figure 44. Dates of earliest attestation of the latest attested competitors (chart scale set at a 250-point scale)

The periods for the highest number of competitors attested coincide with the peaks in the creation of new verbs. Specifically, the points of maximum attestation belong to the 16th and the 17th centuries, and to the 19th century. This was to be expected, as they correspond to two periods of massive borrowing. Similar findings are described in Bauer et al. (2010, Figure 12) on the development of competition between

conversion and *-en* suffixation and in Fernández-Alcaina (2017, Figure 9) on the competition between conversion and *-ize* suffixation.

However, it is unclear whether all the clusters could be considered to qualify as participants in 'real competition'. Here I especially refer to the clusters classified as 'incidental competition' (Table 37, section 5.5), where (usually) a suffixed verb is attested only once in the OED as a competitor of an earlier attested converted verb, which is apparently well-established in English. Since, as argued by Allan (2012: 26, footnote 6), a single quotation seems to imply a single use, this raises the question of whether these 'incidental forms' can be considered to have a real influence on the status of their competitors. Instead, they seem to be rather by-products of the inclusive nature of the OED (Bauer 2006: 180–181), which needs to be considered when assessing competition. The extent to which one can consider competition to occur in clusters where one of the forms has always clearly prevailed is unclear too. This is the case in CAUSATIVE clusters where competition is always resolved in favour of *-ize* suffixation and where competition is usually short-lived (e.g. *feminine*, *particular*, *parallel*) (see section 7.3.1).

The questions this type of competition raises are not restricted to CAUSATIVE clusters, but examples can also be found in other categories in which competition is resolved in favour of conversion:

i) ORNATIVE, e.g. *powder* (1616–2002) / *powderize* (1800–1800),
ii) INSTRUMENT, e.g. *pattern* (1567–2001) / *patternize* (1615–1615), or
iii) PERFORMATIVE, e.g. *raven* (1570–2006) / *ravenize* (1677–1677).

Although to a lesser extent, incidental competition is also recorded in other patterns of competition where conversion prevails (Figure 45):

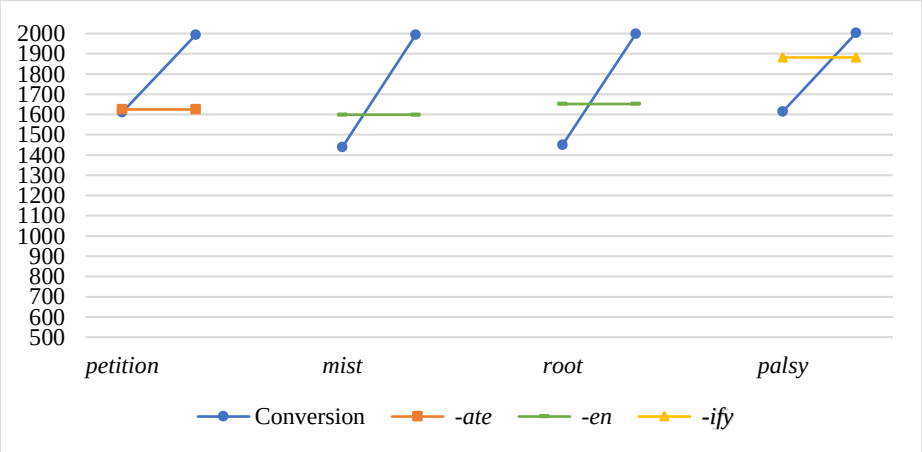

Figure 45. Incidental competition in other patterns of competition between conversion and affixation

Examples of this type of doublets are also found in the competition between two suffixation patterns where, again, the occurrence of an *-ize* competitor amounts to a single attestation (Figure 46):

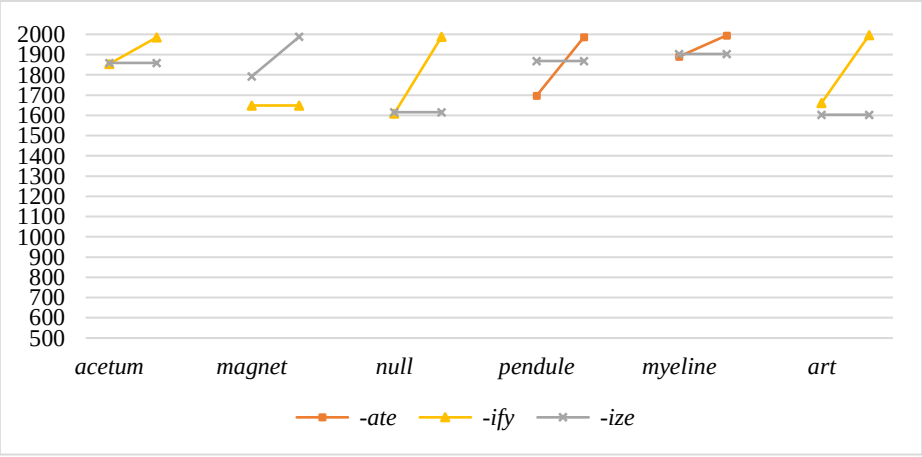

Figure 46. Incidental competition in doublets of competition in suffixation

The classification of these clusters as competition is even more questionable if compared to clusters where forms are attested to compete

for a longer period (e.g. *black*/*blacken*, *character*/*characterize*, *pressure*/*pressurize* or *savage*/*savagize*, among others). In these cases, even if corpus data are not available for some of the forms, lexicographic information seems at least to give account of their coexistence. For illustration purposes, consider the case of *pressure*/*pressurize* in the next section.

6.2.2 Case study: *pressure* vs *pressurize*

Both these verbs are earliest attested in the 20th century and overlap in the two senses listed in the OED. Specifically, *pressure* is earliest attested in the OED in 1911 with the sense 'apply pressure to, esp. to coerce by applying psychological or moral pressure' in the translation of a speech in the House of Commons of Canada:

(10) *Extreme protection brought the formation of gigantic trusts, which pressured the consumers, who are now in open revolt against that regi*me. (tr. J.-P. Turcotte in *Deb. House of Commons* (Canada) 21 Apr. 7516, 1911)

Pressurize is earliest attested in 1944 with the sense 'produce or maintain pressure artificially in (a container, closed spaced, etc.)':[50]

(11) *The fuselage will be pressurized so that at all altitudes cabin conditions will be equivalent to a height of 8,000 ft*. (*Aeronautics* Sept. 56/2, 1944)

However, at some point, both forms overlap and attestations of *pressure* used to refer to physical pressure ('apply physical pressure to, to press, pressurize') are first found in 1961 in an entry of the *Webster's Third*

[50] The OED provides an earlier attestation from 1940 of the *-ing* adjectival form:
The pressurizing mechanism maintains ideal weather within this passenger chamber (*Freeport* (Illinois) *Jrnl. Standard* 19 Mar. 2/3, 1940).

New International Dictionary of the English Language and in 1979 in an extract from the *Daily Telegraph*:

(12) *Pressure, to increase or intensify pressure in; pressurize*. (*Webster's 3rd New Internat. Dict. Eng. Lang*., 1961)

(13) *The engine on the right would have continued to pressure the No. 3 [hydraulic] system under normal circumstances*. (*Daily Tel*. 8 June 2/1, 1979)

In turn, attestations of *pressurize* in the sense 'subject to moral, psychological, or other non-physical pressure' date back to 1945 in the newspaper *The Lima News*:

(14) *Thus, selective service continues to 'pressurize' recalcitrant military unfits into war plants*. (*Lima* (Ohio) *News* 17 Jan. 3/1, 1945)

Figure 47 shows the competition between *pressure* and *pressurize* for the physical and non-physical senses:

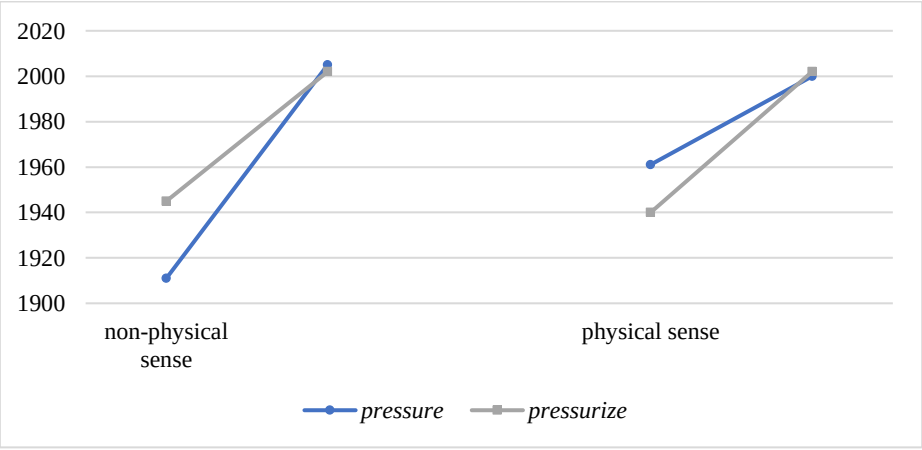

Figure 47. Timelines for the physical and non-physical senses of *pressure*/*pressurize* (minimum Y-axis value is set at 1900 for easier reading)

A note of caution is in order here: the third version of the OED lists the senses by attestation date. As Allan (2012: 36) points out, chronological

order '[…] cannot be taken to represent the actual chronological sequence of sense development'. However, as she continues, '[d]erivationally related lexemes might shed light on the most likely sense development'. A look at the paradigms in which the competing verbs are allocated shows that related forms seem to support this development.

Both *pressurization* and *pressurized* are attested slightly earlier than *pressurize* in the sense related to physical force. Instances of *pressurized* in the figurative sense are earliest attested in 1953, while *pressurization* and *pressurizer* are only attested in the physical sense. *Pressured* is earliest recorded with the sense 'stressful, urgent, pressing' in 1868 and as a synonym for *pressurized* in the physical sense in 1902, close to the earliest attestation of *pressure* (1911). Therefore, it is unclear whether the physical sense in the adjectival form may not be an extension of the earliest sense attested, i.e. 'stressful, urgent, pressing'. The aim here is not to draw the exact chronological development of the competitors and their paradigms, but to show that they may be used as evidence to support the semantic development of the competitors as described in the dictionary. In any case, the two forms are apparently in use in both the physical and non-physical sense according to the OED.

The competition between both verbs is also attested in contemporary dictionaries: *pressure* is defined as a synonym for *pressurize* in both *Collins Cobuild* and *Merriam-Webster*. Regarding corpus evidence, both *pressure* and *pressurize* are recorded in corpora (Table 44), even if the converted form is recorded with a higher frequency:

Table 44. Corpus data for *pressure* and *pressurize*

	EHCB		COHA		COCA	
pressure	33	0.03	640	1.58	5846	5.89
pressurize	0	0	72	0.18	497	0.5

In this particular case, the use of collocates in the COCA provides information on the competition between both forms. As shown in Tables 45 ad 46, *pressure* is most commonly attested with words such as *felt*, *congress*, *sex* or *companies*, as opposed to *pressurize*, for which their collocates reveal prevalence of the physical sense (*gas*, *fuel*, *water* or *cabin*). Thus, it seems that, while *pressure* prevails with the sense 'apply moral force', *pressurize* is apparently more common in technical domains.

Table 45. Comparison of the collocates in the COCA for *pressure* (W1) and *pressurize* (W2)

Word	W1	W2	W1/W2	Score
FELT	170	0	340.0	28.9
PRESIDENT	147	0	294.0	25.0
ME	292	1	292.0	24.8
HIM	468	2	234.0	19.9
NEVER	85	0	170.0	14.5
CONGRESS	79	0	158.0	13.4
STATES	76	0	152.0	12.9
SHOULD	73	0	146.0	12.4
STOP	70	0	140.0	11.9
ISRAEL	68	0	136.0	11.6
SEX	66	0	132.0	11.2
PARENTS	65	0	130.0	11.1
FEELING	64	0	128.0	10.9
COMPANIES	62	0	124.0	10.5
CHANGE	61	0	122.0	10.4
U.S.	61	0	122.0	10.4
ADMINISTRATION	60	0	120.0	10.2

Table 46. Comparison of collocates in the COCA for *pressurize* (W1) and *pressure* (W2)

Word	W2	W1	W2/W1	Score
GAS	19	0	38.0	447.0
FUEL	17	0	34.0	399.9
WATER	32	1	32.0	376.4
CABIN	21	1	21.0	247.0
TANKS	21	1	21.0	247.0
SUIT	18	1	18.0	211.7
CAPSULE	8	0	16.0	188.2
HEATED	8	0	16.0	188.2
POUNDS	8	0	16.0	188.2
PSI	8	0	16.0	188.2
PUMP	14	1	14.0	164.7
GASES	7	0	14.0	164.7
LIQUID	7	0	14.0	164.7
FLUID	6	0	12.0	141.2
TUNNEL	6	0	12.0	141.2
TANK	11	1	11.0	129.4
REACTOR	5	0	10.0	117.6

This analysis of the doublet *pressure*/*pressurize* should be understood only as a rough description of the profile of competition researched here. A detailed account of the distribution of the forms would provide further information on whether they really qualify as competition and, in that case, if such competition is resolved or not and, in the latter case, in which direction. As Fradin (2019) claims, distribution is essential when assessing competition. However, one of the main limitations in the clusters analysed in this thesis is precisely the lack of data available for a comparison of their distribution. As mentioned above, the little data available for some of the forms may also be illustrative of their low frequency, which again may indicate that competition between forms with the same base is less common than previously thought, as argued by Plag (1999) and against Gottfurcht (2008).

6.2.3 Degree of overlap

Another point of the profile of resolution that shows great variability is the degree to which competition occurs, which may vary from cluster to cluster (section 5.2.1.2). This is explored in more detail in this section as regards the competition between conversion and *-en* suffixation and how it differs from the competition between conversion and *-ize* suffixation.

Conversion vs *-en* suffixation is the second most common pattern of competition. As described by Bauer et al. (2010: 12), conversion was the prevailing process for deadjectival verb formation until the 14th century. From that point on, data show a prevalence of *-en* suffixation over conversion until the 19th century. A similar development is observed in the doublets analysed in this thesis, as shown in Figures 48a and 48b:

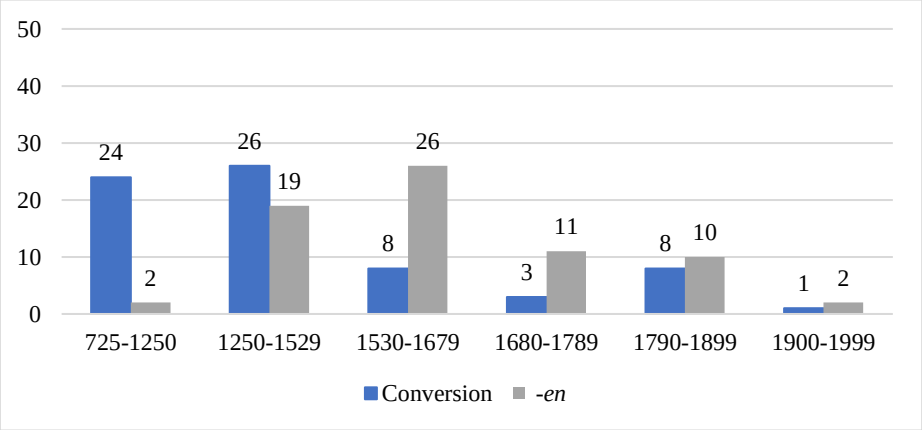

Figure 48a. The diachronic development of the competition between conversion and *-en* suffixation (absolute values) (chart scale set at a 50-point scale)

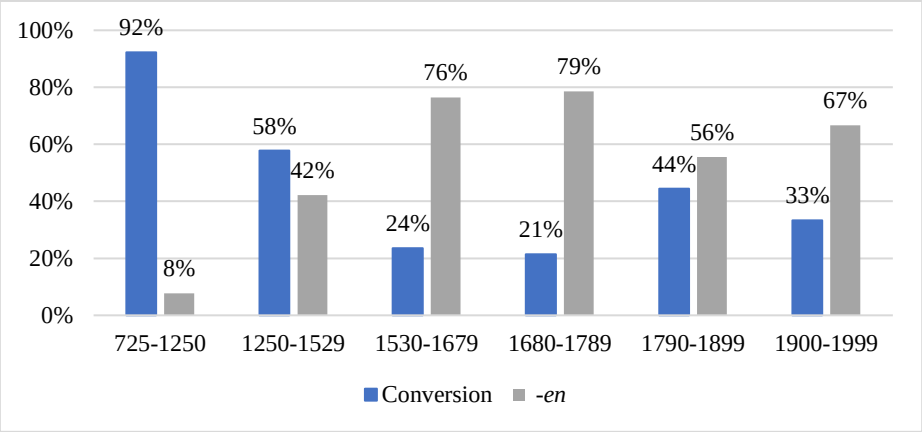

Figure 48b. The diachronic development of the competition between conversion and *-en* suffixation (percentages)

Unlike the rest of patterns of competition, the doublets for the competition between conversion vs *-en* suffixation show a high degree of overlap in their senses. Consider the data in Table 47 for a comparison of the competition between conversion vs *-ize* suffixation and conversion vs *-en* suffixation:

Table 47. Comparison of the number of pairs (by lexeme) and doublets (by sense) of competing verbs extracted from the OED

Pattern of competition	Number of pairs	Number of doublets	Increase (%)
Conversion vs *-ize* suffixation	100	129	22%
Conversion vs *-en* suffixation	34	70	51%

The increase in the number of competitors is much lower for the competition between conversion and *-ize* suffixation (22%) than for conversion vs *-en* suffixation (59%). The degree of competition can be regarded as a continuum ranging from clusters where competition occurs only in one sense, even if both forms are polysemous (e.g. *savage*/*savagize*) (section 5.2.1.2.1), to those where competition seems to be almost complete (e.g. *character*/*characterize*) (section 5.2.1.2.2). This seems to be particularly common in the pattern conversion vs *-en*

suffixation, as illustrated by data in Table 47 and contrasts with the competition between conversion and *-ize* suffixation, in which doublets usually compete for one sense.

The comparison of the two patterns may indicate the different nature of competition in both cases:

i) The competition between conversion and *-en* suffixation is the result of word-formation competition, as shown by the type of resolution of competition displayed by these clusters.
ii) Instead, the competition between conversion and *-ize* suffixation seems to be reduced to isolated words, partly triggered by the high frequency of both processes and by the fluctuation caused by the introduction of *-ize* suffixation through massive borrowing.

Therefore, it is expected that both patterns may show different profiles in the resolution of competition. This is addressed in the next section.

6.3 THE RESOLUTION OF COMPETITION

Resolution is, independently of the patterns of competition or the semantic categories expressed, the most common outcome of competition. The shape it may take is in most cases unclear. A priori, the competition between individual words would resolve in favour of the earliest attested form (by blocking), while the competition between word-formation patterns would be expected to be resolved in favour of the latest attested form (Bauer 2006: 181).

Regarding the patterns of the competition under study, the latest attested form prevails over the earliest attested form in the competition between conversion and *-en* suffixation. The picture of the competition

between conversion and *-ize* suffixation is less clear, since the two forms are earliest attested in many clusters within a short span of time. In those cases where there is a considerable gap between the dates of earliest attestation, the earlier form usually prevails. Exceptions are of course attested in both cases. The timelines of the patterns represented in Figures 49 and 50 illustrate this point:

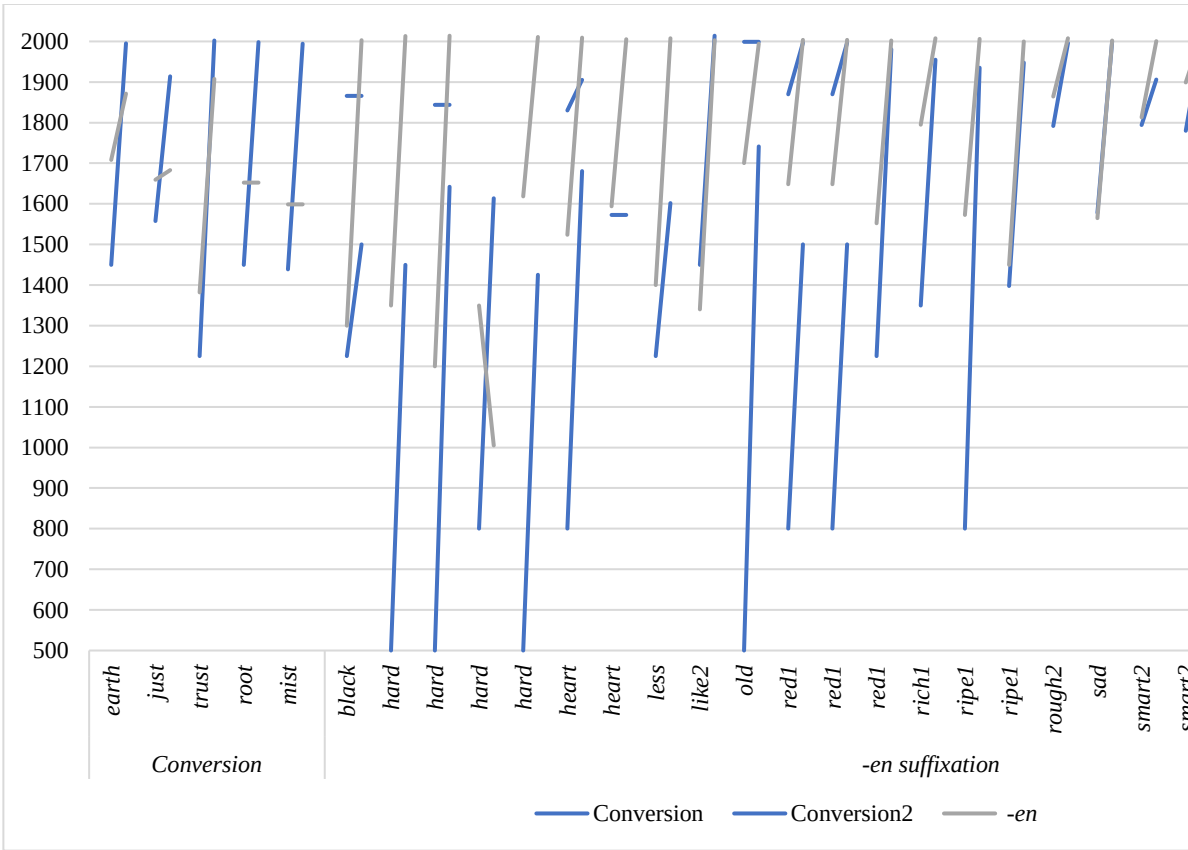

Figure 49. Timeline for the competition between conversion and *-en* suffixation classified b

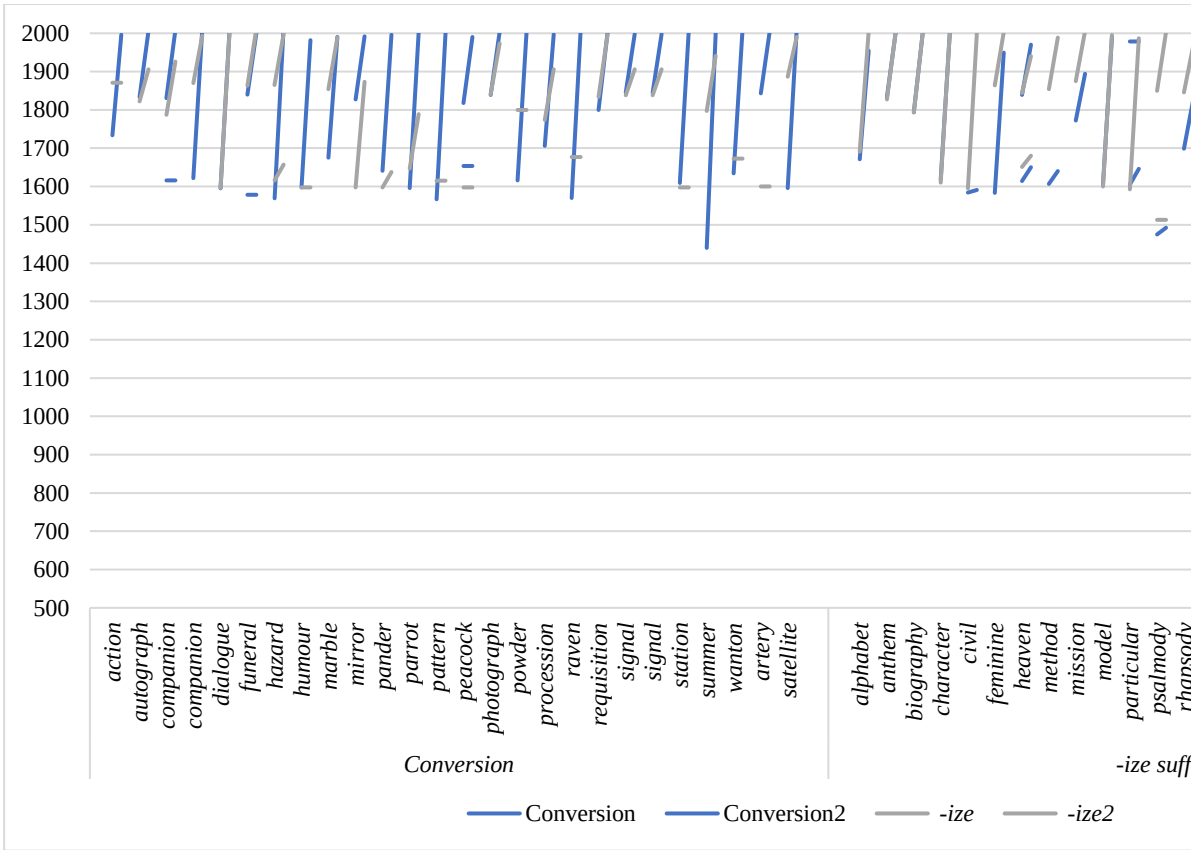

Figure 50. Timeline for the competition between conversion and *-ize* suffixation classified b

The comparison of the timelines of the competition in the two patterns shows that:

i) There is a general replacement of conversion by *-en* suffixation in those doublets where competition is resolved in favour of the latter. Only in a small group of the doublets does identified conversion prevail over *-en* suffixation. In all the cases, however, they correspond to denominal non-causative verbs (*earth*/*earthen*, *mist*/*misten*, *piece*/*piecen*, *root*/*rooten*, *trust*/*trusten*).

ii) The profile of resolution of competition between conversion and *-ize* suffixation varies according to the prevailing process:

   a) In the doublets where conversion prevails, competition is short-lived in that the attestation of a competitor in *-ize* is in most cases incidental.

   b) In the doublets where *-ize* suffixation prevails, the profile of resolution displayed by the doublets varies too:

      i. clusters where the competition seems to have lasted for centuries (e.g. *character*/*characterize*),

      ii. replacement of the converted verb by a verb in *-ize* suffixation (e.g. *mission*/*missionize*), and

      iii. a short-lived competition (e.g. *romantic*/*romanticize*).

iii) When competition between conversion and *-en* suffixation is attested in several senses of the same two lexemes (e.g. *hard*/*harden*), it is in all cases resolved towards the same process, namely *-en* suffixation because, although doublets are distinguished by sense, they are usually classified as expressing the same semantic category: CAUSATIVE. In the competition between conversion and *-ize* suffixation, competition can be resolved in

opposite directions depending on the sense, e.g. *wantonize* prevails over *wanton* for the expression of the CAUSATIVE sense, while conversion prevails over *-ize* suffixation for the SIMILATIVE sense. Notably, resolution in the rest of the SIMILATIVE doublets of the competition between conversion and *-ize* suffixation is also in favour of conversion (e.g. *parrot*/*parrotize*, *pander*/*panderize*, *peacock*/*peacockize*, *satellite*/*satellize*). For other categories, such as RESULTATIVE (e.g. *hazard*/*hazardize*, *signal*/*signalize*, *mongrel*/*mongrelize* or *atom*/*atomize*), no clear prevalence of one or the other process is observed. This is a consequence of the high degree of polysemy displayed by the clusters in which conversion competes with *-ize* suffixation, as opposed to the rest of patterns of competition (Figures 51a and 51b):

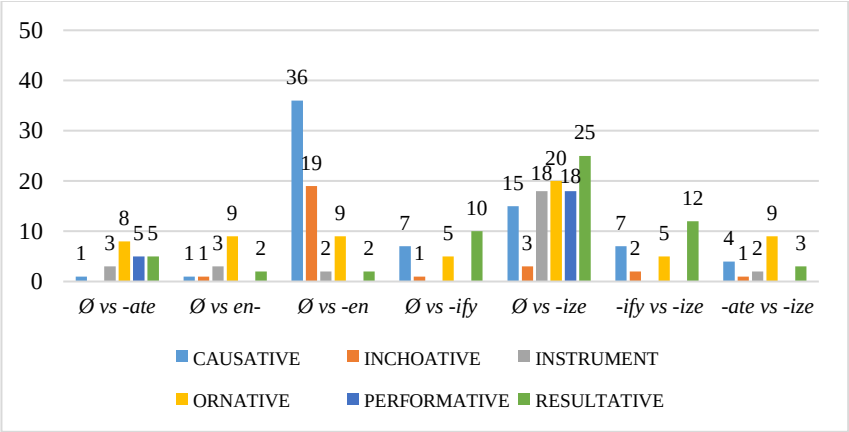

Figure 51a. The distribution of semantic categories according to the pattern of competition (absolute values) (chart scale set at a 50-point scale)

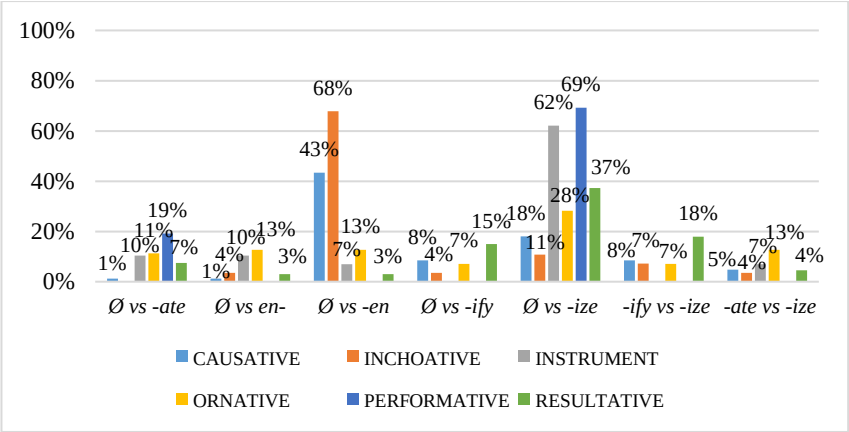

Figure 51b. The distribution of semantic categories according to the pattern of competition (percentages)

6.4 METHODOLOGICAL IMPLICATIONS

The heterogeneity and the apparently low frequency of the phenomena described in this thesis poses a number of methodological challenges to an account of the profile of competition. In some cases, the lack of available data impedes drawing any conclusions.

The OED has proved to be a useful tool for the collection and description of verbal competitors, but the limitations inherent in the use of lexicographic resources makes it necessary to use it in combination with other dictionaries and with both historical and synchronic corpora. Ideally, the assessment of the competition of two forms should take into account the distribution of the forms (Fradin 2019). In the study of diachronic competition, however, this is in most cases unattainable: most of the clusters identified in this thesis have one or none of their forms recorded in corpora, thus making impossible any further analysis in this respect.

In view of the lack of available data and based on previous research (Fernández-Alcaina & Čermák 2018), this thesis has analysed the competition of verbal clusters considering the paradigms where they are

allocated. The derivational family has been considered as a factor playing a role in the competition of doublets (Fradin 2019). In fact, the inclusion of related forms has contributed to shed light on the competition in certain clusters (e.g. *pillory*/*pillorize*). Conversely, in other cases, partly due to the lack of data (e.g. *heaven*/*heavenize*) and partly due to the difficulties stemming from historical research, derivational paradigms have not provided any information.

Specifically, the analysis of related forms can contribute to the study of verbal competition in various ways:

i) by supporting the current prevalence of one of the competitors, when both are recorded as in use in the OED (e.g. *pillory*/*pillorize*, *revolution*/*revolutionize*) (sections 5.6.2 and 0);
ii) by specifying whether semantic specialization exists (e.g. *enqueue*/*queue*) (section 5.6.4); and
iii) by providing evidence on the extension of ongoing competition to other members of the paradigm (e.g. *fluoridate*/*fluoridize*) (section 5.6.5).

Another methodological limitation is the restriction in the choice of the competitors to those formed by conversion and affixation. In fact, previous research on competition in forms with the same base is usually restricted to the analysis of the competition of two specific affixes (e.g. Baeskow 1985; Kaunisto 2007, 2009; Lindsay & Aronoff 2012; Fernández-Alcaina 2017; Lara-Clares 2017; Lara-Clares & Thompson 2019; Smith 2020). Although the choice allows for a delimited sample, the restriction to specific processes may lead in many cases to misleading conclusions on the status and competition of the forms. In particular, the

resolution of competition in some of the clusters may be explained by the existence of a third (or fourth form, in the case of triplets) with a different base. Thus, in the triplet *perfection*/*perfectionate*/*perfectionize*, the existence of the well-established verb *perfect* with the sense 'make perfect' would explain why the three forms are marked as 'rare' in the OED.

6.5 SUMMARY

The study of competition in forms with the same base implies, in most cases, an individual description of each cluster. This is explained by the wide range of profiles displayed by competition.

This chapter has discussed the results obtained by addressing the objectives described in Chapter 1, i.e. the profile of competition, the profile of resolution and the information provided by the derivational paradigms of the competing forms. For illustration purposes, these questions have been addressed by comparing the features displayed by the two patterns of competition with the highest number of clusters attested: conversion vs *-ize* suffixation and conversion vs *-en* suffixation.

Regarding the profile of competition, individual analysis of the clusters reveals that the varied nature of competition raises questions as for the characterization of some forms as 'real' competitors. Since the highest number in the attestation of competitors coincides with the peaks in the creation of new verbs, the classification of the forms as competitors in many of the clusters collected seems to be rather a by-product of the inclusive policy of the OED. This translates into the inclusion of low frequency forms, which are unlikely to have had a real influence on earlier attested forms with the same meaning (Bauer 2006:

181). The result is that, while the OED may not suggest so, competition seems to be less common than previously thought.

Differences in the nature of competition are also observed in the resolution of competition: while the analysis of the doublets in conversion vs *-en* suffixation shows a general replacement of the older (conversion) by the newer verb (suffixation), the resolution of competition displayed by conversion vs *-ize* suffixation is less clear. Still, some patterns may be observed:

i) In those clusters where the converted verb is well-established in the language, the attestation of an *-ize* verb is usually incidental. This also observed, although to a much lesser extent, in other patterns where conversion is also the prevailing competitor (e.g. *mist*/*misten*, *palsy*/*palsify*, *petition*/*petitionate* and *root*/*rooten*).
ii) In turn, CAUSATIVE clusters are always resolved in favour of *-ize* suffixation after a short-lived competition in which converted forms seem to represent isolated uses.
iii) The prevalence of one or the other process is unclear for the expression of a certain meaning, e.g. RESULTATIVE, in which the resolution of competition in favour of conversion or *-ize* suffixation shows similar results.

In terms of the methodological issues raised in the study of diachronic competition, incomplete or total lack of data in many cases prevents the drawing of any solid conclusion on competition. However, this may also be considered as illustrative of the alleged marginality of the phenomenon. In any case, the combination of various resources is a necessary requirement. Therefore, and following previous research, this

thesis has included the information provided by derivational paradigms for the study of competition. While it is true that the historical reconstruction of the derivational family is in some cases impossible, the assessment of competition with regard to their related forms has contributed to a better understanding on the competition of verbs in some of the cases presented. For others, nonetheless, many questions remain unanswered.

7 CONCLUSIONS

7.1 INTRODUCTION

This thesis is intended to cast light on the profile and resolution of competition in verbal formation by focusing on the analysis of forms derived from the same base. The thesis consists of seven chapters:

i) Chapter 1 provides the justification and objectives of the research.
ii) Chapters 2 and 3 review the literature on morphological competition and derivational paradigms, respectively.
iii) Chapter 4 describes the method used for data collection and data analysis.
iv) Chapter 5 presents the results obtained for the competition of verbal clusters.
v) Chapter 6 is a discussion of the results obtained.
vi) Chapter 7 concludes this thesis.

The remaining of the chapter is structured as follows: section 7.2 is a summary of the background. Section 7.3 provides an appraisal of the research. The limitations of the present study and the possible lines for future research are described in section 7.4.

7.2 BACKGROUND

Despite the growing interest in morphological competition in the past years, the competition between forms with the same base has received comparatively much less attention.

Studies addressing the competition of forms with the same base and meaning are usually restricted to the comparison of two competitors, e.g. *-ity*/*-ness* (Riddle 1985), *-ic*/*-ical* (Kaunisto 2007), zero-affixation/*-ation* (Lara-Clares 2017), *-able*/*-some* (Smith 2020). In the case of competition in verbal derivation, research on doublets has been limited to the patterns of conversion vs *-en* suffixation (Bauer et al. 2010), *-ify* suffixation vs *-ize* suffixation (Lindsay 2012; Lindsay & Aronoff 2013) and conversion vs *-ize* suffixation (Fernández-Alcaina 2017; Fernández-Alcaina & Čermák 2018).

Regarding the interaction between competition and derivational paradigms, previous research has suggested that they play a role (Fernández-Alcaina & Čermák 2018; Fradin 2019: 87), although this may go unnoticed due to the 'profusion of constructs in attested families' (Fradin 2019: 87). This is especially difficult in diachronic competition.

The remaining of the chapter explores the contribution made by this thesis in the study of verbal competition and the limitations found, and makes suggestions for future research.

7.3 THE CONCLUSIONS

The contribution with regard to the morphological competition profile under study is the following:

i) The amount of actual morphological competition may be distorted by OED data: they may provide an inordinate picture of the actual

import of competition. Specifically, the attestation of clusters where one of the forms is attested only once in the OED raises questions on the real extent to which competition occurs in the language, since they seem to be rather the results of individual innovations that did not seem to extend to the rest of the community.

ii) In turn, corpus data can lead to an underrepresentation of competition because there are no records for many of the forms analysed. While this prevents any further analysis of the use of the competitors, it may also be considered evidence of the low frequency of cases of competition.

iii) Another point that may be illustrative of the marginality of competition is the variety of profiles displayed by the clusters analysed regarding:

   a) The number of competitors per cluster. Of the 351 clusters identified, 320 contain two forms, 30 clusters have three members, and competition among more than three forms is only attested in one cluster. However, even in those cases where there are three forms competing for the same meaning, competition is usually reduced to two forms, as shown by the clusters displaying 'partial competition'.

   b) The degree of overlap of senses. Competition is usually attested in one specific sense, even if some clusters, e.g. *black*/*blacken* or *character*/*characterize*, present almost complete competition across their senses. The varying degrees of overlap between competitors also raise questions on whether it is possible to encompass all the phenomena described as instances of competition.

c) The patterns of competition and their frequencies in the sample. Although the clusters collected represent fifteen different patterns of competition, conversion and *-ize* suffixation are the two most common competitors. This was to be expected, since both are, allegedly, the two most productive processes of verb formation in English. At the same time, this may also be indicative of the nature of competition: the higher the productivity, the more likely it is for a verb to find a competitor. Different periods can have different productive processes, and this explains the high number of doublets of competition between conversion and *-en* suffixation identified in this thesis, even if the latter is considered to be no longer productive.

iv) Despite the heterogeneity of competition, resolution is always the most common outcome independently of the number of competitors, the degree of overlap, the patterns in competition and the meaning expressed. However, it can also display various profiles:

a) Competition in some clusters may be resolved following a pattern:

i. *-ize* suffixation prevails in a number of triplets, independently of the rest of competitors.

ii. *-ize* suffixation prevails over conversion in CAUSATIVE doublets.

iii. There is a general replacement of conversion by *-en* suffixation in CAUSATIVE and INCHOATIVE doublets. In turn, conversion prevails over *-en* suffixation in non-CAUSATIVE senses.

b) In other cases, resolution depends on specific clusters. This may be due to the influence of borrowing (e.g. *personify*/*personate*/*personize*), the existence of semantically related forms (e.g. *passivate*/*passivify*/*passivate*) or the earlier attestation of a well-established form (e.g. *hazard*/*hazardize*).

v) Resolution may be achieved by:

a) The obsolescence of the competing sense in one of the forms, which is the most common profile in the clusters analysed. This may be partly a result of the inclusion of rare words in the OED, usually coined as synonyms for well-established forms.

b) The semantic specialization of one of the competitors (e.g. *enqueue*/*queue*). This is attested to a lesser extent in the clusters analysed, possibly as the result of an underrepresentation of specialized domains in the OED. This is of course expected given the impossibility of providing a full coverage of the language. Limitations of this type emphasize the complexity of research on competition.

vi) All in all, competition between patterns in verbs with the same base is rare as shown by the low number of clusters analysed. Even within such a complex morphological model as the one in English, where the original Germanic morphology model coexists with the eventually superseding Romance morphology model, the language system proves that it is the economical system that it is supposed to be. This is particularly remarkable in two further respects: it is economical to a surprisingly high degree of efficiency, and by the operation of a number of rules that may be governed by one of the

competing forms, by the semantic category expressed or that can be lexically-governed (rather than by a general principle).

7.4 LIMITATIONS AND FURTHER RESEARCH

Despite the contribution of this thesis to research into the competition in verbs derived from the same base, there are certain limitations that need to be addressed:

i) the low number of clusters obtained for many of the patterns identified, for which an individual analysis would be required but which has been omitted here;
ii) limitations inherent in the use of historical dictionaries regarding the availability of records and the reliability of attestation dates;
iii) the lack of corpus data that allow further analysis of the distribution of the alleged competing forms;
iv) the role played by borrowing and lexicalization.

Given the heterogeneity of the profile of competition analysed, this thesis has not exploited to the full the possibilities for description of the clusters identified. What follows is a series of potential questions to be addressed in future research:

i) The role played by derivational series in the resolution of competition in clusters, as suggested by Fradin (2019) for French nominal doublets.
ii) The inclusion of other word-formation processes in the study of competition (Štekauer 2017), since the restriction to affixation and

iii) conversion may lead to misleading conclusions on the resolution of competition.

iv) A more detailed description of the role played by factors such as borrowing and lexicalization (Bauer 2006).

v) The use of larger historical corpora, if available, with the aim to evaluate the results in statistical terms.

vi) A comparison of the profile of competition observed in verbs with the competition attested in other word classes, i.e. nominal and adjectival competition.

It must be noted, however, that the study of diachronic competition cannot escape from the limitations inherent in the use of lexicographic and corpus resources and, from a wider perspective, in historical linguistics. Therefore, it should be admitted that the profile and resolution of competition in some of the clusters identified in this thesis would remain unclear due to the lack of supporting evidence.

The findings of the research shed light on the features of the profile and resolution of morphological competition in verbs. They also provide evidence on the need to assess competition as part of a broader phenomenon

7 CONCLUSIÓN

7.1 INTRODUCCIÓN

Esta tesis tiene como objetivo contribuir a la descripción del perfil y la resolución de la competición en la formación de verbos mediante el análisis de los competidores derivados de una misma base. La tesis consta de siete capítulos:

i) El capítulo 1 presenta la justificación y los objetivos de la investigación.

ii) Los capítulos 2 y 3 son una revisión de estudios anteriores sobre la competición morfológica y los paradigmas derivativos, respectivamente.

iii) El capítulo 4 describe el método utilizado para la recogida y el análisis de datos.

iv) El capítulo 5 presenta los resultados obtenidos en la competición verbal.

v) El capítulo 6 es una discusión de los resultados descritos en el capítulo anterior.

vi) El capítulo 7 presenta la conclusión de esta tesis.

El capítulo se estructura de la siguiente manera: la sección 7.2 es un resumen de los antecedentes. La sección 7.3 ofrece una valoración de la investigación. En la sección 7.4 se describen las limitaciones de este estudio y posibles líneas de investigación futuras.

7.2 ANTECEDENTES

A pesar del creciente interés por la competición morfológica en los últimos años, la coexistencia de formas derivadas de la misma base ha recibido, en comparación, una menor atención.

De hecho, los estudios que abordan la competición de formas con la misma base y significado suelen limitarse a la descripción de dos competidores, por ejemplo, *-ity*/*-ness* (Riddle 1985), *-ic*/*-ical* (Kaunisto 2007), conversión/*-ation* (Lara-Clares 2017), *-able*/*-some* (Smith 2020). En el caso de la competición verbal, la investigación sobre las parejas de competidores se ha centrado a menudo en el estudio de los patrones de conversión vs sufijación en *-en* (Bauer et al. 2010), sufijación en *-ify* vs sufijación en *-ize* (Lindsay 2012; Lindsay & Aronoff 2013) y conversión vs sufijación en *-ize* (Fernández-Alcaina 2017; Fernández-Alcaina & Čermák 2018).

Respecto a la interacción entre competición y paradigmas derivativos, los estudios anteriores sugieren que las formas derivadas de los competidores pueden jugar un papel importante en la competición y en su resolución (Fernández-Alcaina & Čermák 2018; Fradin 2019: 87). Sin embargo, dicha relación puede pasar desapercibida debido a la dificultad que supone la reconstrucción de las familias de derivados, en parte como consecuencia de la "profusión de construcciones en las familias" (Fradin 2019: 87, mi traducción).

El resto del capítulo presenta las conclusiones alcanzadas en esta tesis sobre la competición en la formación de verbos, así como las limitaciones del estudio y las futuras líneas de investigación.

7.3 CONCLUSIONES

La contribución de esta tesis a la descripción del perfil de la competición se puede resumir en los siguientes puntos:

i) El OED puede proyectar una imagen distorsionada de la competición debido al número de formas incluidas en el diccionario para las que solo se recoge un registro de uso, planteando así dudas sobre el alcance real de la competición en la lengua.

ii) Dado que no existen registros para muchas de las formas analizadas, los datos proporcionados por los corpus pueden llevar a una infrarrepresentación de la competición. Si bien esto impide un análisis más detallado del contexto en el que se emplean los competidores, este aspecto puede también considerarse prueba de la escasez de casos en los que se puede hablar de una coexistencia de dos o más formas en la lengua.

iii) Otro aspecto que puede ser ilustrativo del carácter marginal de la competición es la variedad de perfiles identificados en los grupos analizados respecto a:

   a) El número de competidores. De los 351 grupos identificados, 320 corresponden a parejas de competidores y 30 a grupos formados por tres formas. Solo un grupo contiene más de tres formas en competición. Sin embargo, incluso en los casos en los que hay tres competidores, a menudo la competición se

reduce a dos formas después de un tiempo, como muestran los grupos clasificados como *competición parcial*.

b) El grado de solapamiento de los sentidos. La competición suele presentarse en un sentido específico, aunque algunos grupos de competidores, por ejemplo, *black*/*blacken* o *character*/*characterize*, presentan una competición casi completa en todos sus sentidos. El hecho de que existan distintos grados de solapamiento plantea dudas sobre la posibilidad de englobar dentro de la competición todos los fenómenos descritos.

c) Los patrones de competición y su frecuencia en la muestra. Aunque los grupos identificados representan quince patrones de competición diferentes, la conversión y la sufijación en *-ize* son los dos competidores más comunes. Esto es esperable, ya que ambos se han descrito como los procesos más productivos de formación de verbos en inglés, implicando así que, a mayor productividad, mayor probabilidad de entrar en competición. Dado que la productividad de los procesos varía a lo largo de la historia, el patrón de competición mayoritario en otros periodos puede ser otro. Por ejemplo, aunque la sufijación en *-en* no se considera productiva en inglés actual (Plag 1999), sí lo fue en el pasado, lo que explicaría por qué la competición entre conversión y sufijación en *-en* es el segundo patrón con más grupos de competidores identificados.

iv) La resolución es el resultado de la competición más común, independientemente del número de competidores, del grado de

solapamiento, de los patrones de competición y del significado. Sin embargo, pueden distinguirse varios perfiles de resolución:

a) La resolución de la competición en algunos grupos parece responder a un patrón:
   i. La sufijación en *-ize* prevalece en varios grupos de tres competidores, independientemente del resto de competidores.
   ii. La sufijación en *-ize* prevalece sobre la conversión en las parejas de verbos causativos.
   iii. Se observa una sustitución generalizada de la conversión por la sufijación en *-en* para las parejas de verbos causativos e incoativos. A su vez, la conversión prevalece sobre la sufijación en *-en* para los sentidos no causativos.

b) En otros casos, la prevalencia de uno de los competidores no responde a un patrón concreto sino que depende de otros factores, como la influencia de otros idiomas (p. ej. *personify* /*personate*/*personize*), la existencia de formas semánticamente relacionadas (por ejemplo, *passivate* /*passivify*/*passivize*) o la existencia de una forma anterior bien establecida en la lengua (por ejemplo, *hazard*/*hazardize*).

v) La resolución puede lograrse mediante:

a) La obsolescencia del sentido competidor en una de las formas. Este es el perfil más común en los grupos analizados, lo que podría deberse en parte a la inclusión de palabras poco frecuentes en el OED.

b) La especialización semántica de uno de los competidores (por ejemplo, *enqueue*/*queue*). Esto se observa en menor medida en los grupos analizados, posiblemente como resultado de la infrarrepresentación de los dominios especializados en el OED. Las limitaciones de este tipo ponen de relieve la complejidad de la investigación sobre la competición.

vi) Con todo, la competición entre procesos en verbos con la misma base es poco frecuente, como demuestra el escaso número de grupos identificados. Esto es una prueba de que, incluso dentro de un modelo morfológico tan complejo como el del inglés, en el que coexisten el modelo de morfología germánica original con el modelo de morfología románica, el sistema lingüístico muestra una tendencia hacia la economía. Esto es particularmente notable en dos aspectos más: en un grado sorprendentemente alto de eficiencia, y es por la operación de un número de reglas que pueden ser gobernadas por una de las formas que compiten, por la categoría semántica expresada o por el léxico (en lugar de por un principio general).

7.4 LIMITACIONES Y FUTURAS VÍAS DE INVESTIGACIÓN

A pesar de las aportaciones de esta tesis a la investigación sobre la competición en los verbos derivados de una misma base, existen ciertas limitaciones que es necesario abordar:

i) el escaso número de grupos de competidores extraídos para muchos de los patrones identificados, para los que sería necesario un análisis individual que aquí se ha omitido;

ii) las limitaciones propias del uso de diccionarios históricos en cuanto a la disponibilidad de registros y la fiabilidad de las fechas de registro;
iii) la falta de datos del corpus que permitan un análisis más profundo de la distribución de las supuestas formas competidoras;
iv) el papel desempeñado por formas extranjeras y la lexicalización.

Dada la heterogeneidad del perfil de la competición, esta tesis no ha explotado al máximo las posibilidades de descripción de los grupos de competidores identificados. A continuación se detallan una serie de cuestiones que podrían abordarse en el futuro:

i) El papel desempeñado por las series derivativas en la resolución de la competición en los verbos, como sugiere Fradin (2019) para las parejas de competidores nominales en francés.
ii) La consideración de otros procesos de formación de palabras en el estudio de la competición (Štekauer 2017), dado que restringir su estudio a la afijación y la conversión puede llevar a conclusiones erróneas sobre la resolución de la competición.
iii) Una descripción más detallada del papel que desempeñan factores como la influencia de formas extranjeras y la lexicalización (Bauer 2006).
iv) El uso de corpus históricos de mayor tamaño, si es posible, con el objetivo de evaluar los resultados en términos estadísticos.
v) Una comparación del perfil de la competición observado en los verbos con la competición en la formación nominal y adjetival.

Cabe señalar que el estudio de la competición diacrónica no puede escapar a las limitaciones propias del uso de recursos lexicográficos y de

corpus. Por tanto, es necesario admitir que la escasez de datos dificulta la descripción detallada del perfil y la resolución de la competición en algunos de los grupos de competidores identificados en esta tesis.

Los resultados de esta investigación contribuyen al estudio de la competición y su resolución en la formación de verbos. También sirven ponen de manifiesto la necesidad de considerar la competición como parte de un sistema más amplio, y no de forma aislada.

APPENDICES

APPENDIX 1: CORPUS DATA (TRIPLETS)

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
carbonate	2	>0.01	17	0.04	-	-	3705
carbonify	-	-	-	-	-	-	-
carbonize	-	-	23	0.06	24	0.02	142
gangrenize	-	-	-	-	-	-	-
gangrenate	3	>0.01	-	-	-	-	-
gangrene	126	0.13	4	0.01	3	0	-
metre	-	-	-	-	-	-	-
metrify	4	>0.01	-	-	-	-	-
metrize	-	-	-	-	-	-	-
missionate	-	-	-	-	-	-	-
missionize	-	-	1	0	10	0.01	22
mission	2	>0.01	-	-	-	-	-
moist	88	0.09	-	-	-	-	-
moisten	1200	1.22	1274	3.12	1043	1.05	13650
moistify	-	-	-	-	-	-	-
neat	-	-	-	-	-	-	-
neaten	na	na	24	0.06	57	0.06	1205
neatify	-	-	-	-	-	-	-
personify	39	0.04	709	1.75	1480	1.49	13885
personate	1731	1.75	96	0.24	-	-	-
personize	3	>0.01	-	-	-	-	-
statue2	5	>0.01	-	-	-	-	-
statuefy	-	-	-	-	-	-	-
statuize	-	-	-	-	-	-	-
god	-	-	-	-		-	-
godify	-	-	-	-	-	-	-
godize	-	-	-	-	-	-	-
immune	-	-	-	-	-	-	-
immunize	-	-	207	0.51	818	0.82	8044
immunify	-	-	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
quiet	7455	7.54	2612	6.45	2355	2.37	12964
quieten	-	-	50	0.12	68	0.07	2028
quietize	-	-	-	-	-	-	-
function	163	0.17	4002	9.88	20370	20.51	360237
functionate	-	-	-	-	-	-	-
functionize	-	-	-	-	-	-	-
French	-	-	-	-	9	0.01	-
Frenchify	112	0.11	-	-	-	-	-
Frenchize	-	-	-	-	-	-	-
historify	2	>0.01	-	-	-	-	-
historize	7	0.01	-	-	-	-	-
history	-	-	-	-	-	-	-
parcel	528	0.53	297	0.73	315	0.32	1157
parcellate	-	-	-	-	-	-	-
parcellize	-	-	-	-	-	-	-
patine	-	-	-	-	-	-	-
patinate	-	-	2	0	8	0.01	-
patinize	-	-	-	-	-	-	-
fossil	-	-	-	-	-	-	-
fossilize	-	-	51	0.13	190	0.19	1637
fossilate	-	-	-	-	-	-	-
fossilify	-	-	-	-	-	-	-
English	1592	1.61	-	-	145	0.15	4677
Englishize	-	-	-	-	-	-	-
Englify	-	-	-	-	-	-	-
Englishify	-	-	-	-	-	-	-
Anglize	-	-	-	-	-	-	-
Anglicize	1	>0.01	-	-	49	0.05	101
Anglify	1	>0.01	-	-	-	-	-
enthrone	527	0.53	48	0.12	248	0.25	196
enthronize	10	0.01	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
throne	422	0.43	-	-	-	-	-
thronize	-	-	-	-	-	-	-
thrononize	-	-	-	-	-	-	-
resin	56	0.06	-	-	-	-	-
resinate	-	-	-	-	-	-	-
resinize	-	-	-	-	-	-	-
pauper	-	-	-	-	-	-	-
pauperize	-	-	32	0.08	6	0.01	-
pauperate	-	-	-	-	-	-	-
empatron	-	-	-	-	-	-	-
patron	-	-	-	-	-	-	-
patronize	1700	1.72	1355	3.35	1389	1.4	7078
patronise	119	0.12	86	0.21	-	-	559
perfection	-	-	-	-	-	-	-
perfectionate	34	0.03	-	-	-	-	-
perfectionize	-	-	-	-	-	-	-
storify	-	-	-	-	-	-	-
storize	1	>0.01	-	-	-	-	-
story	321	0.33	2	0	1	0	-
pasivate	-	-	-	-	2	0	-
passivify	-	-	-	-	-	-	-
passivize	-	-	-	-	-	-	-

APPENDIX 2: CORPUS DATA (DOUBLETS)

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
culturate	-	-	-	-	-	-	-
culture	53	0.05	106	0.26	672	0.68	6029
faction	-	-	-	-	-	-	-
factionate	-	-	-	-	-	-	-
margin	87	0.09	-	-	-	-	-
marginate	4	>0.02	-	-	-	-	-
motivate	-	-	1556	3.84	19758	19.9	295484
motive	259	0.26	-	-	-	-	-
nervate	-	-	-	-	-	-	-
nerve	153	0.15	902	2.23	-	-	4992
nitrate	-	-	-	-	-	-	-
nitre	-	-	-	-	-	-	-
petition	5047	5.11	1199	2.96	2687	2.71	30686
petitionate	1	>0.01	-	-	-	-	-
alembic	-	-	-	-	-	-	-
alembicate	-	-	-	-	-	-	-
arsenic	-	-	-	-	-	-	-
arsenicate	-	-	-	-	-	-	-
opinion	-	-	-	-	-	-	-
opinionate	21	0.02	6	0.01	4	0	-
active	-	-	-	-	-	-	-
activate	4	>0.01	977	2.41	11311	11.39	422032
value	19703	19.96	5193	12.82	16523	16.64	314200
valuate	1	>0.01	-	-	10	0.01	148
black	395	0.4	855	2.11	1924	1.94	14907
blacken	1091	1.11	1371	3.39	1151	1.16	8259
earth	1977	2	29	0.07	37	0.04	740
earthen	-	-	-	-	-	-	-
hard	-	-	-	-	-	-	-
harden	19687	10.83	3288	8.12	4937	4.97	82553

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
heart	6504	6.59	-	-	-	-	-
hearten	563	0.57	362	0.89	657	0.66	3818
just	4797	4.86	-	-	-	-	-
justen	5	0.01	-	-	5	0.01	-
less	-		-	-	-	-	-
lessen	9660	9.78	4391	10.84	4936	4.97	79102
like	85178	86.28	160827	397.1	614689	619.01	6685482
liken	3057	3.1	1190	2.94	3500	3.52	32486
mist	1007	1.02	317	0.78	578	0.58	15788
misten	-	-	-	-	-	-	-
old	-	-	-	-	-	-	-
olden	-	-	-	-	-	-	-
piece	797	0.81	702	1.73	1982	2	29756
piecen	-	-	-	-	-	-	-
red	462	0.47	32	0.08	-	-	1050
redden	374	0.38	1652	4.08	1075	1.08	5471
rich	3	>0.01	-		-	-	-
enrich	12437	12.6	3079	7.6	6275	6.32	103308
richen	1	>0.01	-	-	-	-	-
ripe	13	0.01	-	-	-	-	-
ripen	5296	5.36	2508	6.19	1367	1.38	26762
rooten	-	-	-	-	1	0	-
root	13852	14.03	3717	9.18	14773	14.88	156249
rough	174	0.18	897	2.21	1885	1.9	20875
roughen	34	0.03	191	0.47	119	0.12	1798
sad	199	0.2	-	-	-	-	-
sadden	183	0.19	1122	2.77	3043	3.06	30363
smart	1652	1.67	697	1.72	872	0.88	5203
smarten	-	-	46	0.11	211	0.21	2067
soft	223	0.23	-	-	-	-	-
soften	3709	3.76	6104	15.07	9017	9.08	110498

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
stark	95	0.1	-	-	-	-	-
starken	-	-	-	-	-	-	-
trust	48410	49.04	30723	75.86	77728	78.27	73965
trusten	8	0.01	-	-	-	-	-
quiet	7445	7.54	2612	6.45	2355	2.37	12964
quieten	-	-	50	0.12	68	0.07	2028
white	773	0.78	1	0	-	-	-
whiten	947	0.96	970	2.4	719	0.72	21466
mad	1306	1.32	-	-	-	-	-
madden	94	0.1	2221	5.48	2941	2.96	32127
pink	147	0.15	54	0.13	43	0.04	455
pinken	-	-	5	0.01	5	0.01	-
plump	148	0.15	518	1.28	646	0.65	10137
plumpen	-	-	-	-	-	-	-
strengthen	-	-	10188	25.16	21276	21.43	393931
strength	21152	21.43	-	-	-	-	-
action	-	-	208	0.51	-	-	20865
actionize	-	-	-	-	-	-	-
alphabet	-	-	-	-	-	-	-
alphabetize	-	1	>0.01	21	0.05	169	0.17
anthem	-	-	-	-	-	-	-
anthemize	-	-	-	-	-	-	-
autograph	-	-	263	0.65	862	0.87	10639
autographize	-	-	-	-	-	-	-
biography	-	-	-	-	-	-	-
biographize	-	-	-	-	-	-	-
biograph	-	-	2	0	7	0.01	-
civil	-	-	-	-	-	-	-
civilise	9	0.01	-	-	-	-	168
civilize	775	0.79	-	-	-	-	1379
dialogue	44	0.04	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
dialoguize	-	-	-	-	-	-	-
dialogise	1	>0.01	-	-	-	-	-
dialogize	9	0.01	-	-	2	0	-
feminine	-	-	-	-	-	-	-
femininize	-	-		-	-	-	-
femine	-	-	3	0.01	1	0	-
feminize	3	>0.01	39	0.1	226	0.23	2114
feminise	-	-	-	-	4	0	-
funeral	-	-	-	-	-	-	-
funeralize	-	-	2	0	2	0	-
hazard	9946	10.07	1206	2.98	586	0.59	6331
hazardize	1	>0.01	-	-	-	-	-
heaven	-	-	-	-	-	-	-
hevanize	-	-	-	-	-	-	-
humour	-	-	36	0.09	-	-	-
humor	-	-	698	1.72	-	-	4962
humourize	-	-	-	-	-	-	-
marble	145	0.15	-	-	-	0	-
marbleize			-	-	5	0.01	37
melody	-	-	-	-	-	-	-
melodise	2	0.01	-	-	-	-	-
melodize	12	0.01	-	-	-	-	-
method	-	--	2	0	-	-	-
methodize	346	0.35	0	0	-	-	-
mirror	128	0.13	1159	2.86	5009	5.04	77298
mirrorize	-	-	-	-	-	-	-
model	-	-	2424	5.99	-	-	2177224
modellize	-	-	-	-	-	-	-
particular	-	-	-	-	-	-	-
particularize	1215	1.23	150	0.37	105	0.11	514
particularise	100	0.1	4	0.01	1	0	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
particulate	-	-	32	0.08	296	0.3	4233
pander	-	-	432	1.07	-	-	11675
panderize	-	-	-	-	-	-	-
peacock	13	0.01	-	-	-	-	-
peacockise	1	>0.01	-	-	-	-	-
peacockize	-	-	-	-	-	-	-
photograph	-	-	5152	12.72	27239	27.43	158464
photographize	-	-	-	-	-	-	-
pressure	33	0.03	640	1.58	5846	5.89	46169
pressurize	-	-	72	0.18	497	0.5	10508
procession	40	0.04	1	0	-	-	-
processionize	-	-	-	-	-	-	-
psalmody	-	-	-	-	-	-	-
psalmodize	-	-	-	-	-	-	-
raven	605	0.61	-	-	-	-	-
ravenize	-	-	-	-	-	-	-
requisition	1	>0.01	343	0.85	247	0.25	4436
requisitionize	-	-	-	-	-	-	-
romantic	-	-	-	-	-	-	-
romanticize	-	-	161	0.4	954	0.96	4712
station	129	0.13	3833	9.46	5207	5.24	50808
stationize	1	>0.01	-	-	-	-	-
summer	37	0.04	291	0.72	717	0.72	15836
summerize	-	-	-	-	4	0	-
verbal	0	0	-	-	-	-	-
verbalize	4	>0.01	83	0.2	1	0.61	5186
mongrel	-	-	-	-	-	-	-
mongrelize	-	-	1	0	1	0	-
oval	-	-	-	-	-	-	-
ovalize	-	-	1	0	3	0	-
parallel	1661	1.68	1067	2.63	2978	3	29319

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
parallelize	5	0.01	-	-	-	-	-
savage	114	0.12	287	0.71	683	0.69	3939
savagize	-	-	-	-	-	-	-
union	-	-	1	-	-	-	-
unionize	-	-	86	0.21	395	0.4	-
alkali	-	-	-	-	-	-	-
alkalize	4	>0.01	-	-	-	-	-
alchemy	-	-	-	-	-	-	-
alchemize	-	-	3	0.01	5	0.01	-
blackguard	10	0.01	-	-	-	-	-
blackguardize	-	-	-	-	-	-	-
emphase	-	-	-	-	-	-	-
emphasize	1	>0.01	9587	23.67	34190	34.43	342506
miniature	-	-	-	-	-	-	-
miniaturize	-	-	1	0	2	0.23	1994
orphan	64	0.06	56	0.14	132	0.13	1837
orphanize	-	-	-	-	-	-	-
pallet	-	-	-	-	-	-	-
palletize	-	-	1	0	3	0	-
parasite	-	-	-	-	-	-	-
parasitize	-	-	40	0.1	132	0.13	939
pellet	23	0.02	-	-	-	-	-
pelletize	-	-	-	-	-	-	-
pilgrim	-	-	-	-	-	-	-
pilgrimage	88	0.09	-	-	-	-	-
pilgrimize	1	>0.01	-	-	-	0	-
politic	-	-	2	0	-	0	-
politicize	-	-	107	0.26	1	1.97	4909
prologue	73	0.07	-	-	-	-	-
prologuize	1	>0.01	-	-	-	-	-
prologize	1	>0.01	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
rhythm	-	-	-	-	-	-	-
rhythmize	-	-	-	-	-	-	-
ridicule	2454	2.49	2029	5.01	3687	3.71	25877
ridiculize	2	0.01	-	-	-	-	-
rubber	3	>0.01	-	-	-	-	-
rubberize	-	-	-	-	-	-	-
satin	-	-	-	-	-	-	-
satinize	-	-	-	-	-	-	-
satire	13	0.01	-	-	-	-	-
satirise	4	>0.01	10	0.02	18	0.02	-
satirize	49	0.05	252	0.62	580	0.58	3457
aerosol	-	-	-	-	-	-	-
aerosolize	-	-	-	-	10	0.01	88
revolution	-	-	-	-	-	-	-
revolutionise	-	-	-	-	77	0.08	8307
revolutionize	44	0.04	968	2.39	2654	2.67	45980
channel	126	0.13	799	1.97	5585	5.62	82547
channelize	-	-	2	0	16	0.02	-
medal	18	0.02	-	-	-	-	-
medallize	-	-	-	-	-	-	-
monologue	-	-	-	-	-	-	-
monologize	-	-	-	-	-	-	-
monologuize	-	-	-	-	-	-	-
factor	7	0.01	127	0.31	2710	2.73	59655
factorize	-	-	3	0.01	5	0.01	-
empery	-	-	-	-	-	-	-
emperize	1	>0.01	-	-	-	-	-
epicure	-	-	4	0.01	2	0	-
epicurise	1	>0.01	-	-	-	-	-
epicurize	4	>0.01	-	-	-	-	-
period	-	-	1	0	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
periodize	6	0.01	3	0.01	10	0.01	-
melancholy	-	-	-	-	-	-	-
melancholize	6	0.01	-	-	-	-	-
bumper	40	0.04	-	-	-	-	-
bumperize	-	-	-	-	-	-	-
husband	1906	1.93	261	0.64	335	0.34	1089
husbandize	1	>0.01	-	-	-	-	-
microscope	-	-	-	-	-	-	-
microscopize	-	-	-	-	-	-	-
missionary	-	-	-	-	-	-	-
missionarize	-	-	-	-	-	-	-
niggard	1	>0.01	-	-	-	-	-
niggardize	15	0.02	-	-	-	-	-
paroxytone	-	-	-	-	-	-	-
paroxytonize	-	-	-	-	-	-	-
pemmican	-	-	-	-	-	-	-
pemmicanize	-	-	-	-	-	-	-
morsel	4	>0.01	-	-	-	-	-
moselize	-	-	-	-	-	-	-
pauper	-	-	-	-	-	-	-
pauperize	-	-	-	-	6	0.01	-
patron	-	-	-	-	-	-	-
patronize	-	-	-	-	1389	1.04	7078
patronise	-	-	-	-	52	0.05	559
character	442	0.45	9	0.02	2	0	-
characterize	1244	1.26	7537	18.61	22667	22.82	219122
characterise	224	0.23	-	-	-	-	-
companion	279	0.28	23	0.06	7	0.01	-
companionize	-	-	-	-	-	-	-
mission	3	>0.01	-	-	-	-	-
missionize	-	-	-	-	10	0.01	22

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
parrot	28	0.03	13	0.03	629	0.63	628
parrotize	-	-	-	-	-	-	-
pattern	75	0.08	156	0.39	468	0.47	7124
patternize	1	>0.01	-	-	-	-	-
powder	2983	3.02	936	2.31	835	0.84	12927
powderize	-	-	-	-	-	-	-
rhapsody	-	-	-	-	-	-	-
rhapsodize	-	-	103	0.25	192	0.19	541
rhapsodise	-	-	-	-	2	0	-
wanton	2262	2.29	-	-	-	-	-
wantonize	49	0.05	-	-	-	-	-
wantonise	6	0.01	-	-	-	-	-
adjective	-	-	-	-	-	-	-
adjectivize	-	-	-	-	3	0	-
parody	29	0.03	252	0.62	1169	1.18	9425
parodize	3	>0.01	-	-	-	-	-
posture	284	0.29	156	0.39	768	0.77	4367
posturize	-	-	-	-	-	-	-
pulpit	-	-	-	-	-	-	-
pulpitize	-	-	-	-	-	-	-
sonnet	70	0.07	-	-	-	-	-
sonnetize	-	-	-	-	-	-	-
canal	8	0.01	-	-	-	-	-
canalize	-	-	41	0.01	12	0.01	-
canalise	-	-	3	0.01	1	0	-
legend	-	-	-	-	-	-	-
legendize	-	-	-	-	-	-	-
proselyte	209	0.21	-	-	-	-	-
proselytize	2	>0.01	119	0.29	731	0.74	3074
proselytise	-	-	-	-	11	0.01	-
woman	6440	6.52	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
womanize	6	0.01	2	0	11	0.01	-
artery	-	-	-	-	-	-	-
arterize	-	-	-	-	-	-	-
atom	-	-	-	-	-	-	-
atomize	4	>0.01	46	0.11	228	0.23	1753
scenario	-	-	-	-	-	-	-
scenarize	-	-	-	-	-	-	-
scenarioize	-	-	-	-	-	-	-
philosophy	-	-	-	-	-	-	-
philosophate		-	-	-	-	-	-
philosophize	306	0.31	381	0.94	321	0.32	1810
propaganda	-	-	-	-	-	-	-
propagand	-	-	-	-	-	-	-
propagandize	-	-	106	0.26	194	0.2	837
acronym	-	-	-	-	1	0	-
acronymize	-	-	-	-	-	-	-
emotion	-	-	-	-	-	-	-
emotionize	-	-	-	-	-	-	-
satellite	-	-	-	-	-	-	-
satellize	-	-	-	-	-	-	-
signal	303	0.31	4160	10.27	15998	16.11	168833
signalise	13	0.01	-	-	-	-	-
signalize	923	0.93	110	0.27	8	0.01	-
canal	8	0.01	-	-	-	-	-
canalise	-	-	3	0.01	1	0	-
canalize	-	-	41	0.1	12	0.01	-
pillory	64	0.06	140	0.35	376	0.38	1835
pillorize	3	>0.01	-	-	-	-	-
beautify	5049	5.11	616	1.52	411	0.41	11364
beauty	-	-	1	0	-	-	-
happy	-	-	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
happify	14	0.01	-	-	-	-	-
jazz	-	-	13	0.03	51	0.05	1394
jazzify	-	-	-	-	-	-	-
monsterfy	-	-	-	-	-	-	-
monster	-	-	-	-	-	-	-
soul	585	-	7	0.02	-	-	-
soulify	0.59	-	-		-	-	-
spruce	87	0.09	472	1.17	1007	1.01	18640
sprucify	1	>0.01	-	-	-	-	-
lady	-	-	2	0	-	-	-
ladyfy	3	>0.01	-	-	-	-	-
palsify	-	-	-	-	-	-	-
palsy	-	-	59	0.15	11	0.01	-
terror	-	-	-	-	-	-	-
terrify	9168	9.29	3792	9.36	9985	10.06	72202
nullify	522	0.53	943	2.33	1362	1.37	16915
null	-	-	9	0.02	31	0.03	49
statufy	-	-	-	-	-	-	-
statue	5	0.01	-	-	-	-	-
dunce	-	-	-	-	-	-	-
duncify	-	-	-	-	-	-	-
baby	9	0.01	88	0.22	179	0.18	1731
babyfy	-	-	-	-	-	-	-
muddify	-	-	-	-	-	-	-
muddy	230	0.23	173	0.43	488	0.49	3502
mummify	-	-	13	0.03	58	0.06	445
mummy	-	-	-	-	-	-	-
prettify	2	>0.01	22	0.05	37	0.04	476
pretty	-	-	22	0.05	38	0.04	188
prose	62	0.06	1	0	-	-	-
prosify	1	>0.01	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
verb	-	-	-	-	-	-	-
verbify	-	-	-	-	-	-	-
filthify	-	-	-	-	-	-	-
filthy	-	-	-	-	-	-	-
pulp	45	0.05	114	0.28	211	0.21	2479
pulpify	-	-	-	-	-	-	-
belittle	9	0.01	665	1.64	1932	1.95	13667
little	-	-	-	-	-	-	-
belord	-	-	-	-	-	-	-
lord	4481	4.54	206	0.51	254	0.26	2430
belimb	-	-	-	-	-	-	-
limb	242	0.25	24	0.06	18	0.02	45
empacket	-	-	-	-	-	-	-
packet	14	0.01	13	0.03	47	0.05	2000
empanel	146	0.15	43	0.11	75	0.08	217
panel	10	0.01	36	0.09	251	0.25	256
empeople	-	-	-	-	-	-	-
people	4901	4.96	1469	3.63	465	0.47	3408
emplaster	1	>0.01	-	-	-	-	-
plaster	106	0.11	1344	3.32	2259	2.27	17815
emplume	1	>0.01	-		-	-	-
plume	850	0.86	243	0.6	-	-	233
empoison	64	0.06	-		-	-	-
poison	2831	2.87	3195	7.89	7206	7.26	59906
empowder	-	-	-	-	-	-	-
powder	2983	3.02	936	2.31	835	0.84	12927
empower	1473	1.49	1693	4.18	9398	9.46	209170
power	1889	1.91	1182	2.92	8947	9.01	305781
empurple	3	>0.01	-	-	-	-	-
purple	-	-	141	0.35	39	0.04	116
enjewel	-	-	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
jewel	79	0.08	84	0.21	8	0.01	238
enqueue	-	-	-	-	4	0	-
queue	17	0.02	162	0.4	1015	1.02	4354
acetify	-	-	-	-	-	-	-
acetize	-	-	-	-	-	-	-
alkalify	1	>0.01	-	-	-	-	-
alkalize	4	>0.01	-	-	-	-	-
Anglicify	-	-	-	-	-	-	-
anglicize	1	>0.01	21	0.05	49	0.05	101
etherify	-	-	-	-	-	-	-
etherize	-	-	-	-	2	0	-
humanify	-	-	-	-	-	-	-
humanize	223	0.23	324	0.8	987	0.99	7575
iconify	-	-	-	-	-	-	-
iconize	-	-	-	-	-	-	-
magnetify	-	-	-	-	-	-	-
magnetize	6	0.01	152	0.38	195	0.2	3763
maximate	-	-	-	-	-	-	-
maximize	-	-	660	1.63	9899	9.97	348100
memorate	4	>0.01	-	-	-	-	-
memorise	22	0.02	-	-	-	-	-
memorize	193	0.2	1387	3.42	4914	4.95	61111
metricate	-	-	-	-	-	-	-
metricize	-	-	-	-	-	-	-
nullize	-	-	-	-	-	-	-
nullify	522	0.53	943	2.33	1362	1.37	16915
pendulate	-	-	-	-	-	-	-
pendulize	-	-	-	-	-	-	-
phosphorate	-	-	-	-	-	-	-
phosphorize	-	-	-	-	-	-	-
platinate	-	-	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
platinize	-	-	-	-	-	-	-
probabilify	-	-	-	-	-	-	-
probabilize	-	-	-	-	-	-	-
probablize	-	-	-	-	-	-	-
religionate	-	-	-	-	-	-	-
religionize	-	-	-	-	-	-	-
rhetoricate	1	>0.01	-	-	-	-	-
rhetoricize	-	-	-	-	-	-	-
oxidize	-	-	352	0.87	595	0.6	20377
oxidate	1	>0.01	-	-	-	-	-
resinify	-	-	-	-	-	-	-
resinize	-	-	-	-	-	-	-
carbonate	2	>0.01	17	0.04	-	-	3705
carbonize	-	-	23	0.06	24	0.02	142
churchify	-	-	-	-	-	-	-
churchize	-	-	-	-	-	-	-
myelinate	-	-	-	-	-	-	-
myelinize	-	-	-	-	-	-	-
artify	-	-	-	-	2	0	-
artize	2	>0.01	-	-	-	-	-
electrize	2	>0.01	-	-	-	-	-
electrify	285	0.29	668	1.65	1176	1.18	12372
hotelize	-	-	-	-	-	-	-
hotelify	-	-	-	-	-	-	-
aluminate	-	-	-	-	-	-	-
aluminize	-	-	1	0	1	0	-
Germanify	-	-	-	-	-	-	-
Germanize	6	0.01	5	0.01	3	0	-
objectify	-	-	89	0.22	885	0.89	5376
objectize	-	-	-	-	-	-	-
objectivate	-	-	-	-	-	-	-

	EHCB		COHA		COCA		iWeb
	RAW	PER MIL	RAW	PER MIL	RAW	PER MIL	
objectivize	-	-	1	0	3	0	-
devilify	-	-	-	-	-	-	-
devilize	1	>0.01	-	-	-	-	-
oxygenate	28	0.03	23	0.06	152	0.15	3389
oxygenize	-	-	-	-	-	-	-
plasticize	-	-	-	-	-	-	-
plastify	-	-	-	-	2	0	-
rigidify	-	-	6	0.01	10	0.01	-
rigidize	-	-	-	-	-	-	-
substantify	-	-	-	-	-	-	-
substantize	-	-	-	-	-	-	-
fluoridize	-	-	-	-	-	-	-
fluoridate	-	-	5	0.01	27	0.03	-
nitrogenate	-	-	-	-	-	-	-
nitrogenize	-	-	-	-	-	-	-
peroxidate	-	-	-	-	-	-	-
peroxidize	-	-	-	-	-	-	-
acidify	2.00	>0.01	22	0.05	134	0.13	2793
acidize	-	-	-	-	-	-	-

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RESUMEN EXTENSO DE LA TESIS (MENCIÓN INTERNACIONAL)

1 INTRODUCCIÓN

1.1 Antecedentes

El concepto de *competición* ha sido objeto de estudio de parte la investigación morfológica en los últimos diez años, tal y como demuestran el número de publicaciones en las que se aborda (MacWhiney *et al*. 2014; Santana-Lario & Valera 2017; Rainer *et al*. 2019) y la organización de conferencias especializadas de reconocido prestigio internacional (*17th International Morphology Meeting*, Vienna 2016; *Word-Formation Theories IV/Typology and Universals in Word-Formation V*, Košice 2022).

Hasta ahora, la investigación se ha centrado principalmente en la identificación de las restricciones que gobiernan la distribución de los afijos competidores en dominios específicos en la formación de nombres (por ejemplo, Baeskow 1985; Bauer 2006; Lara-Clares 2019), adjetivos (por ejemplo, Smith 2020) y verbos (Schneider 1987; Plag 1999; Gottfurcht 2008). Si bien se han identificado una series de factores que afectan a la distribución de los procesos en competición, en el caso de los verbos, estos varían de autor a autor. Así, por ejemplo, Schneider (1987) evalúa el papel que juegan las restricciones de tipo fonético, morfológico y semánticos, mientras que Kjellmer (2001) considera como factor crucial la frecuencia de la base. Para Plag (1999), son las

restricciones fonéticas y semánticas las que gobiernan la selección de los procesos en la formación de verbos, al menos en el siglo XX. Por último, Gottfurcht (2008) sugiere que el denominado *Efecto de la Distribución de la Categoría Semántica* juega un papel importante en la competición verbal. De esta forma, la competición se entiende en un sentido amplio para referirse a la competición entre patrones.

Es posible que existan solapamientos en el ámbito de aplicación de los afijos, como es el caso de la competición entre *-ify* e *-ize*. En general, *-ify* tiende a seleccionar bases monosilábicas o yámbicas mientras que *-ize* selecciona bases trocaicas o dactílicas (Bauer *et al*. 2013: 271). Sin embargo, es posible identificar formas con la misma base para cada uno de los afijos, dando lugar a parejas de competidores (por ejemplo, *etherify*/*etherize* 'convertir en éter'). Este tipo de competición, entendida en un sentido más estricto, es el objeto de estudio de la presente tesis doctoral.

La mayoría de los estudios que abordan la competición entre formas derivadas de la misma base suelen centrarse en la competición entre sustantivos (por ejemplo, Riddle 1985; Bauer 2006; Amutio-Palacios 2013; Díaz-Negrillo 2017; Lara-Clares 2017; Fradin 2019; Lara-Clares & Thompson 2019, entre otros). En el caso de la competición entre verbos derivados de la misma base, esta ha sido descrita de forma superficial en manuales de referencia (Bauer *et al*. 2013) o en estudios sobre competición verbal (Plag 1999; Gottfurcht 2008) pero con puntos de vista opuestos sobre su alcance en la lengua: mientras que para Plag (1999: 232) la existencia de verbos derivados de la misma base es anecdótica, Gottfurcht (2008) concluye que la existencia de un alto número de parejas de verbos derivados de la misma base pero con

distinto afijo evidencian que los procesos de formación de verbos se encuentran en competición constante.

En cuanto a los estudios empíricos que abordan este tema, solo cinco han analizado la competición entre verbos derivados de la misma base:

i) Bauer et al. (2010) se centra en la competición entre conversión y sufijación en *-en* para bases adjetivales desde una perspectiva diacrónica.
ii) Lindsay & Aronoff (2013) dedican una sección al estudio de la competición entre sufijación en *-ify* y sufijación en *-ize* en inglés basándose en restricciones fonéticas. Lindsay (2012) dedica de nuevo una sección a las diferencias fonéticas de los competidores basado en una comparación entre el inglés y varias lenguas romances.
iii) Fernández-Alcaina (2017) describe la competición entre conversión y sufijación en *-ize* en parejas de verbos causativos. Basado en los resultados obtenidos, Fernández-Alcaina & Čermák (2018) realizan un estudio de los competidores en relación a sus paradigmas derivativos con el objetivo de encontrar información adicional que pueda explicar la prevalencia de uno u otro competidor.

En lo que respecta a la relación entre competición y paradigmas derivativos, algunos estudios históricos sobre normalización (Mal'ceva 1966; Gawełko 1977; Schupbach 1984 en Pounder 2000: 83) han concluido que la resolución de la competición depende '[…] al menos en buena parte en las relaciones que se establecen entre el conjunto de lexemas derivados de una misma base' (Pounder 2000: 83, mi

traducción). Sin embargo, pocos estudios han abordado dicha relación en los últimos años (Fernández-Alcaina & Čermák 2018; Fradin 2019), debido, en parte, a la dificultad que supone la reconstrucción de los mismos (Fradin 2019: 87).

1.2 Objetivos

Esta tesis tiene como objetivo el análisis de la competición en los grupos de competidores verbales desde una perspectiva diacrónica. Para ello se examinan tanto las formas en competición, como las formas derivadas que forman los paradigmas derivativos de los verbos y que pueden aportar información adicional sobre la prevalencia de una forma concreta. En concreto, esta tesis pretender describir los siguientes aspectos:

i) el perfil de los grupos de competidores verbales,
ii) las posibles razones que expliquen la resolución de la competición en favor de una de las formas, y
iii) la información adicional aportada por los paradigmas derivativos de los verbos en competición sobre la prevalencia de uno de los competidores.

1.3 Contenidos de la tesis

Esta tesis se divide en siete capítulos, cada uno de los cuales se compone de varias secciones y de un resumen final. En el capítulo 1 se introduce el tema y se especifican los objetivos de este trabajo. El capítulo 2 aborda el concepto de *competición*, prestando especial interés a la competición verbal. El capítulo 3 se centra en el concepto de *paradigma derivativo* y, en concreto, en su relación con el estudio de la competición basado en

los resultados obtenidos en la investigación previa. El capítulo 4 describe el método empleado para la extracción y el análisis de los datos, tanto para los verbos en competición como para las formas que conforman sus paradigmas. El capítulo 5 presenta los resultados obtenidos. El capítulo comienza describiendo las características generales que subyacen a todos los patrones de competición identificados. La segunda parte analiza los grupos de competidores compuestos por tres o más formas, mientras que la tercera parte aborda la competición en parejas de verbos. El capítulo concluye con una descripción de los perfiles de *competición resuelta* y *competición en curso*. El capítulo 6 discute los resultados obtenidos en el capítulo anterior. Dada la heterogeneidad de la competición y el bajo número de grupos de competidores para algunos de los patrones, la discusión se lleva a cabo usando como ejemplo aquellos con el mayor número de competidores identificados: conversión vs sufijación en *-ize* y conversión vs sufijación en *-en*. El capítulo 7 resume los resultados principales de esta tesis, sus limitaciones y las posibles futuras vías de investigación.

2 MÉTODO

Los resultados obtenidos en esta tesis se basan en el análisis de 265 grupos verbales (562 verbos) extraídos del OED y donde existe al menos un competidor con el que comparta al menos un mismo sentido. Una vez clasificados por sentidos, el número total de grupos de competidores verbales analizados es 351. Todos los verbos se han extraído de la tercera versión del OED (OED3). Este es un aspecto importante a señalar porque la clasificación de la competición como *competición resuelta* depende de la fecha de último registro en el OED, así como de la información sobre su uso, es decir, si la forma aparece en el diccionario marcada como

'obsoleta', 'rara', 'arcaica', 'histórica' o es característica de un dominio o variedad dialectal en particular. El uso de las fechas de registro puede presentar problemas, ya que estas dependen de la disponibilidad y accesibilidad de los registros escritos. Con el objetivo de minimizar el sesgo que su uso puede tener sobre los resultados, se considera que dos competidores tienen fechas similares de primer registro si estas se encuentra dentro de un margen de 50 años. Otro aspecto a considerar es la existencia de saltos en las fechas de registro de las formas en el OED (Bauer 2006). Aunque para algunos autores su existencia no implica necesariamente que la forma haya dejado de existir (Allan 2012), los saltos se han tenido en cuenta a la hora de representar líneas temporales que comparan el desarrollo de las formas en competición.

A pesar de los problemas propios del uso de diccionarios históricos, el OED puede considerarse como una herramienta eficaz para la extracción tanto de los competidores verbales como de sus paradigmas derivativos. Mientras que el OED sirve como punto de partida para el estudio de la competición, un análisis más detallado de la misma requiere de la combinación de la información facilitada por otros recursos, como son los corpus diacrónicos y sincrónicos y los diccionarios contemporáneos. De la misma forma, los paradigmas derivativos han demostrado ser una fuente de información válida para el estudio de la competición verbal.

3 RESULTADOS

Los resultados obtenidos en esta tesis definen la competición como un fenómeno heterogéneo, en cuanto a los patrones y al significado expresado, las peculiaridades individuales de los grupos de competición y las limitaciones intrínsecas al uso de diccionarios históricos y corpus.

En lo que se refiere al número de competidores, los resultados sugieren que el perfil más frecuente es la competición entre dos formas (321 parejas), mientras que la competición entre tres formas es menos común (30 grupos). De los 351 grupos de competidores analizados, solo un grupo está formado por más de tres competidores (*fossil*/*fossilate*/*fossilify*/*fossilize*).

En cuando a la forma, 129 parejas de competidores representan la competición entre conversión y sufijación en *-ize*, seguido por la competición entre conversión y sufijación en *-en* (70 parejas).

En cuanto al significado, los grupos de competidores identificados se distribuyen en 12 categorías semánticas. Es importante señalar que son los sentidos de las formas los que se clasifican semánticamente, y no los lexemas. Este aspecto es crucial para el estudio de la competición ya que esta puede ocurrir en algunos sentidos, pero no en otros. De hecho, solamente en 32 grupos la competición ocurre entre formas monosémicas, mientras que la mayoría de los grupos de competidores contienen al menos una forma polisémica.

No está claro si la dirección de la resolución de la competición puede verse influenciada por el significado expresado por las formas. Los resultados obtenidos para la competición entre conversión y afijación indican que la afijación prevalece para la expresión de las categorías CAUSATIVA e INCOATIVA, mientras que la prevalencia de la conversión es más común en los grupos de competidores que expresan categorías como ORNATIVA o PERFORMATIVA.

Respecto al perfil de la competición, 171 grupos de competidores se han clasificado como competición resuelta, mientras en 112 grupos de competidores todos los miembros se describen en el OED como en uso. Por tanto, los resultados están en consonancia con la investigación

previa, en la que se espera que la competición llegue a término (Aronoff 2016).

Desde el punto de vista metodológico, aunque OED ha demostrado ser una herramienta valiosa para la recopilación de datos, dada la heterogeneidad de la competición que aquí se describe y las limitaciones propias de la investigación histórica, se ha considerado necesario la combinación de varios recursos. En concreto, los corpus históricos y contemporáneos, los diccionarios contemporáneos y los paradigmas derivativos pueden aportar información adicional sobre la resolución de la competición en algunos de los grupos descritos.

El estudio de la competición en formas con la misma base requiere, en la mayoría de los casos, una descripción individual de cada grupo debido a la variedad de los perfiles identificados. Sin embargo, a título ilustrativo, se han abordado los objetivos planteados en la sección 1.2 tomando como ejemplo el perfil de la competición de los dos patrones de competición con el mayor número de grupos de competidores identificados: la conversión frente a la sufijación en *-ize* y la conversión frente a la sufijación en *-en*.

La descripción de los patrones mencionados puede resumirse en los siguientes puntos:

i) Se observa una sustitución general de la conversión por la sufijación en *-en* para las parejas de verbos analizadas. Esto contrasta con lo descrito para la competición entre conversión y sufijación en *-ize*, en donde no se observa una prevalencia clara de uno de los procesos.

ii) En aquellos grupos de competidores en los que el verbo convertido parece estar bien establecido en la lengua, la existencia de un verbo en *-ize* suele ser incidental.

ii) A su vez, la competición en los verbos CAUSATIVOS se resuelve siempre a favor de la sufijación en *-ize*.

iii) No existe una prevalencia clara de un competidor u otro para algunas categorías semántica (por ejemplo, RESULTATIVA). En esto casos, el número de grupos en los que la resolución de la competición ocurre a favor de la conversión o de la sufijación en *-ize* es similar.

4 CONCLUSIÓN

Las principales aportaciones de esta tesis respecto al perfil de la competición morfológica son las siguientes:

i) El OED es una herramienta útil para la extracción de las formas en competición, si bien es cierto que la inclusión de formas poco frecuentes puede contribuir a que proyecte una imagen distorsionada de la competición y, por tanto, de su alcance real en la lengua.

ii) Los corpus pueden llevar a una infrarrepresentación de la competición ya que no existen registros para muchos de los competidores identificados. En aquellos casos en los que las formas están recogidas en el corpus, estas suelen hacerlo con frecuencias bajas. Por tanto, los resultados apuntan a que la competición podría ser considerada como un fenómeno 'marginal' en la lengua.

iii) Otro aspecto que puede ser ilustrativo de la marginalidad de la competición es la variedad de perfiles identificados en los grupos analizados respecto al número de competidores, el grado de solapamiento de los sentidos y la variedad de patrones y categorías semánticas identificadas.

En definitiva, la competición entre procesos en verbos con la misma base es poco frecuente, tal y como demuestra el escaso número de grupos identificados. Esto podría considerarse como prueba de que, incluso dentro de un modelo morfológico tan complejo como el del inglés, en el que coexisten el modelo de morfología germánica y romance, el sistema lingüístico demuestra una tendencia hacia la economía. A pesar de las limitaciones propias al uso de diccionarios históricos y corpus, se cree que los resultados de esta investigación pueden contribuir a establecer un perfil más detallado de la competición entre formas derivadas de la misma base y, en general, en la competición en la formación de verbos.