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BAKALÁŘSKÁ PRÁCE

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Analogy in word-formation: the evidence of OED
Analogie ve slovtvorbě na základě svědectví OED

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Abstract

The present thesis aims to provide a detailed characterization of analogy as a word-formation process in the context of the historical development of English. The research part of this paper analyses a selection of words modelled on the analogy of already existing ones, as implied in the Etymology section of The Oxford English Dictionary. The extracted data is examined from the perspectives of the distinct historical periods of the English language in terms of the word-formation processes as well as the word classes affected by these changes.

Key words

Analogy, word-formation, OED

Abstrakt

Cílem této práce je poskytnout detailní charakteristiku analogie jakožto slovtvorného procesu na pozadí historického vývoje angličtiny. Praktická část přináší analýzu vybraných slov, které jako slovtvornou analogii hodnotí Oxford English Dictionary. Zpracovávaná data jsou zkoumána z hlediska období, do kterých v rámci dějin jazyka patří, a následně analyzována na základě slovtvorných postupů a slovních druhů.

Klíčová slova

Analogie, slovtvorba, OED

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List of abbreviations

adj.	adjective
adv.	adverb
comb. form	combining form
EModE	Early Modern English
LModE	Late Modern English
ME	Middle English
n.	noun
OED	Oxford English Dictionary
OE	Old English
PDE	Present-Day English
prep.	preposition
v.	verb

1. Introduction

This thesis deals with analogy and the ways in which it has affected word-formation in the context of the historical development of the English language. Due to the concept of analogy being relatively difficult to grasp, several definitions have been proposed throughout the time, some considerably different from others - this study relies on the model proposed by Mattiello (2018), which works with proportional and non-proportional analogy.

Section 2 provides definitions and explanations to some of the key concepts, including a brief history of the term ‘analogy,’ along with its contextualization in terms of morphology and language acquisition. An introduction to the classification of the word-formation processes which will be analysed in the research part follows, giving an overview of the terminology that will be used heavily in chapter 4; as well as a general outline of the historical development of the English language, discussing the linguistic as well as cultural tendencies of each one of the following periods: Old English, Middle English, Early Modern English, Late Modern English, and Present-Day English.

Section 3 presents the reader with the methodological approach chosen by the author, including brief clarification on the choice of the search strings and discussion of some of the issues that have arisen during the process of data gathering (along with a suggested solution to the problem in the form of incorporating an alternative search string into the study).

Section 4 is the research part of this thesis; it is divided by historical periods, providing an analysis of each in terms of word-formation processes as well as the word classes affected by analogical change. The data is first presented in terms of the amounts in which it appeared in given sample, and subsequently analysed in the context of the historical period under which it belongs.

The results of the analysis are summarized in section 5, first again in the context of the historical period under which they are classified, and then once more in the context of the total sample.

2. Theoretical background

2.1. The term 'Analogy' in linguistics

Despite being one of the principal cognitive mechanisms, and generally one of the most important tools of language change, analogy cannot be described in terms that would be both simple to understand and generally agreed on. Several definitions have been suggested - due to the character of this thesis, which relies primarily on the analysis of results taken from the OED, it seems to be rather fitting to begin with the Oxford English Dictionary, which defines analogy as a “conformity of words or language to a regular or consistent pattern; (hence) a set of rules describing the behaviour of language, or intended to govern its use” (*OED*).

This view is, nevertheless, problematic, as it presupposes generalization based on a schema, i.e. “a concrete model identifiable as two or (preferably) more target words,” (Mattiello, 2018: 68) meaning either a series of words of the same formation, or a group of words sharing the same base. (*ibid.*) This then clashes with the concept of surface analogy, i.e. the process “whereby a new word is coined that is clearly modelled on an actual model word” (Mattiello, 2018: 64). As opposed to analogy via schema, which provides patterns for multiple formations, surface analogy may only give rise to one new word at a time, coining it on a concrete model.

2.1.1. Analogy in morphology

Typically, linguists differentiate between two types of analogy - proportional and non-proportional. Proportional analogy aligns with the views of Greek mathematicians, as will be discussed further in 2.1.2., and it generally operates on the basis of levelling or extension. What analogical levelling does is it “reduces the number of allomorphs a form has; [and in doing that] it makes paradigms more uniform.” (Campbell, 2013: 93) That being said, levelling is a one-time occurrence, as it does not affect the form any further once it has undergone the change. This is for example the case of many originally strong verbs, which have been levelled to the weak conjugation - see 2.5.1. and 4.1.1.

Extension, on the other hand, “extends the already existing alternation of some pattern to new forms which did not formerly undergo the alternation,” (Campbell, 2013: 95) e.g. the originally weak *dived* being replaced by *dove* on the analogy of strong verbs, such as *ride-rode* or *drive-drove*, creating an extension of the pattern. (ibid.)

Non-proportional analogy, also referred to as immediate, relies on the juxtaposition of the two elements, one influencing the other by appearing within a shared context - this analogical change is reflected for example in the word *female*, which was originally *femelle*, but due to typically co-occurring with the word *male*, it eventually adopted a similar form. (Campbell, 2013: 98)

2.1.2. On the history of the term

The term itself originally comes from Greek, where *αναλογία* (*analogía*) was used to indicate mathematical proportion, and was later adopted by Greek grammarians in order to categorise morphological forms (Schironi, 2007: 1). From there it eventually made its way into Latin grammar, where it “became a basic criterion for working out grammatical rules” (Mattiello, 2018: 1). It was in this sense that the Neogrammarians adopted the term, recognizing the concept as rule-governed proportion, as can be demonstrated using the $A : B = A' : X$ ($X = B'$) formula. What this means, essentially, is that if we know that the plural of *pencil* is *pencils*, we may expect the plural of *bottle* to be *bottles*, for, if we apply the analogical rule, then $pencil : pencils = bottle : X$ ($X = bottles$). In this respect, analogy became a rather popular concept among linguists in the first half of the twentieth century. In *Language* (1933), Leonard Bloomfield associated this type of regular analogy with speech habits, claiming that when a speaker comes up with a new, complex form, “we are in most cases unable to tell whether he has heard it before or has created it on the analogy of other forms” (Bloomfield, 1933: 276). He explained analogical innovations on the example of the now-regular plural *cows* substituting the original plural *kine*, claiming that “analogic habits are subject to displacement” (Bloomfield, 1933: 405), or, in other words - extension, creating a certain kind of rivalry between the two forms. It can thus be said that in his view, the basic mechanism of analogy is “the extension of an existing rule to cover new forms” (Anderson, 1992: 367).

With the rise of the generativist approach to language, the notion of analogy as a fundamental linguistic process fell out of favour, as it was at odds with Generative Grammar, i.e., the idea that all humans are born with an innate capacity for language, and as a result of this, all native speakers must be inherently capable of determining what is and what is not grammatical. The generativist focus on synchronic description, as well as the general tendency to depart from morphology and inflectional systems, contributed to the “shifting of the attention from many of the patterns that traditional accounts had regarded in analogical terms” (Blevins and Blevins, 2009: 9).

2.1.3. Analogy in language acquisition

Nevertheless, the growing interest in psycholinguistic studies that emerged in the 1980s allowed for analogy to be revisited in the context of human cognition. The role of analogy in L1 acquisition has been studied by numerous linguists, including Eve Clark, who was one of the first ones to describe children’s lexical innovations as highly dependent on their regularity and predictability - or, in other words, their potential to be created analogically. She found that until they learned more words, children relied on one particular device to convey one particular meaning, creating lexical paradigms, “acting as if the lexicon were much more regular than it is in fact” (Clark, 1981: 19). This for example leads to the increased use of the *-er* suffix to assign agency (i.e., saying *cycler* instead of *cyclist*, etc.) in young children. Although this may imply that children are merely incorporating rules they have learned into their speech - e.g. the overgeneralization of the regular *-s* plural in words such as **childs* or **sheeps*, Mattiello suggests that “the construction of compounds like **coffee-churn* (for ‘a coffee grinder’) by a child who knew *milk-churn* would seem to favour interpretation as analogy” (Mattiello, 2018: 103). Clark describes this as follows: “analogy and rule use appear to lie on a continuum, with analogy based on single exemplars at one end, and rules abstracted over multiple exemplars at the other”. (Clark, 1982: 397) This claim is further supported by the fact that the children in her study

excessively relied on conversion, e.g. *It *winded* and *It's *snowflaking*, and, as Mattiello further explains, “[this] conversion of the nouns *wind* and *snowflake* to characteristic activity verbs clearly suggests interpretation as analogy, respectively with *It rained* and *It's snowing*.” (Mattiello, 2018: 103)

2.1.4. Analogy in word-formation

The relationship between analogy and word-formation appears to be a subject of discussion among linguists, as the idea that analogy fails to make suitable predictions still prevails, rooted in the notion that analogy either “fails to make appropriate predictions about what potential words are , or it fails to make predictions about the possible direction for analogical levelling.” (Bauer, 2001: 76) Bauer then goes on to explain that the generative approach to word formation is rooted in the belief that “there are potential words, and [then] there are some strings of formatives which do not form potential words,” (ibid.) the difference lying in whether or not rules can be applied. Due to not being strictly rule-based, analogy is then seen in the eyes of many linguists as allowing for too much variation, for there are no set limits within which it is allowed to operate.

2.2. The term ‘Word-formation’ in linguistics

Word formation, in simple terms, is the procedure by which new words are introduced into a language. This is achieved through a wide range of processes; morphological as well as semantic, which will be described in more detail in Section 2.3. Among the most common ones belong

derivation and compounding, both of which give rise to new lexemes, constructing words from already existing ones, based on certain rules (Plag, 2003: 27).

Historically, word formation seems to always have been of interest to scholars, dating as far back as to Sanskrit grammarian Panini. Until the so-called “Chomskyan revolution” in 1957, linguists generally approached word formation either entirely diachronically, or, conversely, from a synchronic perspective. That changed with the publication of *Syntactic Structures*, which took the focus away from morphemes, and concentrated instead on syntax (Bauer, 1983: 3). It was not until the 1970s that word formation re-established itself as central in the approach to language and its study, as the lexicalist versus transformationalist dispute (i.e. whether derived words fall primarily under morphology with the possibility of inheriting certain syntactic properties versus whether word-formation takes place in the syntax) (Spencer, 2005: 89) of that era brought word formation to the centre of interest. Since then, it has been studied from various perspectives, including phonology; with focus on the development of phonological rules which become lexicalized, but still retain a certain degree of generality (Spencer, 2005: 80), semantics; which is concerned with how the meanings of new words are determined and their following lexicalization, or syntax; the aim of which is to examine the extent to which syntactic principles can have access to the internal structure of words (Spencer, 2005: 73).

2.3. Introduction to the classification

It has been implied in the previous paragraphs that the formation of new words in English is achieved through a number of processes, two of the most productive ones being compounding and derivation; these, however, are by far not the only word formation processes in English. Due to the character of this thesis, which relies heavily upon the analysis of new coinages and the means by which they came

into being, my aim in this section is to categorize a selection of these processes, drawing primarily from Klégr & Čermák's (2010) classification introduced in *Neologisms of the "On-the-Pattern-of" Type: Analogy as a word-formation process?*, as the paper is based on grounds similar to the ones of this present thesis. The following word-formation processes have been selected for their appearance in the data that is to be analysed in section 4, with the inclusion of some additional ones, which show great significance in PDE despite their absence in the sample.

2.3.1. Derivation

Derivation belongs among the most common word formation processes. It operates on the basis of creating a new form from another, already existing one, typically by adding an affix. This then usually leads to the word changing its class, e.g. the noun *singer* is derived from the verb *sing* by adding the *-er* suffix. This process operates on the basis of extension, creating new forms on a series of existing patterns. In relation to analogy, Klégr & Čermák (2010: 231) suggest the coinage of *implode* as derived on the pattern of *explode*, or *oldster* as derived on the pattern of *youngster*.

2.3.2. Compounding

Randolph Quirk defines compounding as "adding one base to another, such that usually the one placed in front in some sense subcategorizes the one that follows" (1985: 1520). As opposed to derivation, during which a bound morpheme is affixed to a free one, compounding is based on creating new words by putting together two or more free morphemes.

2.3.2.1. The neo-classical compound type

The neo-classical compound is a type of a compound in which at least one of the constituents is taken from a classical language like Greek or Latin, and then anglicized, creating a combining form. Bauer (1998) sees as problematic the status of the *-o-* that generally tends to be the connector of the two

bases, claiming that “in classical Greek, the *-o-* was a thematic vowel, but it became identified as a compositional linking element, which is how it is analyzed in Modern Greek” (Bauer, 1998: 406). He suggests that in English, there are essentially four ways of analyzing it, demonstrating all of them on the word *photograph*; (1) as a linking element connecting the words *phot* and *graph*, which he finds rather insufficient, considering how rarely *phot* appears in English by itself. As for ways (2) and (3) he argues for *-o-* to be part of either the first or the second base, respectively, and finally, in (4), he advocates for the combination of the last two, claiming that it belongs to both lexemes, and “the sequence of *-oo-* is morphophonemically simplified to a single *-o-*” (Bauer, 1998: 407). These compounds are typically used in specialised (i.e. scientific or technical) registers, namely biology (*aerolith*), physics (*hydrodynamics*), or linguistics (*morphology*). Neo-classical compounds offer a large space for analogical productivity, e.g. the word *democrat* stems from an earlier *aristocrat*, and, similarly, *cacography* is formed, analogically, on the pattern of *orthography*.

2.3.2.2. The particle compound type

Particle compounds are, simply put, compounds in which at least one of the constituents is realized through a particle. They usually occur in verb-particle (*build-down* stemming from *build-up*) or noun-particle (*hands-on* stemming from *hands-off*) constructions.

2.3.3. Blending

Štekauer views blending as a word formation process similar to compounding, claiming that during this process, “a particular onomasiological structure is assigned two word-formation bases” (Štekauer, 2005: 217). There are several types of blending to be considered, Plag (2003: 155) distinguishes between two categories: blends such as *breathalyzer* (*breath* + *analyzer*) or *motel* (*motor* + *hotel*), in which we are presented with existing compounds that are shortened to create a new word, and in which the first base modifies the second. The other type is represented by blends such as *guesstimate* (*guess* + *estimate*) or *smog* (*smoke* + *fog*), where the resulting blend encompasses both bases to the

same degree; *to guesstimate* is to both guess and estimate simultaneously, whereas *a motel* is a hotel for motorists. The blends falling under this category are, in contrast to the first type, “typically not attested as compounds in their full form,” and, as Plag proposes, they “denote entities that share properties of the referents of both elements” (Plag, 2003: 156).

2.3.4. Clipping

In linguistics, clipping is a word formation process which “consists in the reduction of a word to one of its parts” (Marchand, 1941: 357). Marchand distinguishes between three types of clipping; (1) back-clipping, e.g. *lab* for *laboratory*, (2) fore-clipping, e.g. *plane* for *airplane*, and (3) clipping-compounds, e.g. *Eurasia* for *Europe + Asia*. In terms of analogy, Klégr & Čermák (2010: 231) suggest the *Sozi-Nazi* pair, in which the former was formed on the analogy of the latter.

2.3.4.1. The acronym type

Plag (2003) describes acronyms as being coined by “combining the initial letters of compounds or phrases into a pronounceable new word (NATO , UNESCO, etc.)” (Plag, 2003: 17). The acronym type is one of the less productive word formation processes on this list, but worth mentioning is for example *H-hour*, which is derived analogically from *D-Day*.

2.3.4.2. The calque type

Calques are, strictly speaking, word-for-word (or morpheme-for-morpheme) translations from one language to another. A typical example would be the Czech word *mrakodrap* or Spanish *rascacielos*, which are both calques of the English *skyscraper*, or the English *beer garden*, which is a literal translation of the German *Biergarten*.

2.3.4.3. Semantic calques

Calques can be further divided into two categories. Semantic calques are those in which “a foreign concept is borrowed without its corresponding linguistic form, and a native word accommodates the meaning” (Mott & Laso, 2019:160). An oft-quoted example is the *computer mouse*, which was named in English for its resemblance to the animal. Many other languages have, however, extended their own native words for *mouse* to include the *computer mouse* as well.

2.3.4.4. Lexical calques

As opposed to semantic calques, lexical calques are those in which a new word is created by full morphological substitution, or, in other words, by literally translating each morpheme, as we could see in 2.6 on the example of *skyscraper* (Sp. *rascacielos*, Cz. *mrakodrap*).

2.3.5. Other

There is, of course, a number of other word formation processes to take into account, including folk etymology, creative respelling or novel creations; these will, however, not be elaborated on further in this thesis due to their lack of representation in the set of results that are to be analysed in the following chapters.

2.4. Criteria for new word-formation

New words are constantly being coined, and while it probably does not strike one as odd - languages that stop evolving are, by definition, dead - an important question still remains to be asked: What is the deciding factor in which neologisms survive and which do not? The conservative nature of dictionaries allows for obsolete words to remain preserved even after they are no longer in use. The mental lexicon, on the contrary, does not depend on codification, and therefore provides more space

for new word formation. Mattiello (2018: 28-29) proposes seven requirements that should be met in order for a new word to successfully enter the mental lexicon, and from there, eventually, a dictionary as well. In the following paragraphs, Mattiello's terminology will be used and demonstrated on examples from her text as well as from other studies.

2.4.1. Transparency

Anne Cutler (1981) considers transparency to be key in determining speakers' choice of neologism, claiming that it "appears to be a gradable concept," and that "neologisms can move some distance along the transparency continuum from the completely transparent end and still remain acceptable" (Cutler, 1981: 75), as she further explains on an example from her study. In this study, participants were asked to create their own verbs from a set of adjectives they had been presented with. Results showed that the subjects generally preferred to stick to models that would conserve the stress patterns of the original words, i.e., sticking to the *liquid-liquify* paradigm rather than *fluid-fluidify*, even at the cost of losing the final consonant. She argues that "transparency in word formation is not a matter of preserving intact the whole of the base word, but merely enough of it to enable sure access of the base word's lexical entry" (Cutler, 1981: 76).

2.4.2. Regularity

According to Plag (1983), a potential word is "a word whose semantic, morphological or phonological structure is in accordance with the rules and regularities of the language" (Plag, 1983: 57). That being said, if we know that English transitive verbs can be turned into adjectives by adding the suffix *-able* (*afford-affordable*, *comfort-comfortable*, etc.), we can predict the meaning of essentially any adjective created by this process, solely based on our knowledge of the original verb. Speakers' tendency towards regularity in language is also apparent from what is known about language acquisition; when learning English, children are especially prone to regularization. Perhaps the best-known example

would be the so-called Wug Test conducted in 1958 by Jean Berko Gleason, in which children were presented with nonce words like *wug* or *zib*. When asked to put the former into plural and the latter into past simple, the majority of children responded, unsurprisingly, with *wugs* and *zibbed*, respectively. Historically, many English strong verbs have undergone regularization in the form of adopting a dental suffix to mark the past tense - the once irregular *help-holp-holpen* has become regular: *help-helped-helped*.

2.4.3. Productivity

Productivity is a concept defining how effective a process is in creating new formations. Plag (1983) specifies the productivity of an affix as “the property of an affix to be used to coin new complex words,” (Plag, 1983: 55) stating that some affixes are more productive than others. He classifies the *-th* suffix (as in *growth*) as relatively unproductive, for it can only be attached to a limited amount of words. As opposed to that, the suffix *-ness* (as in *craziness*) appears to be much more productive in that it can be attached to far more words, and thus allows for the creation of a much larger amount of neologisms.

2.4.4. Decodification

Mattiello (2018) argues for decodification in terms of the elimination of ambiguities, which is typically achieved by providing more context. She claims that “as a universal preference, the new word is more often anaphoric of previous contextual material than cataphoric of what follows” (Mattiello, 2018: 29), and emphasizes the need for metalinguistic markers, namely “explicit assertions of the newness of the word, such as *so-called*, the use of definitions or explanations of the meanings, inverted commas (in writing ‘ ’/ “ ” or gesturing), and, in computer-mediated communication, hyperlinks to definitions found elsewhere on the net” (Mattiello, 2018: 29).

2.4.5. Informativity

When producing a neologism, it is essential that it convey the information that the speaker wishes to communicate. Problems may occur particularly in the case of compounding, as Mattiello (2018: 29) demonstrates on the example of James Joyce's *upturnpikepointandplace* (*Finnegans Wake*), the form of which she finds excessive, and suggests for such occasionalism to be avoided. It is, however, important to note that what Mattiello means by this are presumably occasionalisms in everyday speech - occasionalisms invented with the sole purpose of being used in fiction are typically not intended to be productive, and as such they rarely cause confusion.

2.4.6. Mnemonic effect

Bauer (1983: 142) claims "it is much more common in natural language to produce motivated (i.e. those which the speaker recognizes) new lexemes than to produce unmotivated ones," because motivated lexemes have the capacity for being better mnemonic devices than unmotivated ones. He suggests that metaphor-based compounds are more likely to establish themselves in a language than borrowing, as the evoked imagery makes the word easier to remember. Similarly, Mattiello adds, "creative compounds that exhibit alliteration or rhyme, such as *knee-mail* [2000] 'a prayer, especially one said while kneeling' (Wordspy) rhyming with *e-mail* [1979], are not accidental" (Mattiello, 2018: 29), indicating that neologisms based on rhymes are easily memorable.

2.4.7. Analogy

Finally, a particularly powerful tool in the emergence of new words is analogy. According to Lamb (1998), "The analogical principle can account for much of the ability of people to interpret and form new combinations; they simply make appropriate substitutions in previously learned combinations used as exemplars" (Lamb 1998: 265). That being said, *zillion* is a new, analogical extension of

million, created by substituting the initial sound of the original word, and then assigning it a new meaning.

2.5. Historical background and possible influences

Since the topic will be examined from a historical perspective, it is essential to outline the general tendencies - both linguistic and extralinguistic - of each one of the periods. In this section, context will be provided for Old English (2.5.1), Middle English (2.5.2), Early Modern English (2.5.3), Late Modern English (2.5.4), and Present-Day English (2.5.5).

2.5.1. Old English

Also referred to as Anglo-Saxon, the Old English (OE) period dates approximately from 450 to 1100 CE, however, the oldest written records only go as far back as the eighth century. The beginning of this era can be marked as the arrival of Germanic tribes from continental Europe in today's England. The language of the time was specific for its Germanic vocabulary, as well as a relatively loose word order, which highly depended on inflection.

Belonging in the Anglo-Frisian group of West Germanic languages, Old English could be further divided by its four dialects: Northumbrian; which was spoken in northern England and southeastern Scotland, Mercian; spoken in central England, Kentish; in southeastern England, and West Saxon; which originated in southern and southwestern England. The political centres of power, however, oscillated from the seventh to the ninth centuries (Hogg, 1992: 5), and as a result of that, so did the importance of each dialect throughout the time. During the ninth century, England was subject to several Viking raids, and the presence of Danish speakers which followed led to the adoption of a number of Scandinavian linguistic features, including place names ending in *-by*, or, more significantly, words like *they* and *are* (Hogg, 1992: 7).

OE verbs inherited its means of forming the preterite from PIE by changing the root vowel (this is now known as the ablaut). Evidence of this is apparent from today's irregular verbs, such as sing/sang/sung or write/wrote/written, which change tense by vowel gradation - these are the remnants of OE strong verbs, i.e. verbs which distinguish their preterite and past participle tenses by changing the root vowel in accordance with the patterns of seven distinct classes they can be divided into.

Apart from the ablaut, Germanic produced a separate means of marking the preterite, and that was by adding a dental suffix to the verbal base - verbs following this conjugation are referred to as weak verbs. Although originally in the minority, "the weak pattern became the productive, or analogical, means of making preterite forms in Germanic," (Campbell, ROK: 133) and most verbs in PDE now fall under this category -e.g. *smoke-smoked-smoked* or *change-changed-changed*.

2.5.2. Middle English

The Middle English (ME) period began with the Norman conquest of 1066, after which England fell under the influence of the French. This led to English gradually turning into a more analytic language with a stricter word order. "For the first 200 years [after the conquest] French served as the official language in England, and the literature in England was mostly in French (and Latin)" (Brinton & Arnovick, 2017: 9), nevertheless, English still continued to be spoken by a majority of the population. Hogg claims that the eventual influence of French upon English "was a long-term one, and can be ascribed to the cultural patterns which the consequences of the Norman Conquest imposed upon England" (Hogg, 1992: 9). According to Brinton & Arnovick, words from French had originally been mostly cultural borrowings, "used by English speakers learning or exposed to French and relating to semantic domains such as religion or the nobility, in which the French were culturally dominant. After 1250, borrowings came from a wider variety of domains" (Brinton & Arnovick, 2017: 249), including food (*bacon, dinner*), music (*melody, dance*), or law (*attorney, felony*). It was at this time that the English-French dichotomy also became functional: English words, such as *cow, pig, deer, or sheep*

were used to refer to the animals, whereas French words, such as *beef*, *pork*, *venison*, or *mutton* were adopted to refer to the animals' meat. Additionally, these borrowings were taken from two different dialects - Norman French and Central French, which resulted in phonetic variation. Namely, Latin [k] before a in Norman French remains as [k], while in Central French it develops as [ç]; compare Norman French *carry* and Central French *charity*. Similarly, Latin [w] appears as [w] in Norman French, but as [g] in Central French (Norman French *waste* versus Central French *garment*), and occasionally, we can still encounter both forms due to them being borrowed at different times (*castle/chateau*, *warranty/guarantee*) (Brinton & Arnovick, 2017: 248-253).

One of the consequences of these extensive borrowings was the introduction of several new affixes. This was the result of English speakers inspecting the structures of Latinate words - such as *acceptable*, *agreeable*, *comparable* - and reanalysing them as root + suffix (-able in this particular case), and then using the suffix to create new words by adding it to native bases, e.g. *understand* + *able* > *understandable* or *believe* + *able* > *believable*, etc. (Brinton & Arnovick, 2017: 252). Some of the suffixes appearing in this study are *-(i)fy*, *-le*, or *-tor*; see 4.2.1.

2.5.3. Early Modern English

The introduction of the printing press by William Caxton in 1476 was another breaking point in the historical development of English, as it directly led to the standardization of the language, which was also undoubtedly one of the results of the growth of literacy and demand for linguistic education. During this time, the vernacular expanded to many of the functions that had previously been occupied by French or Latin, one of the key notions being the 1534 breakaway of the English Church from Rome, which led to an increased interest in nationalism, and therefore also the use of English as the dominant language. The beginnings of Renaissance meant an expansion of vocabulary, which was achieved mainly through Latin and Greek loan words. Brinton & Arnovick (2017: 326) mention the rather productive Latinate suffixes *-ation* (*adaptation*, *adoration*, *alteration*) and *-ize* (*apologize*, *civilize*, *criticize*), which gave rise to a large variety of new English words.

2.5.4. Late Modern English

After EModE, which was a period of countless lexical innovations, the 18th century was, in contrast, a time of linguistic conservatism, and an increased tendency towards prescriptivism. Borrowing became the main source of neologisms, and especially in the 19th century, many new coinages stemmed from Latin and Greek combining forms (see 4.4.2.). The 18th century was notable for its attempts at fixing the language - e.g. by objecting to hybrid formations and striving for the so-called etymological harmony, in which new combinations should of like origin (i.e., Germanic/Greek/Latin stems were not to be merged). These efforts, nevertheless, eventually weakened, and by the 19th century, English grammarians instead started to adopt a rather descriptive approach to the language.

2.5.5 Present-Day English

Unlike the previous periods, PDE relies primarily on modifying already existing words rather than borrowing from other languages. This modification is typically achieved by derivation or compounding (see 4.5.), but also conversion - *rich*, adj. > *the rich*, n., or *telephone*, n. > *to telephone*, v., clipping - *condo* < *condominium*, or blending - *smog* < *smoke* + *fog* (see more in 2.3.).

3. Material and Method

For the purpose of this thesis, a sample of results has been extracted from the Oxford English Dictionary (OED 3), using the advanced search option with the aim of obtaining a list of words that have been coined analogically to already existing ones. OED has been chosen as the primary source for this analysis not only for its extensive coverage of the English language, but, additionally, the dictionary is one of the only ones that include the history of individual words. Due to the fact that the knowledge of etymology is key in determining the word-formation process a word has undergone, the use of OED seemed highly appropriate. The collected results have then been tagged in accordance with their position in the following categories: part of speech, date of first citation, word-formation process, and etymology; i.e. the four points of interest of this paper. The choice of the search strings will be explained further in 3.2. The collected material is a representation of words which have entered the language anywhere between the Old English and Present Day English periods, including terms that have since become obsolete.

3.1. The aim of the paper

While analogy is considered to be one of the principal cognitive mechanisms, its position in word-formation is often difficult to grasp; especially because the etymology of certain words is not always transparent. Chronological distance also appears to be problematic due to “accidental gaps in textual transmission.” (Görlach, 1997: 77) The aim of this paper is thus to analyse the productivity of individual word-formation processes and their role in the development of the English lexicon, drawing primarily from the etymologies of an OED-generated sample.

3.2. On the choice of the search strings

The original idea was to create a list of suitable words by putting the string “on the analogy of” into the advanced search option of OED. This method generated 221 results; nevertheless, when going through them one by one in order to appropriately tag them, it became obvious that some of the results were not in fact accurate, as in many of the cases the shown result was referring to an unrelated phenomenon. This was later fixed by only including results appearing in the etymology section of the dictionary, however, that only left us with 151 results, so the next step was to try and find similar strings in order to create a more extensive database. The string “on the pattern of” therefore seemed to be a fitting choice, providing over a dozen additional results. After having further eliminated inadequate data (e.g. those in which the string was referring to analogical changes undergone before the word was coined in English, or those instances where the string was describing changes unrelated to the result in question - this was mostly the case of several suffixes), 134 results were used for analysis.

3.2.1. Issues

An alternative to the two strings would be to search the term “after,” which appears in the etymology section with great frequency, and in many cases the results consist of widely used words, as opposed to the ones that are to be analysed in this thesis. The issue with this search, however, is the fact that it provides over 34,000 results, and since every single one needs to be reviewed and tagged manually, this would make the filtration process exceedingly complicated.

4. Research Part

The results of the research will now be divided and analysed in the context of three main categories; the historical period in which they were coined, the part of speech that they are classified as, and, finally, the word-formation process they have undergone. All definitions used in this section are taken from the third edition of *Oxford English Dictionary*, unless stated otherwise.

4.1. Old English

16 of the results can be traced back to the Old English period, taking up 11.94% of the total sample. Upon closer examination it becomes apparent that the majority of the words pertaining to this historical epoch are originally weak verbs, which have later adopted a strong conjugation on the analogy of similar-looking ones; and derivation, which seems to prevail in all of the remaining historical periods.

4.1.1. Strong conjugations of originally weak verbs in OE

It is generally believed that the majority of Old English verbs were weak - Brinton and Arnovick claim for the portion to be as much as 75% (Brinton & Arnovick, 2017: 218). Weak verbs are those which create their preterite and past participle forms by adding a dental suffix to the infinitive, e.g. *work-worked*. Despite showing profuse representation among all OE verbs, many originally weak verbs have acquired strong conjugations, possibly due to the imbalance between the countless - though mostly uncommon - weak verbs and the relatively few strong ones, which, in contrast with the former, tended to be used more commonly.

Strong verbs - nowadays classified as *irregular verbs* - formed their tenses on the basis of the Germanic ablaut, a vowel gradation founded on patterns depending on which one of the seven classes the verb falls under.

The present study shows several instances of verbs that were originally attested as weak in OE, only to be later reclassified by following the pattern of strong ones, namely: *chide*, *come*, *flee*, *rine*, *ring*, *shed*, *spit*, *swear*, and *wake*. It is important to note that although all of these verbs were first attested in OE, the development from either weak-to-strong or strong-to-weak conjugations happened towards the end of the period, sometimes stretching as far as into ME.

Verbs *chide* and *rine* started out as weak *cídde* (past tense, note the weak dental suffix) and *rignan/rinan*, respectively; yet they both ended up submerging to strong Class I, which follows the $\bar{i} - \bar{a} - i - i$ gradation series (e.g. rise: $\bar{r}\bar{i}san - \bar{r}\bar{a}s - rison - gerisen$). According to OED, *chide* adopted this conjugation on the analogy of other verbs pertaining to said strong class, most likely after the verb *ride* (*chide* - *chode* - *chidden*), although *chided* “is [still] occasional in modern writers” (OED3). A similar pattern is apparent in the case of the verb *rine*, the past tense ($\bar{r}\bar{a}n$) of which also happens to be modelled on the strong Class I conjugation, possibly on the pattern of *scīnan* (PDE *shine*).

Strong Class VI is represented in the data by the verb *come*, which took the past tense forms *cwōm*, *cōm* on the analogy of other verbs following the $a - \bar{o} - \bar{o} - a$ gradation, most probably after the word *fare*, “prompted by the fact that past tense plural stems with $-\bar{o}-$ were uncommon in Old English outside verbs of that class” and, according to OED, “the complete lack of attestation of the form type in earlier Old English suggests that rather than having been inherited, *cam* appeared as a result of analogical levelling with the past tense singular of most strong verbs of Classes IV and V.” (OED3)

An interesting example of a weak verb developing strong inflections is *ring*, which is modelled on the analogy of strong Class III *sing*, due to the fact that the two words often appeared in collocations. The weak conjugation still survives in some regional dialects in PDE.

4.1.2. Weak conjugations of originally strong verbs in OE

An opposite tendency to the one discussed in 4.1.1. can be demonstrated on verbs *flee* and *shed*, both of which had originally pertained to strong classes, only to later adjust to the conjugations of the weak ones. Once strong, *flee* is believed to have evolved from Class II *fléon*, but eventually the past tense *fledde* (and past participle *fled*) began to appear and ultimately became the norm.

The case of *shed* is especially curious in that it has retained its strong conjugation in West Saxon, however, “in Northumbrian occurs only as weak; usually with forms *-scēadade*, *-scēadad* on the analogy of the *ō* stems; rarely contracted *scēadde*,” (OED3) as opposed to the original form *scēadan*, which, additionally, experienced a “change of rising into a falling diphthong; from this the modern *shed* /ʃɛd/ descends by a development parallel to that of *bread*, *dead*, < Old English *bréad*, *déad*.” (ibid.)

4.1.3. Derivation in OE

Being one of the most represented word-formation processes in PDE, derivation begins to show first signs of significance as early as in OE. Among the data sample, two instances are to be discussed - *bitwih* and *gloaming*.

The now-obsolete preposition *bitwih* was first attested in 888, as a result of the OE *twih* (PDE *two*) being prefixed with *bi-/be-*, later giving rise to its successor *between*. One of its inflections, *bitwuht*, was directly modelled on the analogy of *betwixt* by the addition of *-t*.

Gloaming is the PDE reflexive of the OE strong feminine *glómun* (*glóm* meaning *twilight*), acquiring the form of a semantically close *æfning* (PDE *evening*) by suffixation. The original function of the *-ing* suffix was to form abstract nouns of action.

4.1.4. Part of speech analysis: OE

Due to the OE sample being relatively small, the process of determining which parts of speech were the most affected ones may be somewhat deceptive. A total of 62.5% of the results pointed to changes in verbal classification, nouns being the second most affected word class of the period with four hits (25%). The remainder comprised prepositions and adjectives, with the representation of 6.25% each.

4.2. Middle English

A collection almost double the size of the OE one, the Middle English section of this analysis draws from a total of 29 results, providing a variation of word-formation processes affecting a slightly larger range of word classes.

4.2.1. Derivation in ME

37.93% of the results were words which entered the ME lexicon through the process of derivation, as certain affixes started to become increasingly more productive during that period. Many of these

served as foundation for new verbs, namely: *caprify*, *crouch*, *defoul/defoil*, or *disprove*; some of them now being obsolete, but others still remaining in frequent use to this day.

The *-ify* suffix that we know today as one of the most productive ones in new verb formations “to assimilate to the character of something” (OED3) can be traced back to ME as *-fy*; an anglicized version of its French equivalent *-fier*, which originates in Latin *-ficāre*. *Caprify* was first attested in 1420 as an alteration of Latin *caprificāre*, on the analogy of other Latin verbs ending in the same suffix. According to OED, the suffix is now used as “the regular rendering of *-ficāre* in new words adopted from Latin or formed on assumable Latin types, and is also freely added to English adjectives and nouns to form verbs, mostly somewhat jocular or trivial, with the senses: ‘to make a specified thing’, as *speechify*; ‘to assimilate to the character of something’ (chiefly in past participle, as *countrified*); ‘to invest with certain attributes’, as *Frenchify*.”

An interesting example of derivation through prefixation would be the verb *defoul* and its alternative form *defoil*, which were both formed by adding the *de-* prefix to the base *fouler* (‘to tread, stampe, or trample on, to bruise or crush by stamping’). The two variants developed on the analogy of the equivalence of *befoul* and *befile* (*be-* prefix + *foul*), creating opposing pairs. OED says about the prefix that “a large number of verbs so formed lived on in French as popular words, or were taken over into the language in earlier or later times as learned words, and thence came into English,” (OED3), thus giving rise to such formations as *decrease*, *defend*, or *desire*.

Apart from verbs, derivation was the main mechanism behind several ME nouns, such as *expounitor*, *heather*, *sparkle*, or *wealth*.

First attested in 1380, *expounitor* is an example of *-(i)tor* suffixation, with the verbal base *expoune* being transformed into a noun on the analogy of *expositor*.

The frequentative suffix *-le* (e.g. in *sparkle*) was extensively used in Middle and Early Modern English “to form verbs expressing repeated action or movement” (OED3), the shape of which would later influence analogical formations in semantically corresponding nouns. According to OED, the

original meaning of *sparkle* was parallel to that of *spark*; the word has since undergone a semantic shift towards a diminutive sense. The *-le* suffix also appears as an occasional representative of ME *-el* in nouns adopted from French (e.g. PDE *castle*, *mantle*).

Another suffix that seems to be very productive even in PDE is *-th*, which among others gave rise to the nouns *health* and *wealth*, the former inspiring the latter possibly by following the formula *heal:health = weal:wealth*. OED classifies the *-th* suffix as “representing Indo-European *-itâ*, Germanic *-iþô*, Gothic *-iþa*, Old English *-þu*, *-þo*, *-þ*, with preceding *i*-umlaut, forming abstract nouns of state;” apart from *health* and *wealth*, this suffix also gave rise to such nouns as *filth*, *length*, or *truth*. (OED3)

Among other word classes affected by derivation in this period are adjectives (e.g. *former*) and prepositions (*unto*). The comparative *former* was modelled on the analogy of *foremost* (PDE *foremost*); this later led to the ending being assimilated to more adjectives. *Unto* is an illustration of direct substitution of one preposition by another (*to* in place of *til/till*) on the analogy of *until*.

4.2.2. Conversion in ME

Three of the results point to conversion as the word-formation process behind their creation. *Ascent* (n.) is an oft-quoted example, modelled on its verbal counterpart *ascend* on the analogy of the pair *descent-descend*. Similarly, the noun *bode* seems to be formed on the verb *bide*, analogically to the pair *abode-abide*. Finally, the noun *wake* appears to be a ME formation on the verbal stem *wake*, most probably on the analogy of *sleep* (v. and n.).

4.2.3. Compounding in ME

Despite its relatively slight representation in the ME sample (6.9%), it is in this period that compounding begins to slowly establish itself as one of the main word-formation processes in the English language; this is evident on the example of *lodesman*, which consists of two bases - *lode* and *man*, added together on the analogy of genitival compounds such as *doomsman*.

4.2.4. Clipping in ME

Although only represented by one example in the dataset, clipping gave rise to some of the most widely used words throughout all historical periods of the language: *under*, which was detached from compounds on the analogy of its opposite *over*, appearing as an independent element from the 1300s onwards. The frequency in use seen in ME was influenced by the attempts at rendering Latin *sub-* by English *under-*, especially in the earlier version of Wycliffe's Bible (e.g. *underburn* or *underminister*).

4.2.5. Part of speech analysis: ME

Similarly to OE, verbs were heavily represented in the ME sample as well, constituting almost one third (31.03%) of the results. Nevertheless, the most dominant part of speech affected by analogical change in this period were nouns (48.28%); the remainder comprising adjectives and prepositions.

4.3. Early Modern English

The EModE period is represented in the extracted data by 42 results, consisting mostly of nouns, adjectives, and verbs.

4.3.1. Derivation in EModE

Derivation once again seems to be the most frequent process in the formation of the words in this sample, with approximately 47.6%, the final products being either nouns, verbs, or adjectives.

Prefixation can be spotted in words such as *adscript*, which was derived on the analogy of the nouns *postscript* and *rescript*; *oppose* and *circumpose*, which both stem from the Latin root *ponere* ('to put', and which achieved its current forms on the analogy of the verbs *compose*, *expose*, or *suppose*; or *dispicion*, which appears to have been derived from the Latin *dispicere* ('to look through, investigate, make an examination, consider') analogically to *suspicion*. The prefix *ex-* ('out of', 'outside'), which was borrowed from Middle French and, in extension, Latin, seems to have been especially productive in the EModE period, as it gave rise to the following words: *excommunicate*, *excommunication*, *expenditor*, *exposture*, *extimate* - on the analogy of their derivations *communicate*, *communion*, *venditor*, and *ultimate*, respectively.

Several of the words on this list are the results of suffixation, e.g. *adventious* (originally a misprint of *adventitious*) was modelled on the base *advention*, analogically to *convention* > *conventious*. *Cherish* was the template for the verb *esclavish*, which was derived from the French *esclaver* ('to enslave') and anglicised using the *-ish* suffix, which originally represents French *-iss-*, an extended stem of verbs in *-ir*, e.g. *périr* ('to perish'). "The French *-iss-* originated in the Latin *-isc-* of inceptive verbs; at their first adoption, these verbs ended in English in *-is*, *-ise*, *-isse*, which before 1400 changed to *-isshe*." (OED3) This later generated a number of verbs, including *abolish*, *establish*, *accomplish*, or *demolish*.

One of the most productive adjectival suffixes *-less* can be traced back to EModE, where it was added to the base *grate*, forming the adjective *grateless* on the analogy of *grateful*, and, similarly, the suffix *-al* seems to have been productive as far back as in this period, where it encouraged the formation of the adjective *logarithmetical* on the analogy of *arithmetical*. Apart from derivation the last example

may also be classified as a neo-classical compound, as it consists of two originally Greek bases - *lógos* ('word', 'reason') and *arithmós* ('number'), however, it is the suffixation of the compound that is of interest in this section.

4.3.2. Compounding in EModE

The EModE period shows a rising tendency in compounding as a way of creating new word formations, with 11.9% of the results being compounds, some of them being more see-through than others (e.g. *behindhand* = *behind*, prep. + *hand*, n. on the analogy of *beforehand*). A noteworthy trend which begins to develop in this era is the proclivity towards neoclassical compounds, as we can see in the cases of *hydrargyrum* or *hydrographer*, both using the Greek comb. form *hydro-* ('water') to create neologisms on the pattern of other names of metals (in the case of the former) or in the case of the latter on the analogy of *geography/geographer*.

4.3.3. Back-formation in EModE

A clear example of back-formation would be the verb *dizz*, which was modelled on the adjective *dizzy* analogically to *craze* < *crazy*. However, a case that strikes as curious is the pair *lunch-luncheon*, where it is not clear whether the former is a back-formation of the latter, or whether *luncheon* is a mere extension of *lunch* on the analogy of the relation between *punch-puncheon* or *trunch-truncheon*.

4.3.4. Other word-formation processes in EModE

Apart from the processes mentioned above, the EModE sample also shows interesting instances of clipping and conversion - the 1501 verb *tain* appears to be clipped from *obtain* on the analogy of cognates *attain* or *maintain*, though it has since become obsolete and replaced by its original form *obtain*. Analogically to *grass-graze* and *glass-glaze*, we are witnessing the conversion of *brass*, n. to *braze*, v., recorded for the first time in 1552.

4.3.5. Part of speech analysis: EModE

In comparison with the previous sets, the EModE one was certainly larger, and as such it provided greater variation in terms of the parts of speech it covered. Exactly 50% of the results were nouns, whereas the quantity of newly coined verbs has decreased to only 26.19%. On the other hand, we can see a rising tendency in attesting adjectives, with a total representation of 23.81%. It is also worth mentioning that the majority of the words coined in the EModE period on the analogy of already existing ones were stemming from Latin roots as well as Latin affixes, clearly confirming the importance of the language as well as its strong influence on the English of that period.

4.4. Late Modern English

The LModE section is the most extensive one in terms of the amount of results extracted from the dictionary (43), providing a relatively detailed account of the linguistic tendencies of the period.

4.4.1. Derivation in LModE

Similarly to the previous historical periods, the LModE sample also consists mostly of cases of derivation, with a total of 48.84% of the results pointing to this word-formation process, primarily affecting nouns and adjectives.

Derivation through prefixation appears to be in the minority, only being represented by *acause*, adv. and conj., *eluvium*, n. and *enface*, v., the first being an alteration of *because* on the analogy of pairs such as *ahind-behind* or *afore-before* (the *a-* prefix itself originally being a variant of *on-*, prefix), and the second reflecting modern Latin *ē* ('out') + *luĕre* ('to wash') on the analogy of *alluvium*, and thus expanding English geological terminology. *Enface* is an example of a verbal prefix *en-* being added to a nominal base, analogically to *endorse*. According to OED, "the applications of the prefix in French, and hence in English, are substantially identical with those of the Latin *in-*, which was used to form verbs. (1) from nouns, with sense 'to put (something) into or on what is denoted by the noun.', or 'to put' what is denoted by the noun 'into or on (something)'; (2) from nouns or adjectives, with sense 'to bring or to come into a certain condition or state, to invest with a certain quality'; (3) from other verbs, with added notion of 'within', 'into', 'upon', or 'against', or with merely intensive force." *Enface* therefore falls under the second category.

Suffixation emerges as a much more common derivational process in the sample, ranging from scientific terminology (e.g. *sulphone*: *sulfur*, n. + *-one*, suffix on the analogy of *ketone*, n.) to alterations of proper names (typically using the *-ian* suffix, e.g. *Marlovian*, *Rousseauvian*, *Galwegian*, on the pattern of Latinized forms of proper names ending in *-w* or *-we* in the case of the first two, and similarly on the analogy of *Norway-Norwegian* in the case of the third.)

4.4.2. Neo-classical compounds in LModE

Neo-classical compounds comprise a large proportion of the LModE sample, taking up 37.2% of the results. This is presumably due to the prestigious status of classical languages at that time, supported by the need for specialised (i.e. scientific or technical) terminology to describe new phenomena.

Endo- appears to have been a particularly productive combining form in LModE, stemming from Greek *ἔνδον-* ('within'), and giving rise to *endostosis*, *endodermis*, or *endogamy* - analogically to other Greek combining forms, namely: *ἐξό-* (*ἐξόστωσις*), *epi-* (*epidermis*), and *poly-* (*polygamy*), respectively. A particularly curious example of neo-classical compounding is the noun *gastronomy*, which first appeared in the title of a poem by Berchoux in 1801. The noun was inspired by Greek *ἀστρονομία* (*astronomía*, 'astronomy'), as it was formed by putting together the roots *gastro* ('stomach') and *nomy* (Greek *nomía*, 'knowledge')

Apart from Greek, the sample also shows examples of Latin elements, e.g. *falsi-* in *falsidical*, which was modelled on the analogy of its antonym *veridical*; or the verb *exter* ('to dig out of the earth'), which was compounded as *ex-* ('out') + *ter-ra* ('earth') on the analogy of *inter* ('to deposit in the earth, or in a grave or tomb').

4.4.3. Other word-formation processes in LModE

Among the word-formation processes discussed above, there are two that are worth mentioning - back-formation and clipping. Back-formation is the source for the verb *thrombose*, which was formed

from *thrombosis*, n., on the analogy of the pair *diagnose-diagnosis*; this extension was likely motivated by the concepts falling under an identical category (medicine).

Clipping can be demonstrated on the example of *mill*, n., a shortened version of the Latin *millēsimum* ('thousandth part'), analogically to *cent-centum* or *centesm*, which is believed to have originally been a graphic abbreviation.

4.4.4. Part of speech analysis: LModE

In terms of parts of speech, the categories most affected by analogical change in the LModE sample were undoubtedly nouns (65.12% - note that this includes forms which function as both nouns and adjectives). The representation among verbs has, in contrast, decreased to only 6.98%, possibly suggesting that the need for new verbs was relatively insignificant in this period. Adjectives take up a total of 30.23%, implying an increasing demand for words ascribing quality as the English lexicon expanded.

4.5. Present-Day English

Smallest in size, the PDE sample consists of four results - the nouns *catalyst*, *Reaganaut*, *sick-out*, and the noun as well as adjective *Nassauvian*, all four being attested in the 20th century.

First appearing in 1902, the noun *catalyst* is an example of filling a gap in the terminology of a specialised register, taking the already existing *catalysis*, n., and modifying it into an agentive noun using the suffix *-ist*, analogically to the form *analyst*. This derivational suffix is one of the most common ones among agentive nouns in PDE, along with *-or* (e.g. *instructor*) and *-er* (e.g. *speaker*).

The other example of derivation in this set is the noun and adjective *Nassauvian* (meaning ‘a native or inhabitant of Nassau’), which acquired its form on the analogy of Latinized forms of proper names ending in *-w* (see *Marlovian* in 4.4.1.) by adding the *-ian* suffix (expressing the semantic relationship ‘of’ or ‘belonging to’).

The two remaining results are both examples of compounding, although each represents a different subtype.

The most recently coined neologism on this list is the 1980 *Reaganaut*, n. a neo-classical compound combining the name of US president Ronald Reagan with combining form *-naut* (from ancient Greek *ναύτης*, ‘sailor’) probably on the pattern of *Argonaut* (a sailor on the ship Argo).

Finally, *sick-out*, n. (‘industrial action in which a group of workers absent themselves from work on the pretext of sickness’) represents the particle compound type, being composed of *sick*, adj. + *out*, adv./prep., on the analogy of *walk-out*.

5. Conclusion

The aim of the study was to explore the word-formation processes responsible for the analogical creations of new words throughout all historical periods of English, drawing from a total of 134 results estimated as examples of analogy by *The Oxford English Dictionary* (OED3). The results were divided into groups based on the historical periods in which they were first attested, and then analysed through the lense of the word-formation processes that they have undergone.

The analysis revealed that in the OE period, the majority of the results pointed back at weak vs. strong verb reclassification (75%), with derivation as the second most-represented analogical change in the sample, affecting nouns and prepositions. The ME data primarily contained instances of derivation (37.93%), followed by conversion, compounding, and clipping. This section consisted mostly of nouns (48.28%), however, verbs still composed a relatively large proportion of the collected data

(31.03%). The EModE sample showed a major rise in coverage with 47.6% words stemming from this word-formation process, followed by compounding, back-formation, clipping, or conversion. With exactly one half of the results being nouns, the analysis revealed a considerable decrease in verbal representation, as opposed to adjectives, which comprised 23.81% of the set, manifesting a particularly strong increase in contrast to the previous sections. LModE provided the largest sample of all periods. Once again dominated by derivation (48.84%), this sample revealed a remarkably large representation in neo-classical compounding, which gave rise to 37.2% of the LModE data. The words attested during this period were primarily nouns, followed by adjectives, and a large proportion of them pertained to specialised registers, such as science. The PDE sample was by far smallest in size, yet, it revealed an interesting tendency towards suffixation and compounding as the main processes in attesting new formations.

Overall, it has been found that the most frequently occurring word classes emerging from analogical change in this study were nouns (72 hits), followed by verbs (31 hits) and adjectives (27 hits). It is important to note that some of these overlapped - e.g. adjectives of the same form as their adverbial counterparts, or nouns which also function as adjectives, etc.

In terms of word-formation processes, the most productive one in the sample was, perhaps unsurprisingly, derivation, which gave rise to 56 new words (41.79%), with compounding as a relatively close second (33.5%), primarily due to the extensive amount of neo-classical compounds in the LModE period. The remaining word-formation process included conversion (3.73%), back-formation (2.9%), clipping (2.24%), and analogical changes in verb conjugations (8.9%).

Bibliography

- Anderson, S. *A-Morphous Morphology* (Cambridge Studies in Linguistics). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511586262. 1992.
- Bauer, L. *English word-formation*. Cambridge: Cambridge University Press. 1983.
- Bauer, L. *Morphological productivity*. (Cambridge studies in linguistics.) Cambridge: Cambridge University Press. 2001
- Blevins, James P. & Juliette Blevins. Introduction: Analogy in grammar. In James P. Blevins & Juliette Blevins (eds.), *Analogy in grammar. Form and acquisition*, 1–12. Oxford: Oxford University Press. 2009.
- Bloomfield, L. *Language*. New York: Henry Holt and Company. 1933.
- Brinton, Laurel J.; Arnovick Leslie K. *The English Language: A Linguistic History*. Oxford: Oxford University Press, 2017.
- Campbell, L. *Historical Linguistics: An Introduction*. Edinburgh University Press. 2013.
- Clark, E. V. Lexical innovations: How children learn to create new words. In Werner Deutsch (ed.), *The child's construction of language*, 299–328. New York & London: Academic Press. 1981.
- Clark, E. V. The young word maker: A case study of innovation in the child's lexicon. In Eric Wanner & Lila R. Gleitman (eds.), *Language acquisition: The state of the art*, 390–425. Cambridge: Cambridge University Press. 1982
- Cutler, A. Degrees of transparency in word formation. *Canadian Journal of Linguistics*, 26, 73-77. 1981
- Görlach, M. *The linguistic history of English: An introduction*. Basingstoke: Macmillan. 1997.
- Klégr, A., & Čermák, J. 'Neologisms of the "On-the-Pattern-of" Type: Analogy as a word-formation process?', in *The Prague School and Theories of Structure, Interfacing Science, Literature, and the Humanities*. Goettingen: V&R Unipress. 229-241. 2010.
- Lamb, S. M. *Pathways of the brain. The neurocognitive basis of language*. Amsterdam & Philadelphia: John Benjamins. 1998.
- Mattiello, E. *Analogy in Word-formation: A Study of English Neologisms and Occasionalisms*. Berlin & Boston: de Gruyter Mouton. 2018.
- Mott, B. & Laso, J. 'Semantic Borrowings in Language Contact', in Grant, A. *The Oxford handbook of language contact*. 2019.

Oxford English Dictionary (<http://www.oed.com.ezproxy.is.cuni.cz/>)

Plag, I. *Word-formation in English*. Cambridge: Cambridge University Press. 2003.

Quirk, R. et al. *A comprehensive grammar of the English language*. London: Longman. 1985.

Schironi, F. Analogía, analogia, proportio, ratio: Loanwords, calques, and reinterpretations of a Greek technical word. In Louis Basset, Frédérique Biville, Bernard Colombat, Pierre Swiggers & Alfons Wouters (eds.), *Bilinguisme et terminologie grammaticale grécolatine*, 321–338. Louvain: Peeters. 2007.

Spencer A. Word-Formation and Syntax. In: Štekauer P., Lieber R. (eds) *Handbook of Word-Formation. Studies in Natural Language and Linguistic Theory*, vol 64. Springer, Dordrecht. https://doi.org/10.1007/1-4020-3596-9_4. 2005.

Štekauer, Pavol, Rochelle Lieber (eds). *Handbook of Word-Formation*, Dordrecht: Springer. 2005.

Sources

Oxford English Dictionary Online (OED), 2021: <http://www.oed.com.ezproxy.is.cuni.cz/>

Résumé

1. Úvod

V úvodu je nastíněna problematika analogie jakožto slovotvorného procesu, komplikace týkající se jejího přesného vymezení a v neposlední řadě také její význam v historickém vývoji angličtiny, spolu se stručným přehledem obsahu práce, včetně vymezení postupu při praktické části.

2. Teoretická část

Tato sekce přibližuje téma práce vysvětlením několika zásadních pojmů a zároveň upozorňuje na problematiku definice analogie jako takové - jelikož na tuto problematiku neexistuje jednotný, obecně uznávaný názor, autorka se přiklání k modelu vycházejícího z Elisy Mattiello (2018), která rozlišuje mezi analogií proporční a neproporční. Autorka dále vymezuje pojem v kontextu morfologie, kde jednotlivé případy demonstruje na příkladech. Následující podsekce se zabývá historií pojmu 'analogie' - ta sahá až do dob antického Řecka a následně pokračuje přes generativismus 50. let 20. století až po současnost. Pozornost je dále věnována i analogii v jazykové akvizici, jejíž hlavní představitelkou je Eve Clark. Tato podsekce odhaluje mechanismy stojící za analogickým tvořením slov u dětí, jejichž mateřským jazykem je angličtina. V následujících podsekcích je podrobně rozebrána problematika slovotvorby, včetně úvodu do klasifikace slovotvorných postupů - ta vychází z Klégra a Čermáka (2010). Vybrané postupy jsou pak podrobněji vysvětleny na příkladech. Autorka dále nastiňuje kritéria slovotvorby, jež opět čerpá z Elisy Mattiello (2018). Poslední složkou teoretické části je představení jednotlivých období historického vývoje angličtiny, zahrnující lingvistický a kulturní kontext každého z nich.

3. Metodologie

Třetí kapitola přibližuje metodologii zvolenou ke zpracování dat z praktické části. Autorka uvádí, že čerpala příklady z webové verze Oxford English Dictionary, odkud extrahovala 134 slov

odpovídajících předem určeným požadavkům (tj. slov vzniknutých analogicky na bázi slov jiných). Dále popisuje komplikace, které při stanovování určujícího vyhledávacího příkazu nastaly a jejich následné řešení - tj. zakomponování příkazu alternativního.

4. Praktická část

Tyto výsledky pak byly analyzovány v kapitole 4 na základě historické doby, ve které bylo slovo poprvé atestováno. Pozornost byla kladena především slovotvorným procesům, které ke vzniku slova vedly, ale také slovním druhům, které byly danými analogickými změnami nejvíce zasaženy. V každém z historických období byly zprvu představeny hodnoty v podobě počtu příkladů, slovních druhů a slovotvorných procesů - tyto pak byly následně analyzovány a opatřeny komentářem.

5. Závěr

Výsledkem analýzy bylo zjištění, že nejčastěji zasaženým slovním druhem byla podstatná jména (72 případů ze 134), následována slovesy (31) a adjektivy (27). Nejproduktivnějším slovotvorným procesem pak byla vcelku očekávaně derivace (41.79%), v relativně těsném závěsu se umístila kompozice (33.5%) - především díky silnému zastoupení neoklasickými kompozity v době pozdně moderní angličtiny - dále následovaly analogické změny v klasifikaci sloves (8.9%) a v neposlední řadě své zastoupení našla také konverze či zkracování.