Tampereen yliopisto

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RETRONYMS AND NEONYMS
A corpus-based study

ABSTRACT

This thesis examines the use of select retronyms and neonyms in English over the timespan of ten years in 2010–2019. Retronyms are words created to distinguish an older version of a concept from a newer version (e.g. *paper book*), and their neonym counterparts are words that specify the new version (e.g. *e-book*). The research is focused on two questions: how the frequency of the words in language changes, and what their collocational patterns can tell us about the contexts they occur in.

The theoretical framework of the thesis consists of four main areas: lexical semantics, word-formation, retronyms, and corpus linguistics. The area of lexical semantics focuses particularly on semantic change, semantic relations, and prototype theory. The data of the thesis was collected from the News on the Web (NOW) Corpus using the search function. First, the changes in frequency were observed using the CHART display which lists the frequency of the terms in each year. Second, the collocational patterns were queried using the COLLOCATES display which gives a list of words that commonly occur near the retronyms and neonyms. The results were analyzed and presented in figures and tables.

The analysis shows that different retronym-neonym pairs have undergone different developments in frequency during the timeframe, with some showing a decline, others in the stage of increasing, and some stabilized. For most of the pairs, the retronyms were less frequently used than the neonyms. The collocational patterns show that the neonym and retronym terms are often used when the two concepts are compared. In the discussion, the application of prototype theory is suggested to explain why some retronyms remain infrequent. As this thesis only observes a set of five retronym-neonym pairs, there is need and potential for further research.

Keywords: retronyms, collocation, corpus linguistics

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TIIVISTELMÄ

Tämä tutkielma tarkastelee valikoitujen retronyymien ja neonyymien käyttöä englannissa kymmenen vuoden aikajaksolta 2010–2019. Retronyymit ovat sanoja, joiden tarkoitus on erottaa jonkin käsitteen vanhempi versio uudemmasta versiosta (esim. *paper book,* 'paperikirja'). Neonyymit puolestaan ovat näiden sanojen vastineita, jotka merkitsevät uudempaa versiota (esim. *e-book*, 'e-kirja'). Tutkimus keskittyy kahteen kysymykseen: kuinka sanojen frekvenssi kielessä muuttuu, ja mitä sanojen kollokaatiorakenteet kertovat niiden käytöstä eri konteksteissa.

Tutkielman teoreettinen viitekehys koostuu neljästä pääalueesta: leksikaalinen semantiikka, sananmuodostus, retronyymit ja korpuslingvistiikka. Leksikaalisen semantiikan alue keskittyy erityisesti semanttiseen muutokseen, semanttisiin suhteisiin ja prototyyppiteoriaan. Tutkielman data kerättiin News on the Web (NOW) -korpuksesta käyttämällä hakutoimintoa. Ensin tarkasteltiin frekvenssien muutosta käyttäen CHART näkymää, joka luetteloi sanojen frekvenssin jokaisena vuotena. Seuraavaksi kollokaatiorakenteet haettiin käyttäen COLLOCATES näkymää, joka antaa listan sanoista, jotka usein esiintyvät retronyymien ja neonyymien lähellä. Tulokset analysoitiin ja esitettiin kuvioissa ja taulukoissa.

Analyysi osoittaa, että eri retronyymi–neonyymi parien frekvenssit ovat kehittyneet eri tavoin ajanjakson aikana. Osan kehitys on alenemaan päin, osa taas on nousevan kehityksen vaiheessa, ja jotkut ovat stabilisoituneet. Useimpien parien kohdalla retronyymit olivat vähemmän käytettyjä kuin neonyymit. Kollokaatiorakenteet osoittavat, että neonyymi- ja retronyymitermejä käytetään usein silloin, kun niiden käsitteitä vertaillaan. Pohdinnassa nostetaan esille prototyyppiteorian käyttö selittämään sitä, miksi jotkut retronyymit pysyvät harvinaisina. Koska tämä tutkielma tarkkailee ainoastaan viittä sanaparia, myöhemmälle tutkimukselle on tarvetta ja potentiaalia.

Avainsanat: retronyymit, kollokaatio, korpuslingvistiikka

Table of contents

1 Introduction

One of the ways language is constantly changing is through the introduction of new words or neologisms. This is a natural process which helps label new concepts and ideas in response to the communicative needs of the language in the evolving society (Miller 2014: 85). However, new words can also be used to label old, already-existing concepts. One form of this phenomenon – a new word created for an old thing – are words known as **retronyms**. Retronyms are names given to older versions of things in order to separate them from a newer version (Miller 2014: 60-61). For example, consider what we now know as *silent films*. Back in the day, they were simply known as *films*. It was not until the new invention of sound films that the need arose to label them as *silent*. Another example is the *landline phone*, simply known as a *phone* until various mobile devices came along.

Retronyms are tied to the concept of semantic change, as their creation is motivated by the fact that the original term has become ambiguous – that is, it has undergone the process of generalization. The original term will be referred to as the **protonym** in this context following a description by Xydopoulos (2009). In the example of *landline phone,* the protonym is *phone.* The reason for the generalization of protonym lies in the emergence of a newer version of the concept. This new version is initially the one that carries a modifier to separate it from the older version, for example *mobile phone*. The name of the newer concept will be known as the **neonym** in relation to the retronym (Xydopoulos 2009).

As the neonym unambiguously refers to the newer version of the concept, the retronym by analogy is created to unambiguously refer to the old concept. The protonym, meanwhile, becomes a category which comprises both types. Both neonyms and retronyms are typically created by the word-formation process of compounding and are endocentric compounds consisting of a head and a modifier (Miller 2014: 60-61). Upon their creation, neonyms and

retronyms enter the language as neologisms, and as such represent a typical neologism due to occurring as a result of technological development and societal change (Miller 2014: 85). It is then only natural that retronyms and neonyms are commonplace in the everyday language of English speakers, due to English being particularly rapid in undergoing changes (Shi 2021).

The phenomenon of retronymia has not been extensively studied. This thesis draws important terminology and its main theoretical background on retronyms from Xydopoulos (2009) and Xydopoulos & Lazana (2014), who provide some of the few comprehensive descriptions on the subject. In their description, Xydopoulos & Lazana (2014) analyze retronyms through the concept of semantic relations. In particular, the relations of hypernymy and hyponymy can be used to describe the relationship between the retronym, the neonym and the protonym. In this view, the protonym is seen as a superordinate hypernym while the neonym and retronyms are co-hyponyms of one another.

A theory within cognitive semantics known as prototype theory may also be relevant to the neonym-retronym phenomenon. In prototype theory, membership in a given category is determined by how closely something resembles the prototype, that is, how many features they have in common with it (Geeraerts 2009: 185-186). This may be applicable as an idea of the protonym representing the category, and the neonym and retronym referring to members within it. If the prototype changes over the time to more closely resemble the new version, the older version becomes more obscure, necessitating the use of the retronym phrase when one refers to it.

One of the ways to examine language is through the use of a corpus, a large collection of text that is compiled into an easily accessible form. The benefit of using a corpus is that it allows a researcher to analyze samples of real language collected into large collections of data. Corpora can be used to observe how language use evolves within a particular timeframe or how did words co-occur with one another. The main appeal of this type of research is that

the results are replicable (Bauer 2002: 102-103). As the creation of the neonym, the protonym undergoing generalization, and the creation of the retronym are a multi-stage process, it becomes interesting to analyze from the temporal perspective how the usage of the terms may fluctuate within a set timeframe.

This thesis is a corpus-based look into the evolution of use of retronyms and their neonym counterparts, as well as their collocational patterns. In terms of collocates, items which are of interest are the types of words that often co-occur with the retronyms and neonyms, and what this can tell us about the contexts in which these phrases are used. It appears that corpus-based research has not been previously conducted on retronyms, meaning that this thesis will fill a gap in research. In short, the thesis aims to provide some observations regarding the development and contextual use of retronyms and neonyms.

The research questions of this thesis are the following:

1) How has the use of the retronyms and neonyms changed over the years?

2) What can be observed regarding the collocational patterns of the retronyms and the neonyms?

The thesis is structured into six chapters. We will begin by going over the theoretical background in chapter 2, consisting of lexical semantics, word-formation, retronyms, and corpus linguistics. Next, chapter 3 will describe the material and methods that will be employed, namely the NOW Corpus. The following chapter 4 will present an analysis of the results, arranging the data into graphs. Chapter 5 will contain discussion on the results and how they can be viewed in light of the theoretical framework. Finally, chapter 6 will provide concluding remarks.

2 Theoretical Background

In this section I will go over the major concepts that form the theoretical framework of the thesis. First, section 2.1 will give a description of lexical semantics as it pertains to the subject of research. Next, section 2.2 will address relevant word-formational processes. Thirdly, section 2.3 will focus on retronyms in particular, why they are formed and what their typical structure is. Finally, section 2.4 will examine the field of corpus linguistics and how corpora can be used to study linguistic phenomena.

2.1 Lexical semantics

Lexical semantics is a subfield of linguistic semantics that studies word meanings (Taylor 2017). The discipline originates from early 19th century and includes various theoretical frameworks which have developed over the years. Geeraerts (2009) presents the chronological development of lexical semantic approaches as the following: Historical-philological semantics, structuralist semantics, generativist semantics, neostructuralist semantics and cognitive semantics. Three of these approaches are of significance to this thesis:

1) Historical-philological semantics: An approach that focuses on changes in word meaning, particularly classifying various processes of semantic change (Geeraerts 2009: 1). The concept of semantic change is explained in section 2.1.1.

2) Structuralist semantics: A theoretical framework where relations between meanings are the basis of analysis. It comprises three broad approaches: lexical field theory, componential analysis, and relational semantics (Geeraerts 2009: 52-53). This is relevant through the concept of semantic relations, which are addressed in section 2.1.2.

3) Cognitive semantics: A psychological and cognitive approach to semantics, which includes contributions such as prototype theory, frame semantics and conceptual semantics (Geeraerts 2009: 182-183). Prototype theory will be discussed in section 2.1.3.

2.1.1 Semantic change

Semantic change, or semantic shift, is change in the meanings of words caused by evolving word usage. According to Miller (2014: 125), semantic change "begins with expressive usage in a given context". The driving force behind semantic change can be considered the pragmatic aspect of language change, which overrules other linguistic norms such as semantic norms (Traugott & Dasher 2002: 24-25). Semantic change can be broadly classified into four groups: non-analogical and analogical changes of denotational meaning, non-denotational changes, and onomasiological change (Geeraerts 2009: 26-30). Non-analogical changes, comprising the processes of specialization, generalization, metonymy, and metaphor, are of relevance to this thesis and will thus be described below.

Specialization and generalization are lexical-semantic changes that cause a word to develop new meanings that are either subordinate or superordinate to the older meaning (Geeraerts 2009: 26-30). In the case of specialization, the new meaning is narrower than the old one, and the word becomes a subordinate member of a category that represents its older, broader meaning. An example of specialization is the word *meat*, which used to refer to food in general, but now refers to a type of food. The opposite effect is generalization, where a new meaning is broader than the old one, and the word becomes superordinate to a category that includes its older, narrow meaning. Examples of generalizations include *bird*, originally referring specifically to a young bird or chick, as well as various brand names that have become genericized, such as *hoover* or *flip phone*.

Miller (2014: 132-133) notes that specialization and generalization can simultaneously affect a set of words causing a larger shift in semantics. Miller refers to an example from Bloomfield (1933) involving the set of words *food*, *meat*, *flesh,* and *nourishment*, which are noted to have undergone multiple stages of specialization and generalization. However, Miller (ibid.) argues that such a clean transition between stages does not in fact exist and overlapping meanings may be retained indefinitely.

2.1.2 Semantic relations and fields

Semantic relations as they are understood in structural semantics were defined by Lyons (1963). He argued that rather than stating the meaning of a word and its relations to other words separately, one could consider the meaning of a word to consist of its relations to other words. Lyons uses the term "sense relations" to distinguish his view of these relations from others. The basic sense relations consist of synonymy, hyponymy, antonymy and meronymy. Geeraerts (2009: 82-88) provides a summary of these relations, which is based in large part on Cruse (1986).

Synonymy and antonymy are relationships of identity and oppositeness, respectively. Words can be described as synonyms of one another if they have the same semantic identity and are interchangeable in a given context. However, as mentioned by Geeraerts (2009: 84-85), total synonymy between words is difficult to accept due to the number of possible contexts and various connotations that words can have. Instead, most synonymous words are essentially near-synonyms. substitutable in some contexts but not others. Antonymy, on the other hand, can be separated into two basic types: gradable and non-gradable. Gradable antonyms exist on a continuum that has intermediate positions, whereas non-gradable antonyms lack a scale and consist of complementary, as well as perspective or directionally opposite terms (Geeraerts 2009: 86-87).

Hyponymy and hypernymy are terms used to describe a semantic relationship between subordinate and superordinate terms. A hyponym is a more specific term in contrast to a more general term represented by the hypernym. This is best exemplified by taxonomical terms such as *salmon*, *pike*, *bass* (hyponyms) vs. *fish* (hypernym). Geeraerts (2009: 82) uses the term "co-hyponym" to refer to hyponyms on the same level under the same hypernym. In addition, he mentions the concept of auto-hyponymy, which refers to a word that can be read as either a hypernym or a hyponym depending on the context. Hyponymy should not be confused with meronomy, which is a part-whole relation rather than the taxonomical relations of hyponymy-hypernymy (Geeraerts 2009: 88).

There can be many levels of hyponymy. An example for the taxonomy of *cow* by Murphy (2003: 225) is presented below in Figure 1.
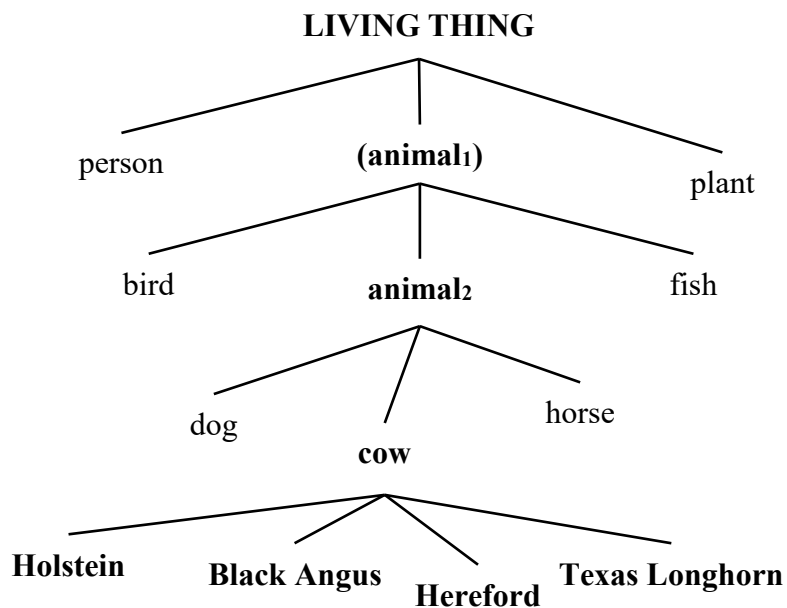

Figure 1. Folk taxonomy of *cow* based on Murphy (2003: 225).

Here we can observe that on the highest superordinate is the hypernym *living thing*, while the lowest level includes co-hyponymic breeds such as *Holstein* and *Black Angus*. The inclusion

of two animal categories (*animal$_1$* and *animal$_2$*), according to Murphy (2003:225-226),

reflects the way an average speaker actually uses the words. The subordinate category *animal$_2$*

corresponds to a narrower use of the category *animal*, where it is roughly equivalent to

mammal. The folk taxonomy is thus more "mind-like" semantically compared to the scientific

taxonomy of *cow*.

2.1.3 Prototype theory

Prototype theory was first developed by Eleanor Rosch in the 1970s as an alternative theory

of semantics opposed to the classical feature approach (Lipka 2011: 85-92). According to

Lipka (ibid.), it differs from the feature approach by rejecting bounded categories and binary

distinctions in favor of a prototype-based categorization with scalable degree of membership

in a given category. The theory has been studied both from a psycholexicological perspective

as well as in linguistics (Geeraerts 2009: 183).

A prototype is an abstract representation of a category that reflects its attribute structure

as whole (Lipka 2011: 85-92). Prototype theory posits that membership in a category can be

defined by how prototypical members are in contrast with others. The more distinctive

features a member of a category has in common with the prototype, the more prototypical it

is. Semantic categories thus consist of members that are lower on the prototypical scale, or

non-prototypical, and ones that best represent the prototype higher on the scale (Geeraerts

2009: 185-186). As an example, a prototypical member of the category *pet* might be a *dog* or

a *cat,* while a *spider* would be non-prototypical. Figure 2 based on Geeraerts (2008: 152)

illustrates this view of a category.

1 being able to fly   2 having feathers   3 being S-shaped
4 having wings   5 not domesticated   6 being born from eggs
7 having a beak or bill
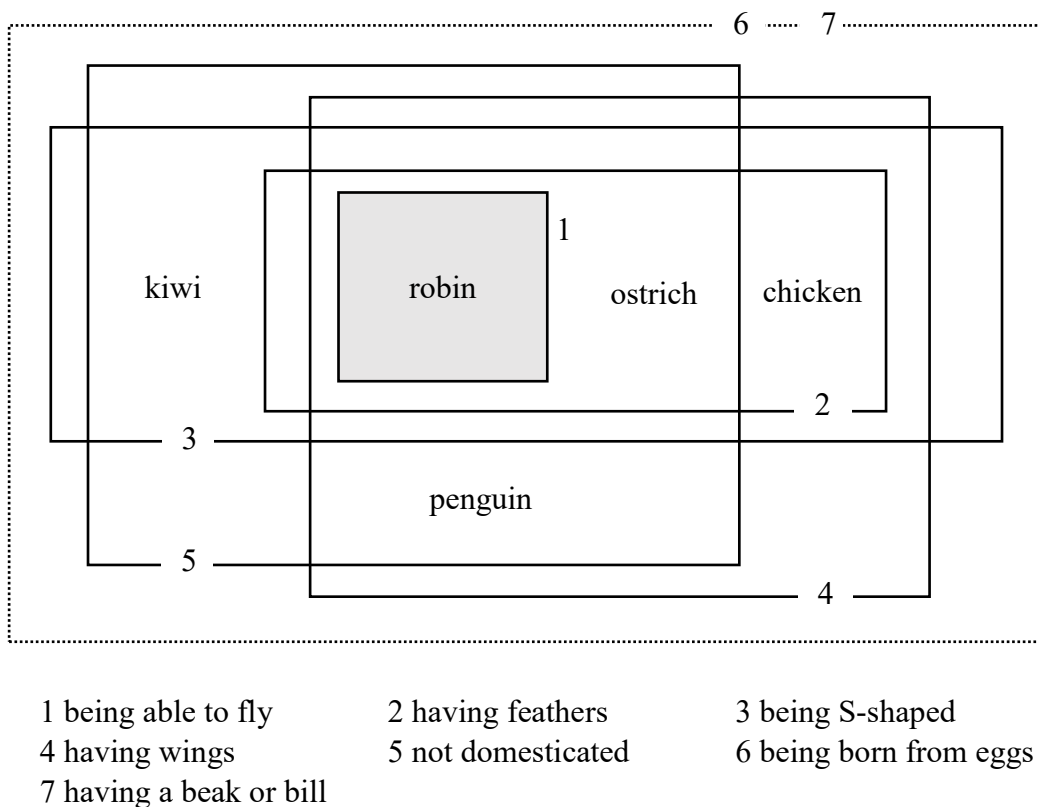
Figure 2. A definitional analysis of *bird* based on Geeraerts (2008: 152).

In this figure, we can note *robin* as the most prototypical member of the category, as it possesses all the characteristics associated with *bird*. Other members of the category each possess some of the attributes, but the distribution varies across them. The members who possess the least amount of the attributes, such as *penguin* and *kiwi*, are non-prototypical.

Evidence for this model of semantic gradedness has been obtained from studies that test the reaction time of subjects when evaluating statements in the form of "A (member of a category) is a (name of the category)" (Geeraerts 2009 :186). In addition, prototypical members are the ones most often listed by subjects when asked to list members of a given category. However, it has been noted (e.g. Lipka 2011: 89-90) that prototype theory is most readily applicable to concrete nouns, particularly species, while abstract verbs are difficult to accommodate into the theoretical framework

2.2 Word-formation

This section will explain the relevant theoretical frameworks of word-formation. First, section 2.2.1 will go over the basic morphological concepts relevant to word-formation, such as the idea of lexemes. Next, section 2.2.2 will focus on the specific word-formational process of compounding, which is relevant for the creation of retronyms. Thirdly, section 2.2.3 will address the status of words as neologisms.

2.2.1 Concepts

In order to define the concept of word-formation itself, other terms and concepts must be introduced. Plag (2003) makes a distinction between *word-forms* and *lexemes*. Essentially, a lexeme is an abstract morphological entity that can be realized in different word-forms. As an example, the word-forms *am*, *is*, *are*, *was*, *were*, *be*, and *been* are word-forms realizing the lexeme BE.

Plag (2003: 9-17) goes on to define word-formation as lexeme formation, making a distinction between inflection and derivation. Because inflection only creates new grammatical words or word-forms, it does not meet the lexeme criterion. Thus, Plag views word-formation as comprising of derivation and compounding, while inflection is considered a different part of morphology.

2.2.2 Compounding

Compounding is the most productive word-formational process in English (Plag 2003: 132, Lieber 2004: 46). However, there are also many issues when it comes to defining the concept. Miller (2014) and Plag (2003) mention that one of the foremost problems involved with recognizing compounds in English is the fact that orthography cannot be used as a criterion.

Compounds cannot be reliably identified by their spelling, as they occur in three different forms: univerbated, hyphenated and separated. Instead, Miller (2014) and Plag (2003) rely on criteria such as the following for determining the status of a compound: stress, inseparability or integrity, meaning, and syntactic criteria.

Stress can be used to identify compounds because orthographically separated words sometimes function as one word in terms of stress behavior (Plag 2003: 6-9), but this does not apply to all types of compounds. The integrity criterion is considered by Plag (ibid.) to be a more reliable one. It states that a compound is an inseparable unit, and no intervening material may be inserted inside of it. For example, the *apartment building* is compound because nothing can be inserted between the two orthographic words: *apartment tall building*. Although Plag finds some counterexamples to this, he considers them marginal exceptions to the rule.

The meaning criterion refers to the compound being defined as a semantic concept. Miller (2014: 46) gives an example of a *black bird* vs. a *blackbird*, which can actually be a different color if it happens to fall into a paint can. However, Plag (2003: 6-9) finds the idea of a compound as a unified semantic concept problematic, due to the fact that not all unified concepts are expressed by a single word. Finally, the syntactic criteria according to Plag (ibid.) means that words are considered the smallest elements in a sentence and belong to syntactic classes, i.e., parts of speech (nouns, verbs, adjectives, adverbs etc.). Because the syntactic rules of a language determine the position of these classes in a sentence, the classification of a word can be determined by the rules it follows. Plag therefore concludes it to be a reliable criterion for defining words.

Compounds can be classified into the main groups of root compounds and synthetic compounds, where synthetic compounds are those which have a deverbal second constituent (Lieber 2004: 46, Miller: 2014: 48). Root compounds, by contrast, have a second constituent

that has not been derived from a verb. Synthetic compounds are syntactically constrained so that the first constituent, a nominal complement, cannot have a subject interpretation, and is instead interpreted as the object of the verb (Lieber 2004: 46, Miller: 2014: 48). Root compounds, on the other hand, do not have this restriction. Examples of each category are given in Table 1:

root compounds	synthetic compounds
blackbird	*bookseller*
catfood	*truck driver*
coffee cup	*handpainter*

Table 1. Examples of root compounds and synthetic compounds.

Another way of classifying compounds is the division between endocentric, exocentric, coordinate, and appositional compounds (Miller 2014: 45-60). According to Miller (ibid.), endocentric compounds are compounds where the head element on the right determines the lexical-syntactic category of the compound. Essentially, if the compound is AB, then the interpretation is that "AB is a type of B". Exocentric compounds differ from this in that the semantic head of the compound is not inside of it (Plag 2003: 145-146). This means that AB is not a type of B according to the semantics, however, Plag (ibid.) notes that grammatically AB does have the properties of B. Examples of endocentric and exocentric compounds are presented in Table 2.

endocentric compounds	exocentric compounds
rainforest (a type of forest)	*pickpocket* (<u>not</u> a type of pocket)
video game (a type of game)	*scarecrow* (<u>not</u> a type of crow)
sailboat (a type of boat)	*telltale* (<u>not</u> a type of tale)

Table 2. Examples of endocentric compounds and exocentric compounds.

Co-ordinate compounds and appositional compounds are sometimes both conflated under the term copulative compounds (Plag 2003: 146-147); however, this notion is challenged by others (Miller 2014: 45-62). Miller describes coordinate (copulative) compounds, or *dvandvas*, as constructs where the constituents belong to the same lexical-syntactic category but none of them acts as the head. Appositional compounds are similar to dvandvas, but the difference is the fact that the constituents are not coextensional (Miller 2014: 59). Examples of both categories are given in Table 3.

coordinate compounds (dvandvas)	appositional compounds
passive-aggressive	*singer-songwriter*
bittersweet	*actor-director*
spacetime	*toy gun*

Table 3. Examples of dvandvas and appositional compounds.

2.2.3 Neologisms

A neologism can generally be described as a recently coined word or phrase that has entered the language. However, the definition can be expanded to include words that have undergone shifts in meaning, domain, or function, and even words that return to use after falling into obsolescence (Miller 2014: 83; Renouf 2014: 174). Neologisms can name new concepts and phenomena, or express new ideas, which means that they can even be described as a part of science through their use in naming new scientific concepts (Moore 2011).

The term *protologism* has been coined by the literary theorist Mikhail Epstein to describe an even earlier stage in the development of a word (Moore 2011). According to one definition, a protologism immediately becomes a neologism when it is used in text published independently of the coiners(s), which means that the media is an important factor in neologism development (Havrylieva 2017).

Neologism generation often occurs due to social changes and technological developments, and the English language undergoes changes particularly rapidly as a reflection of changes in the world (Shi 2021). While new words are entering the language all the time, existing words also constantly fall into disuse. Neologisms can fill a lexical gap and label concepts, which allows us to communicate more effectively (Miller 2014: 85).

2.3 Retronyms

The Merrian Webster Dictionary gives the following definition for *retronym*:

> **retronym**… a term (such as analog watch, film camera, or snail mail) that is newly created and adopted to distinguish the original or older version, form, or example of something (such as a product) from other, more recent versions, forms, or examples

The person credited with coining the term is the American journalist Frank Mankiewicz, and the first known instance of it appearing in print is in the year 1980 in an article by William Safire (Miller 2014: 61). Safire, himself a journalist and columnist, helped popularize the concept through his writings on subject in the "On Language" column in *The New York Times* (Safire 1992, 2007). In Safire's (2007) words, the idea of retronyms is to "downdate" a term and call attention to the fact that the referent is not the updated version. Safire (ibid.) also points out the tautological quality of some of these retronyms, such as "religious holiday" and "handwritten manuscript".

There have been few detailed analyses of retronymy in English, but some that do exist are those of Xydopoulos (2009) and Xydopoulos & Lazana (2014). This thesis will adopt Xydopoulos & Lazana's terminology as it pertains to the two essential parts involved in the creation of a retronym: the **protonym** and the **neonym**. The protonym refers to the first term from which the retronym is created through the addition of premodifier. The term neonym is used by Xydopoulos and Lazana (ibid.) to refer to a new term that was created to name something conceptually related to the old one. The emergence of this new term is what

warrants the creation of the retronym. This view of the three terms can be illustrated with the following examples in Table 4:

protonym	neonym	retronym
(tele)phone	*mobile phone*	*landline phone*
watch	*digital watch*	*analog watch*
guitar	*electric guitar*	*acoustic guitar*
book	*e-book*	*paper book*

Table 4. Examples of protonyms, neonyms and retronyms.

Xydopoulos (2009) argues that the neonyms and retronyms are connected via the semantic relation of hyponymy and suggests that four phases are involved in the process of retronym creation. These four phrases are the following:

1) The creation of the neonym ("retronymy instigator"), which has a basic difference to the old concept.

2) The protonym becomes an autohyponym, that is, a hyponym of itself.

3) The creation of the retronym, a co-hyponym of the neonym that has an opposite and incompatible premodifier.

4) Optional nominalization of the premodifier and clipping of the noun head in well-established terms.

Building on the initial description presented by Xydopoulos (2009), Xydopoulos & Lazana (2014) provide a more thorough analysis of the semantic relations in retronymy and the construction of retronyms and neonyms as compounds.

Regarding the semantic relations, Xydopoulos & Lazana claim (2014: 78) that the retronym differs from its protonym with a "key distinctive characteristic". This means that protonym acts as a hypernym or superordinate term that includes the meaning of the retronym, which acts as a hyponym or subclass. This is illustrated (ibid.) with the example of the relations of *watch* terms (Figure 3):

```
                          watch         [PROTONYM]
                         /     \
                        /       \
    [RETRONYM]   analog watch    digital watch
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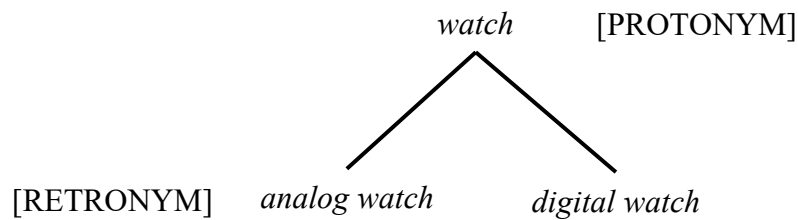
Figure 3. The taxonomic hierarchy of terms based on Xydopoulos & Lazana.

Here, the protonym *watch* has become a hypernym category which contains the co-hyponyms *analog watch* and *digital watch*. These two terms meet the criteria for the hyponymic sense relation as types of the hypernym: They are types of *watch*. Furthermore, it would be inaccurate to make the opposite statement of a *watch* being a type of either *analog watch* or *digital watch*. This reflects the fact that they are more specific terms for members of the category. An *analog watch* is also not a type of *digital watch*, or vice versa, as the two stand in a relation of oppositeness.

According to Ossokina & Murzalina (2019: 141), "The vast majority of retronyms reflect a narrowing of the meaning caused by the expansion of the meaning of the word, which originally denoted this or that reality." This expansion of the meaning is described by Xydopoulos (2009) as generalization of the protonym. The protonym originally denoted an object, but once generalized it becomes a hypernym that includes the specific senses of both the retronym and the neonym. Furthermore, Xydopoulos (ibid.) describes how the protonym can simultaneously be used in both the more specific senses (unambiguously denoted by the

retronym and the neonym) as well as the more general sense that includes both the retronym and the neonym. In Xydopoulos's view, this means that the protonym is to be considered an autotaxonym or autohyponym – that is, a word that is a hyponym of itself.

In addition, Xydopoulos & Lazana (2014: 79-82) detail the relationship between the retronym and the neonym, drawing attention to the neonym's role as the retronymy instigator and the semantic incompatibility of the modifiers (e.g. *analog* vs. *digital*). The nature of the incompatibility means that the neonym and the retronym are to be considered co-hyponyms or co-taxonyms, two different kinds of the same subordinate class that are distinguished by the "key distinctive characteristic".

Furthermore, Xydopoulos & Lazana (2014: 79-82) examine the modifiers of retronym-neonym pairs from the perspective of polarity, dividing them into two types: ones based on morphological polarity and ones based on privative polarity. Morphological polarity is present in modifiers where one is marked with a negative morpheme, such as the pair *wired network* (unmarked) and *wireless network* (negative morpheme *-less*)*.* Xydopoulos & Lazana claim (2014: 80) that the retronym is always the positive pole while the neonym, lacking the key distinctive characteristic, is always the negative pole. The second type of polarity, privative polarity, differs from the first as the polarity is not morphologically marked. Instead, polarity is indicated lexically with modifiers that refer to either the presence or absence of the key distinctive characteristic. Examples given by Xydopoulos & Lazana (ibid.) include *natural flavour – artificial flavour* and *silent movie – talking movie*.

From the perspective of word-formation, retronyms can generally be considered endocentric compounds consisting of a head and a modifier (Miller 2014: 60-61). The head is formed from the protonym and determines the lexical-syntactic category of the compound, while the modifier restricts the meaning of the retronym to oppose the meaning of the neonym. However, Xydopoulos & Lazana (2014: 85-86) conclude on basis of analysis that

not all English retronyms and neonyms can fully qualify as compounds. The syntactic criteria used by Xydopoulos & Lazana are (a) syntactic interdependence of constituents and (b) rigid constituency. Some retronymic expressions fulfil both criteria and have been fully lexicalized, while others are still undergoing lexicalization and do not yet qualify as a lexical unit.

The premodifier in a retronym is commonly an adjective. Ossokina & Murzalina (2019: 141-143) analyzed various English retronyms and noted the types of retronymic adjectives that occur as a modifier to the noun. Common adjectives include *offline*, *traditional*, *classic,* and *ordinary*, which Ossokina & Murzalina attribute to the increasing use of digital and electronic methods in education. Distance learning and terms associated with it have caused face-to-face classroom teaching to be called "traditional" or "ordinary".

In general, the formation of retronym expressions in English can be seen as a natural process caused by extralinguistic factors (Ossokina & Murzalina 2019). One of the most common causes is technological or scientific development (Xydopoulos & Lazana 2014), but other types of changes also have an effect. Ossokina & Murzalina (2019: 142-143) cite cultural and societal changes as other contributing factors. In their view, the natural emergence of new concepts leads to a need for new words, and this results in the phenomenon of retronymia.

2.4 Corpus linguistics

Corpus linguistics is the study of language through linguistic corpora. It consists of both descriptive as well as theoretical approaches and is characterized (e.g. Meyer 2002; McEnery & Hardie 2012) as a methodology for linguistic research rather than a paradigm. A corpus is essentially a database of natural language, consisting of a vast number of written texts or transcriptions of spoken language, which are stored in an electronic format. Corpora are designed to be used for investigating linguistic phenomena, and thus contain various tools that

allow researchers to carry out studies using quantitative analysis and comparison easily and rapidly across a vast sample size of language (McEnery & Hardie 2012: 1-3).

According to Bauer (2002: 102-103), there are two main benefits to using a corpus for linguistic research. The first one, applying in particular to publicly available corpora, is the replicability of the studies. This means that anyone with access to the corpus is able to repeat the steps taken by a researcher and verify the results for themselves. The second advantage, applying to all corpus research, is the ability to approach linguistic phenomena numerically and quantitatively. This means that researchers are able to make use of massive amounts of data that would be impossible for an individual to accrue or analyze by other means.

Corpus linguistics can be used to study the phenomenon of semantic change. According to McEnery & Hardie (2012: 94-98), corpora are particularly suitable for this type of research due to the fact that their composition is typically fixed and may consist of texts from different periods of time. This means that researchers are able to study variation in the language over time, also known as diachronic variation. In addition, it is possible to observe quantitative patterns by looking at the corpus data. McEnery & Hardie (ibid.) explain quantitative patterns to mean, for example, a new structure that starts out rare but may later become more frequently used or compete in frequency with another structure. These patterns become easily discernible in corpora which contain texts from different periods of time and allow for quantitative analysis due to the amount of data.

Another way corpora can be used is to study the collocative patterns of words or phrases. The concept of collocation refers to patterns of co-occurrence between words, often restricted to mean recurring and statistically significant instances of co-occurrence (Jantunen 2004: 16-17). Observing the collocational patterns of words through the use of a corpus allows us to determine the types of contexts in which they occur and make judgements about their meaning (Crawford & Csomay 2015: 6). Collocational analysis gained popularity

particularly through corpus linguistics, as the large databases offered by corpora made it possible to obtain statistically meaningful results (Jantunen 2004: 15-16). According to McEnery & Hardie (2012: 123), it is generally agreed upon by linguists that the use of a text corpus is the only way to study collocation reliably. However, there is also some debate as to what type of co-occurrence truly counts as collocation, such as when it comes to the distance between the two units (Jantunen 2004: 18-20). Some view collocation as a particular sequence of words, while in other approaches collocation simply means that the words occur in close proximity to one another and are not necessarily restricted to a particular fixed order (McEnery & Hardie 2012: 123).

Corpus-based research is not without issues, however. Bauer (2002: 103-104) notes several problems that may befall the user of a corpus. The first is the fact that despite their large sample size, corpora are still just that – samples of text. They are not exhaustive, and overreliance on them as representations of the language as a whole may make them appear more precise and accurate than they really are. That is, corpora may tell us more about a specific linguistic phenomenon in the corpus at hand than the language as a whole. Another issue noted by Bauer (ibid.) is that corpus size may not be sufficient in order to draw proper conclusions on certain issues. However, this problem mainly concerns smaller corpora, and larger corpora tend to provide more compelling results.

3 Material and Methods

This section will go over the material and methods used in this thesis. First, section 3.1 will give a description of the NOW corpus and why it was chosen as the material for this thesis. Secondly, section 3.2 will describe how the queries were used to gather data. Finally, the list of retronym-neonym pairs studied in this thesis will be presented in section 3.3.

3.1 NOW Corpus

The NOW (News on the Web) corpus is a vast collection of texts from English-language web-based magazines and newspapers from different regions around the world, totaling around 14.8 billion words. The data is gathered from 2010 onwards all the way to the present day and is updated continuously. This means that the corpus allows one to observe contemporary language use and phenomena, such as the frequency of words and new words entering English in the last few years. The corpus also has functions for comparing frequency by year across different sections.

The reason the NOW corpus was chosen for this thesis was due to a multitude of factors. First, studying recent instances of the retronymia phenomenon requires contemporary language data. This is covered by the NOW corpus containing texts from the 2010s to the 2020s. Second, in order to examine how the frequency of retronyms and neonyms changes over the years, the corpus needs to include dates and a chart function for comparing the frequencies across different years. This is possible due to the NOW corpus containing magazine and newspaper texts, unlike other web-based corpora such as iWeb and GloWbE, which gather their data across various websites that are impossible to date. Third, the corpus needs to contain a reasonable number of words in order to study linguistic phenomena. The

NOW corpus is one of the largest corpora of English in existence with 14.8 billion words, making it a suitable option for this thesis.

For this thesis, the time period will be restricted to 2010-2019, leaving out the years 2020, 2021 and the ongoing 2022. This means that the time period will cover exactly ten years, which was determined to be a reasonable timeframe for observing changes in language. Leaving out the sections required no additional actions for the first part of the data collection, as the irrelevant years could simply be ignored. For the second part, however, the "Search by date" option was used to limit the timeframe as 01/01/2010 to 12/31/2019.

3.2 Data Collection

The data was gathered in two parts. First, to study the changing use of the retronyms and neonyms across the years, the CHART option was used to display the distribution of frequency within each of the different sections, which in the NOW corpus are the years. The CHART option gives the frequency in two ways: total frequency of use and a frequency per million words, calculated from the number of words contained in that section.

A simple query was made for each of the terms in a retronym-neonym pair, and the results were then copied onto an Excel document. The frequencies of paired retronyms and neonyms were then compared against one another to observe the patterns in frequency of use in different years. As most of the retronyms and neonyms studied in this thesis consist of a modifier and a head, the queries for them were formatted in this manner: "modifier HEAD". The use of capitals in the words in the query in the corpus search interface finds all instances of the lemma, and using this search function for the head part of the phrase ensures that the query returns both the singular and plural forms of the word.

In the second part of data collection, the collocates of the retronyms and neonyms were searched using the COLLOCATES option. This option gives a list of lexical units that co-occur most frequently with the phrase. When using this search function, it is possible to limit whether the collocates should be to the left or to the right of the phrase, and how far from the phrase they should be. For the purposes of this thesis, the default 4 words left / 4 words right context was used. Queries were made individually for each retronym and neonym, rather than using the COMPARE option of the corpus. The COMPARE option works by comparing collocates of two words to find out the differences, meaning it is not the optimal method for a general comparison of words which we know to be contrastive. Rather, listing the most common collocates for both terms allows us to compare the similarities in addition to the differences.

In the section focusing on the collocative patterns of the retronyms and neonyms, we will also include example sentences for the collocates to demonstrate their usage. These example sentences will then be analyzed qualitatively. The sentences will demonstrate collocates of both retronyms and neonyms in particular as well as instances of the two occurring together.

3.3 Retronym-Neonym Pairs

Table 5 is a list of the five retronym-neonym pairs that were chosen to be studied in this thesis. In some instances, more than one alternative was included for more comprehensive results.

retronyms	neonyms
print(ed) book; paper book	*e-book/ebook*
wired headphones	*wireless headphones*
acoustic guitar	*electric guitar*
analog(ue) watch	*digital watch*
traditional cigarette, tobacco cigarette, combustible cigarette	*electronic cigarette/e-cigarette*

Table 5. The retronyms and neonyms chosen for this thesis.

The motivation for choosing these terms was the following:

- *printed book/paper book* vs. *e-book*: an example of a physical medium becoming available in digital format, a recent and developing phenomenon

- *wired headphones* vs. *wireless headphones*: an example of the wired-wireless contrast caused by technological advancements

- *acoustic guitar* vs. *electric guitar*: an older set of a retronym and a neonym where the newer concept has been adopted but the older concept remains in common use

- *analog watch* vs. *digital watch*: an example of the analog-digital contrast

- *traditional/tobacco/combustible cigarette vs. electronic cigarette:* an example of a shift to electronic devices and a recent phenomenon that has become a debated issue

We can also briefly mention some other retronym-neonym relations of interest that will not be part of the more detailed study.

One source of retronyms and neonyms that was considered for this thesis were terms related to various types of phones. Phones have undergone significant changes in recent decades and are perhaps the most common device used in everyday life. What sets phones

apart is the number of words and overlapping retronym-neonym relations attached to the concept. Table 6 serves to demonstrate this.

protonym	neonym	retronym
(tele)phone	*mobile phone, cell(ular) phone, cell, mobile*	*landline phone*
(phone), *mobile phone, cell phone, feature phone*(?)	*smartphone, smart phone*	*dumbphone, dumb phone*

Table 6. The retronym-neonym relations of phone terminology.

As seen here, there are two stages of retronym-neonym processes at play. The first one occurs with the concept of mobile phones and landline phones, and the second with mobile phones and smartphones. This multi-tiered phenomenon is interesting, but the overlapping processes and the number of different neonyms also makes it difficult to analyze them in relation to the retronym.

Another retronym-neonym pair worth mentioning is *snail mail* vs. *email/e-mail*. This is also an interesting option as a recent phenomenon with less traditional mail being sent nowadays. However, the neonyms *e-mail* and *email* are not very suitable given the data. As the corpus is assembled from various online sources, references to *e-mail* in the form of e-mail addresses on web pages become far too numerous. This results in a bias and makes it difficult to assess the true usage of *e-mail*.

We chose to focus this thesis on simpler retronym-neonym relations. Due the issues mentioned above, the *phone* and *mail* retronym-neonym pairs were deemed too complicated to consider in the framework of this thesis. However, we wanted to highlight them here before moving on to the analysis.

4 Analysis

This chapter presents an analysis of the data gathered from the NOW Corpus. First, section 4.1 examines the frequencies of the retronyms and neonyms and compare their distribution over the years. Second, section 4.2 takes a look at the different collocates of the retronyms and neonyms to analyze their contextual use.

4.1 Frequency by Year

This section examines the frequency of the retronyms and neonyms gathered using the CHART display of the NOW Corpus. The CHART option allows us to see how the use of the phrases has fluctuated over the years.

4.1.1 *Print books* vs. *e-books*

The first pair of phrases studied via the corpus were the retronyms *print(ed) book* and *paper book* and the neonym *e-book/ebook*. The *Oxford English Dictionary* (*OED*) s.v. *e-book, n.* cites the first recorded usage of the neonym from 1988. However, this is in the sense of a "handheld electronic device" – what we would now call an *e-book reader* or *e-reader*. In addition, this first use appears to be a future prediction in an *American Libraries* article. The first use for an existing referent is from 1999, and for *e-book* in the sense we understand it now (a book in an electronic format), the first recorded use is from 2000.

In contrast, the retronyms *print book* and *paper book* are not listed in the *OED* in any relevant sense. *Print book* is mentioned in the entry s.v. *print, adj.*, sense 1, which dates back to the 1400s, but this is a now rare use with no relation to the retronym. *Paper-book* (s.v.) is listed with two senses, sense 1 being a "notebook" and sense 2 being a book used to present

pleadings in matters of law. The retronym uses of *print book* and *paper book* are not acknowledged by *OED*.

For a reason unexplained in the instructional data of the corpus, the query "E-BOOK" returned results for the forms *e-book, e-books,* and the unhyphenated *ebook*, but not the plural unhyphenated *ebooks*. To account for this, the query "E-BOOK" was used for the other forms and the form *ebooks* was queried separately and added to the total. The frequency of the phrases per million words (pmw) can observed in Figure 4 below.
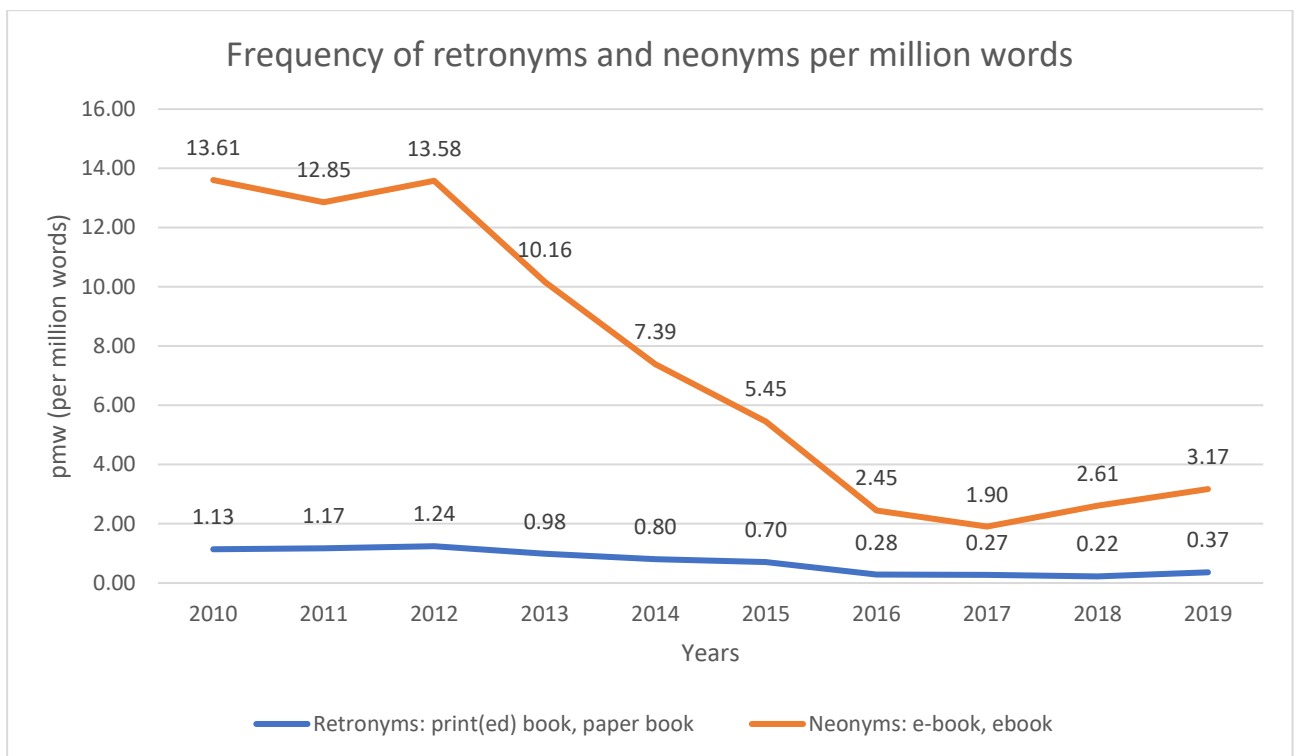
Figure 4. Frequency of retronyms *print(ed) book*, *paper book* vs. the neonym *e-book/ebook*.

We can note the frequency of the retronym phrases has remained rather low in comparison to the neonym *e-book* throughout the observed timeframe. The frequency peaks in 2012 at 1.24 pmw, before starting a downward trend, which continues until 2018. A slight increase can be seen in 2019, however, with a frequency of 0.37 pmw compared to 0.22 pmw in 2018.

Interestingly, changes in the use of the neonym are much more notable. The frequency starts off high in 2010 at 13.61 pmw, but after 2012 it goes on a steep decrease until reaching the bottom in 2017 at a frequency of 1.90 pmw. Following this, the frequency increases slightly towards 3.17 pmw in 2019. While e-books themselves have become more commonplace over the years, it appears that the word *e-book*/*ebook* is less used in recent years compared to the early 2010s.

With this retronym-neonym pair, we can note that the retronym remains in rather stable frequency, while the neonym phrase decreases in use. Whether this is due to the initial buzz around e-books wearing off, or simply lack of need to specify what type of book is talked about by using the phrase *e-book* is unclear. Both terms decreasing in use could suggest that in the early 2010s significantly more comparisons were drawn between the two, resulting in higher frequency. With the use of *e-book* decreasing, the retronym phrases *print book* and *paper book* also decreased in frequency.

One of the factors that needs to be taken into account with books is the existence of the terms *hardcover* (*book*) and *paperback* (*book*), which differentiate between types of printed books, and may therefore inhibit the need for retronyms such as *printed book* and *paper book*. These terms actually share a retronym-neonym relationship themselves, with the term *hardcover* being the retronym contrasted with the neonym *paperback*. In addition, the increasing popularity of audio books in recent years adds further complexity into the matter.

4.1.2 *Wired headphones* vs. *wireless headphones*

The next retronym-neonym pair to be examined is *wired headphones* vs. *wireless headphones*. Neither the retronym nor the neonym is listed by the *OED*, which suggests that

they may be regarded as free phrases rather than compounds. The frequencies of the terms per million words can be observed in Figure 5.
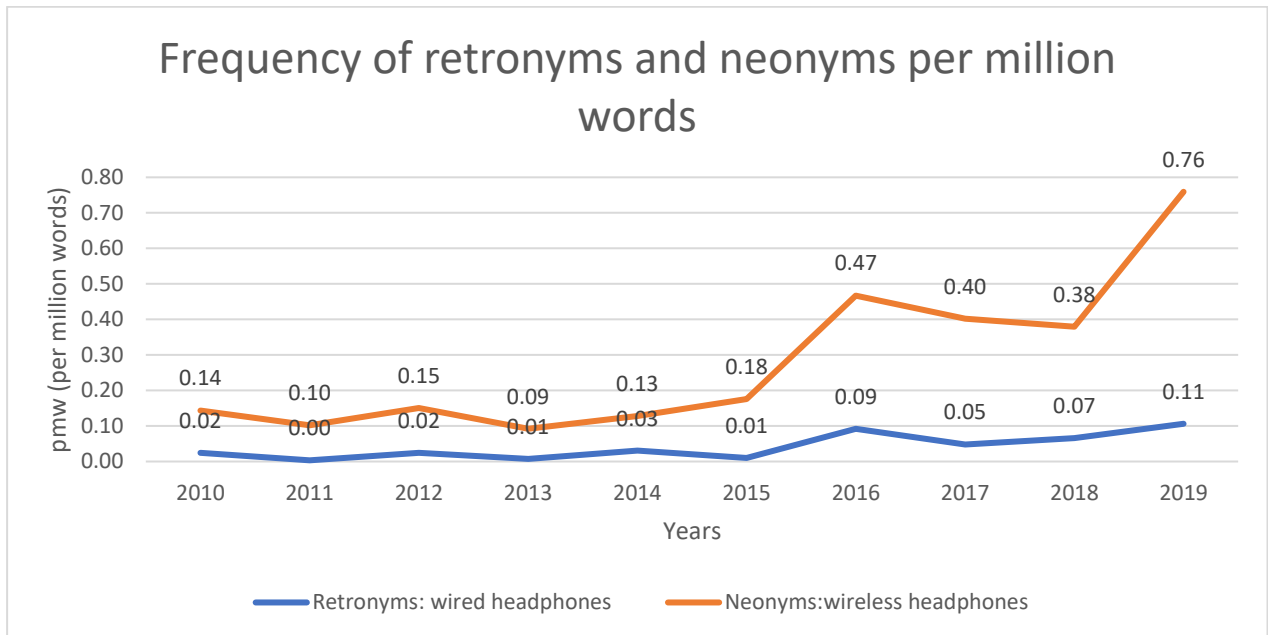
Figure 5. Frequency of retronym *wired headphones* vs. the neonym *wireless headphones*.

We can note that the neonym *wireless headphones* fluctuates around 0.14 to 0.18 pmw in the years 2010-2015, before spiking up to 0.47 pmw in 2016. This spike coincides with the release of the iPhone 7, which stirred up controversy with Apple's decision to remove the headphone jack from the phone. After this, the frequency stabilizes around 0.40 pmw for the next two years, before another spike to 0.76 pmw in 2019. This could be the result of the wireless headphone market and technology catching up following the decreasing presence of headphone jacks in smartphones. Compared to the previous pair with *book*, the timeframe captures the initial increasing stage of the neonym.

The frequency for *wired headphones* follows a similar line pattern. Starting off around 0.02 pmw in the years 2010-2015, the frequency spikes to 0.09 pmw in 2016. Afterwards, the frequency drops slightly in 2017 before starting to increase again in 2018 and ending up at 0.11 pmw in 2019. No spike of similar magnitude to *wireless headphones* can be seen in

2019, however, with the final growth remaining rather modest. Although the frequency is low overall, I believe the development of *wired headphones* is still noteworthy. The pmw of 0.00 – 0.03 is equivalent to a frequency of 1 to 13 hits in the years 2010-2015, while the pmw of 0.05 – 0.11 is equivalent of 84 to 209 hits. This means that practically no mentions of *wired headphones* were made in the first half of the timeframe, while in the second half there were hundreds of instances.

With this pair of phrases, we have noted developments that follow similar patterns over the observed timeframe. The increasing use of the retronym *wired headphones* seems to directly result from the neonym *wireless headphones* gaining ground, prompting the need to specify and draw comparisons between the two. However, the retronym remains significantly less frequent in comparison to the rapid increase of the neonym, indicating that the need to emphasize wirelessness is still a major factor. It will be interesting to see how the situation develops from this point onwards if wireless headphones continue to become more commonplace and thus the need to specify the wireless aspect decreases.

4.1.3 *Acoustic guitar* vs. *electric guitar*

The third pair of words to be examined are the retronym *acoustic guitar* and the neonym *electric guitar*. These words are relatively old compared to the previous two pairs. The first recorded use of the neonym *electric guitar* in the *OED (*s.v. *electric, adj. and n.)* is from 1933. The first recorded use of the retronym *acoustic guitar* is from 1953 (s.v. *acoustic, adj. and n.*). With this in mind, it is interesting to see how the situation appears now that several decades have passed. The frequencies can be observed in Figure 6.
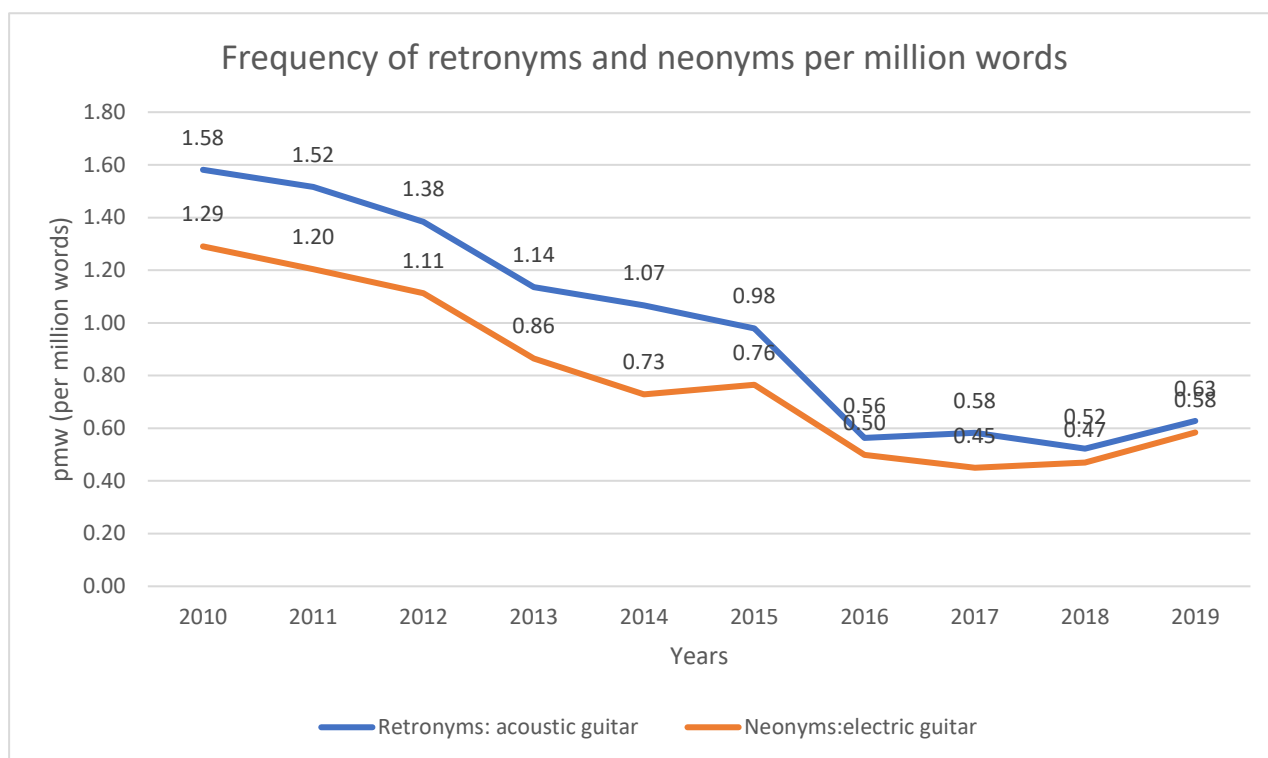
Figure 6. Frequency of the retronym *acoustic guitar* vs. the neonym *electric guitar*.

We can note that unlike the previous two retronym-neonym pairs, the retronym is in more frequent use during the entire timeframe. However, the difference is not significant, and the frequency of the neonym *electric guitar* follows a similar path overall, always remaining slightly below the frequency of the retronym *acoustic guitar*.

The frequency of both terms decreases during the observed time period. The retronym and neonym start off at 1.58 pmw and 1.29 pmw, respectively, but steadily decrease in use before plateauing at around 0.50 pmw in 2016-2019. The difference between the frequencies also shrinks noticeably towards the end, starting from a difference of 0.29 and ending at a difference of 0.05. The overall downward trend of the frequencies appears to reflect an overall decline in the use of the noun *guitar*. If we query the lemma GUITAR alone, we can divide the frequencies of *acoustic guitar* and *electric guitar* by the total frequency of *guitar* to get the results shown in Figure 7.
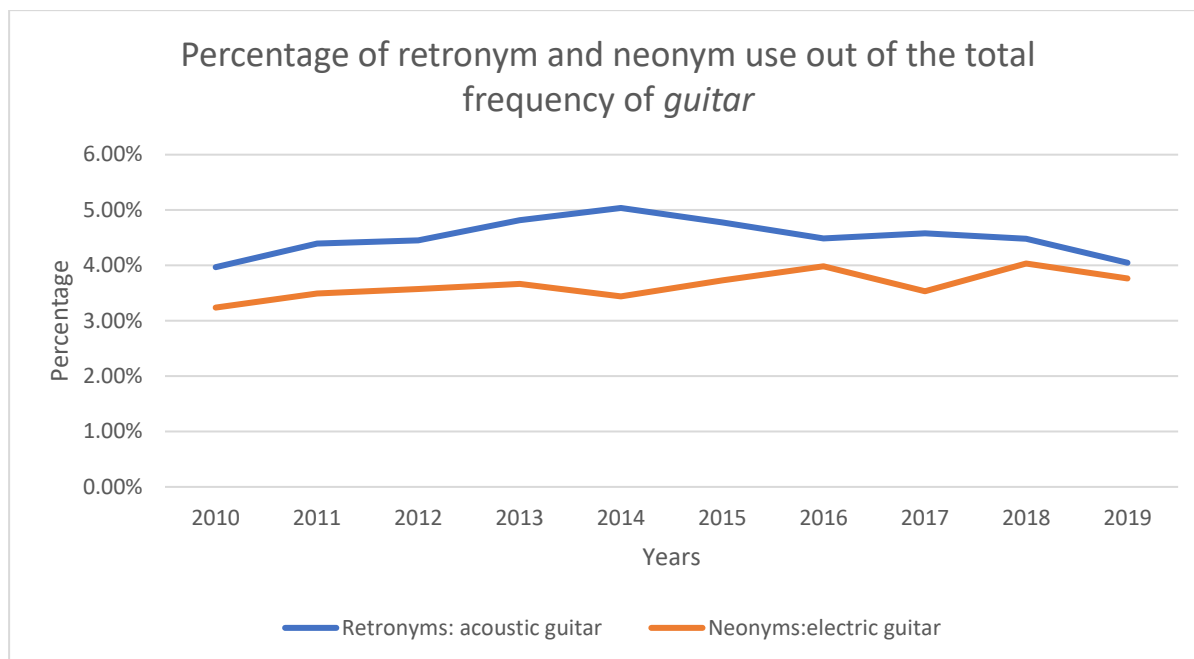
Figure 7. Use of *acoustic guitar* and *electric guitar* relative to the frequency of *guitar*.

It is unclear what factors have caused the frequency of *guitar* in general to decline so significantly over the years. This may have to do with the types of texts collected for the corpus, but it would be difficult to verify. However, the correlation between the retronym and the neonym is relatively stable, suggesting both *acoustic* and *electric* are still relevant specifiers for the type of the guitar. Indeed, the referents of both words are widely used as musical instruments, rather than the newer version supplanting the old version. The fluctuation of the neonym and retronym may simply reflect overall cultural trends.

4.1.4 *Analog watch* vs. *digital watch*

The fourth retronym-neonym pair is *analog(ue) watch* vs. *digital watch*. Watches with digital displays first became common in the 1970s, prompting the creation of the retronym *analog watch*. The *OED* does not list the terms as separate entries, but s.v. *digital, adj.*, sense 3 lists *digital* used for timepieces in constructions such as *digital clock* and *digital watch* starting from the year 1958. Similarly, s.v. *analogue, adj.*, sense 2, lists *analog* used for timepieces

such as *analog watch* starting in the year 1972. The adjective *analog* also occurs with the
spelling *analogue*, so both frequencies were searched separately, and the total frequency was
calculated. The frequencies per million words are shown in Figure 8.
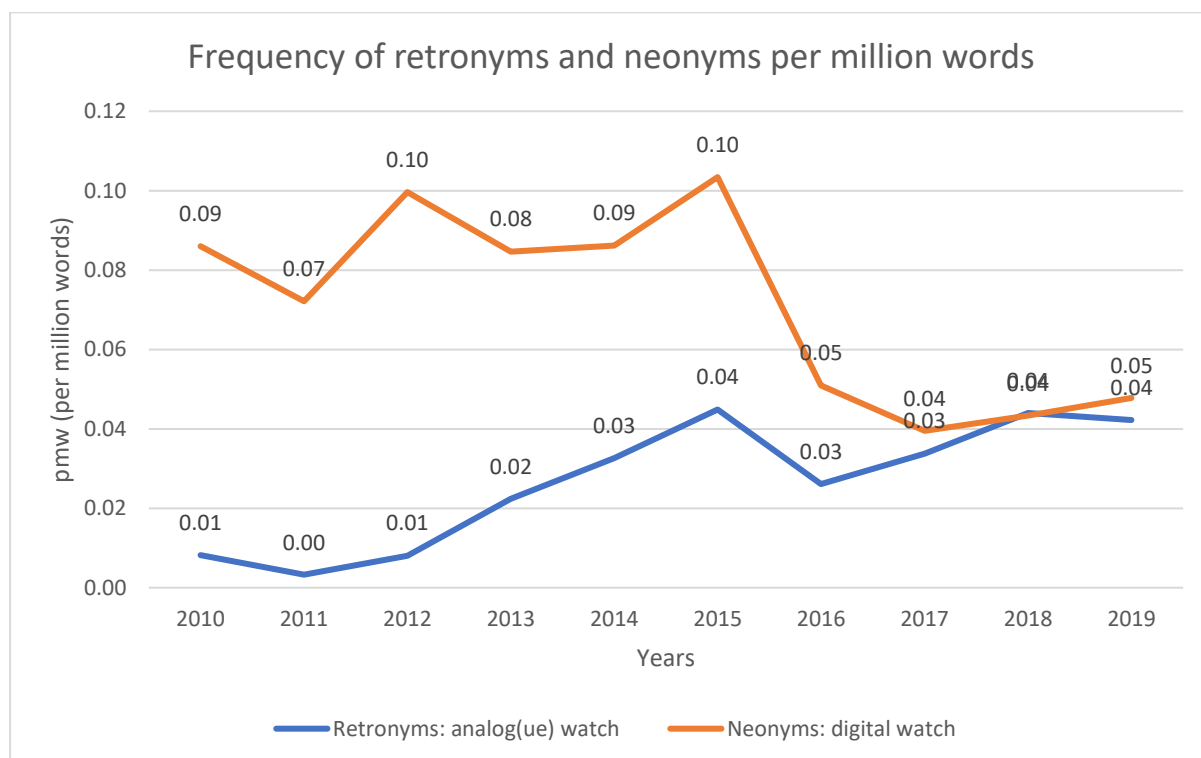
Figure 8. Frequency of the retronym *analog(ue) watch* vs. the neonym *digital watch*.

We can observe that the frequency of the retronym *analog watch* steadily increases
between 2011 and 2015, from 0.00 pmw to 0.04 pmw. In 2016, the frequency drops slightly
to 0.03 pmw, but after this it climbs back up to 0.04 pmw in 2018 and 2019. Meanwhile, the
neonym *digital watch* starts off fluctuating around 0.10 pmw in the years 2010-2015, before
undergoing a steep decrease in 2016 to 0.05 pmw and remaining in that frequency for the rest
of the timeframe.

The difference in frequency starts off with *digital watch* significantly in the lead in the
early 2010s, though *analog watch* slowly begins to catch up towards 2015, after which both
drop in frequency, though *digital watch* much more dramatically. This results in the two terms

reaching the same level of frequency in 2018 at 0.04 pmw, and *digital watch* only 0.01 units ahead in the final year 2019. Compared to the difference of 0.08 units in the beginning, the change is noticeable.

It should be noted that 2015 marked the launch of Apple's smartwatch, the Apple Watch. This could be one of the factors for the peak in frequencies in 2015, though whether the subsequent drop in the frequency of *digital watch* in the following year has any connection to this is ambiguous. Overall, the specifiers *digital* and *analog* for watches appear to be in equal use in the recent years, and the changes may mostly reflect what types of watches are in fashion.

4.1.5 *Traditional cigarette* vs. *e-cigarette*

The final retronym-neonym comparison is between *traditional/tobacco/combustible cigarettes* vs. *electronic cigarettes/e-cigarettes*. In recent years, "vaping" with e-cigarettes has become more common as an alternative to smoking tobacco. The *OED* records the first use of the compound *electronic cigarette* (s.v. *electronic, adj.*) from 1995, while the form *e-cigarette (*s.v.) was first attested in 2007. In 2014, *vape* was chosen as the Oxford Dictionaries Word of the Year. In response, normal cigarettes have started being labelled either *traditional cigarettes*, *tobacco cigarettes* or *combustible cigarettes*. None of these retronyms are mentioned by the *OED*, so they are likely still regarded as free phrases. The alternative terms were queried separately, and the total was frequency per million words was calculated. The frequencies are shown in Figure 9.
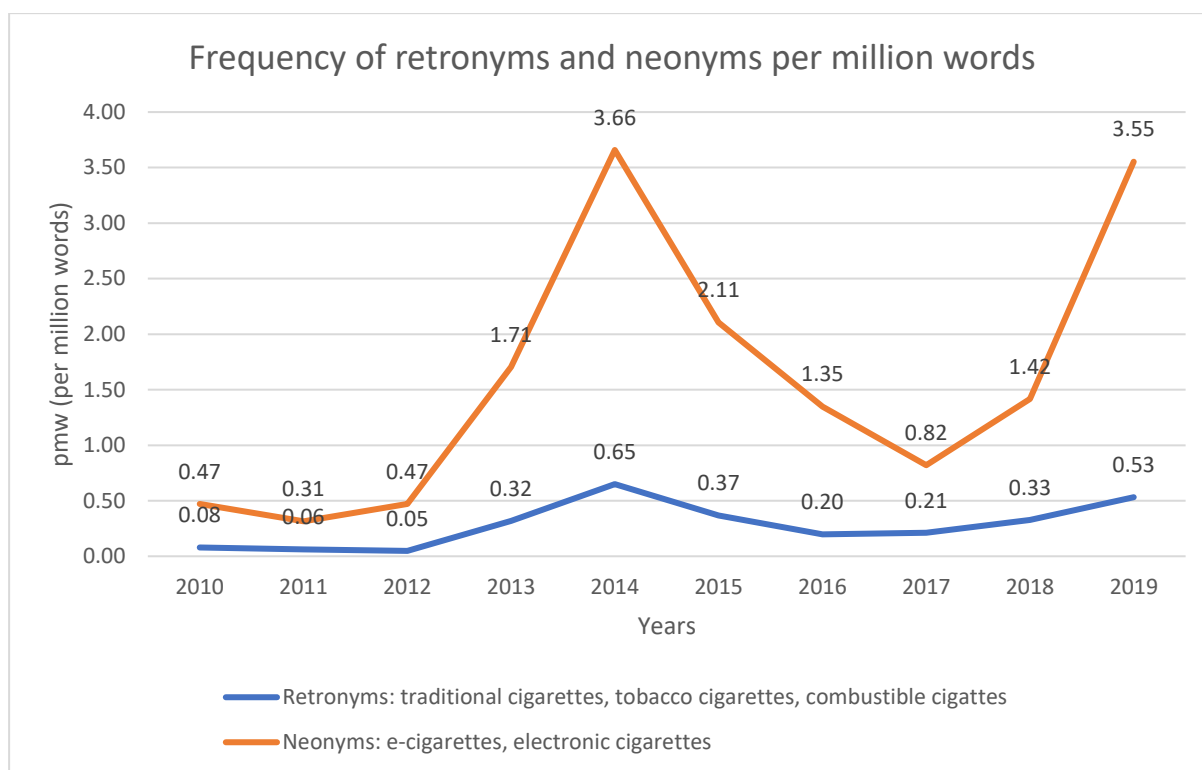
Figure 9. Frequency of the retronyms *traditional cigarette, tobacco cigarette* and *combustible cigarette* vs. the neonyms *e-cigarette* and *electronic cigarette*.

As we can see, a noticeable spike in occurs in the frequency of the neonyms in 2014 at 3.66 pmw, matching the year the word *vape* was chosen as the Oxford Dictionaries Word of the Year. However, this followed by a decline all the way to 0.82 pmw in 2017. In 2019, another spike occurs bringing the neonyms to 3.55. Similarly to *wireless headphones*, the results capture the rise of the neonym within the timeframe.

When it comes to the retronyms, we can observe their frequency follows a more subdued version of the same pattern. The pmw starts around 0.05-0.08 in the first few years, before rising to 0.65 in 2014. After that, a frequency declines like that of the neonyms to 0.20 pmw in 2016, before rising once again to 0.53 in 2019. However, something interesting can also be noted if we compare the different retronym variations with one another. This can be seen in Figure 10.

Percentage of *cigarette* retronyms out of total retronym usage

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
■ combustible	0	0	0	1	21	18	26	61	84	272
■ tobacco	11	15	15	57	106	77	114	152	126	192
■ traditional	8	4	3	70	152	93	162	156	305	592
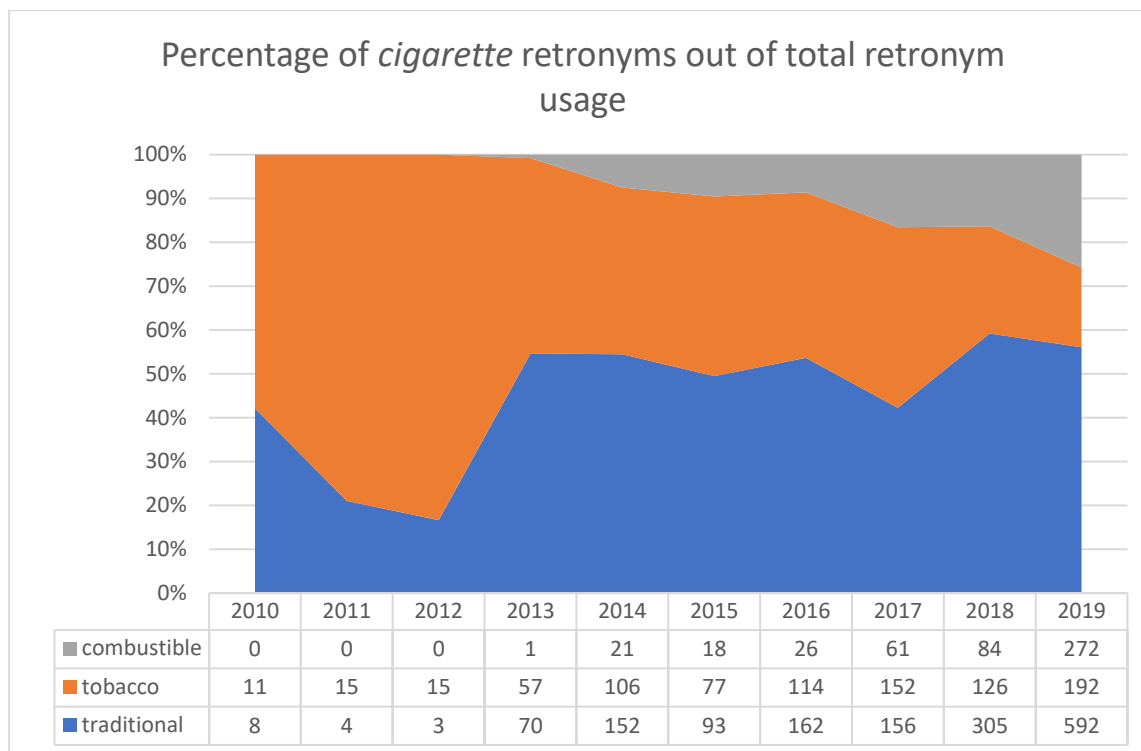
Figure 10. The percentages of the different *cigarette* retronyms out of the total retronym usage.

Here we can see that the preferred retronym for *cigarettes* undergoes some changes during the observed timeframe. In the beginning, the retronyms *tobacco cigarettes* and *traditional cigarettes* are the only ones is use, with *tobacco cigarettes* having a majority of around 55%. This lead grows to around 80% in 2012, before the two become roughly equal in 2013. The retronym *combustible cigarettes* enters the scene in 2013 and slowly increases to around 25% by 2019. The retronym *tobacco cigarettes* decreases to around 20%, while *traditional cigarettes* holds a majority of 55% in 2019. This shows that there has been some competition over the modifiers used to form the retronym.

Overall, we can note that the retronyms and neonyms follow similar patterns of frequency, with peaks in 2014 and 2019. This seems to suggest that comparisons were drawn between the two. However, the retronyms remain in less common use than the neonym counterparts. As there was some competition over the retronym modifier used with *cigarettes*, it may be that other expressions are also used to refer to tobacco cigarettes.

4.2 Collocates

This section will analyze the collocational patterns of the retronyms and neonyms. This will allow us to compare the contexts in which they occur, and the concepts associated with them. The analysis will proceed in the same order as the analysis of frequency in the previous section. Example sentences will be used to demonstrate the usage of the retronyms and neonyms in context. For the collocation search, it was deemed sufficient to search one spelling or alternative of the retronym or neonym phrases.

4.2.1 Collocates of *print books* vs. *e-books*

First, we will start with the retronym-neonym pair *print book* and *e-book.* For the retronyms, only the word *print book* was queried. For e-books, the was query "E-BOOK" was used, which returns results for three of the spellings, excluding *ebooks*. The thirty most common collocates for each are shown in Table 7.

	print book			*e-book*	
#	Collocate	Frequency	#	Collocate	Frequency
1	BOOKS	859	1	FREE	2358
2	SALES	104	2	DOWNLOAD	1769
3	READ	58	3	READER	1115
4	LARGE	53	4	FULL	1021
5	E-BOOKS	51	5	SALES	980
6	READING	49	6	AVAILABLE	973
7	DIGITAL	43	7	SINGAPORE[1]	932
8	EBOOKS	38	8	FOOL[1]	917
9	TRADITIONAL	22	9	READERS	887
10	EBOOK	19	10	AMAZON	866
11	E-BOOK	16	11	KINDLE	785
12	PREFER	14	12	BOOKS	752
13	LIBRARY	14	13	READING	632
14	UNIT	13	14	CHARGE	534
15	SOLD	13	15	PRINT	533
16	READERS	12	16	PACKED	515
17	DISTRIBUTION	11	17	CLICK	485
18	PUBLISHERS	10	18	BOOK	442
19	AMAZON	10	19	FORMAT	418
20	SELLING	10	20	LAYS[1]	405
21	SELL	10	21	PAPERBACK	404
22	KINDLE	9	22	AUDIO	393
23	PUBLISHING	9	23	STORE	378
24	SEGMENT	9	24	WRITING	369
25	DECLINE	9	25	SEND	367
26	LIBRARIES	8	26	LIBRARY	361
27	MAGAZINES	8	27	PUBLISHERS	329
28	PRINTING	8	28	LAUNCHED	295
29	PURCHASED	8	29	AUTHOR	292
30	REPLACE	8	30	PUBLISHING	285

Table 7. The common collocates of *print book* and *e-book*.

The table shows that common collocates of *print books* include TRADITIONAL, LIBRARY, and PRINTING, emphasizing the print book experience and manufacturing process. Quite a few of the collocates are related to sales, such as SALES, SOLD, SELLING, SELL, DECLINE. Example sentences (1) and (2) illustrate this.

(1)   Since 2013, two things have happened in publishing: sales of **print books** have increased by nearly 11 percent, and at the same time, the industry has lost about a

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[1] These unusual collocates occur in the sentence "The Motley Fool Singapore's new e-book lays out a plan to handle market crashes[…]" (The Motley Fool Singapore) and its variants, which are duplicated hundreds of times in the results.

billion dollars in revenue, thanks to Amazon's undercutting of book prices. (vulture.com)

(2)   This means that many books are being sold that would not have been sold as traditional **print books**. (PR Newswir)

It appears that the term *print book* is used particularly when talking about the book market, with mentions of both a decline and increase of sales.

When it comes to *e-book*, we can observe several collocates associated with a digital reading experience, such as DOWNLOAD, READER (in the sense of a reading program), AMAZON, KINDLE, CHARGE, and FORMAT. The collocates FREE, AVAILABLE, and SALES are also among the most common, which shows how often e-books are given away for free but also mentioned in a sales context. The collocates are demonstrated in sentences (3) and (4).

(3)   To download the open access **e-book** for e-readers, including Kindles, please click here. (Global Policy)

(4)   Microsoft Edge will no longer support ePub file format for **e-books** (Windows Central)

Both *print book* and *e-book* include collocates associated with their counterpart among the most common. The retronym *print book* has the collocates E-BOOKS, DIGITAL, EBOOKS, EBOOK, E-BOOK, while the neonym *e-book* has the collocates PRINT and PAPERBACK. The collocate AUDIO is also included on the list for *e-book*. This suggests that the retronym and neonym phrases are often used when the two versions are compared with one another or listed as available formats which also includes audio books. Sentences (5) and (6) show how comparisons are made between the versions.

(5)   College students overwhelmingly said in a survey that they prefer reading **print books** to **e-books.** (*Los Angeles Times*)

(6)   The decline in **e-book** sales continued last year, while sales of **print books** increased by 3.3 per cent, according to Bloomberg View. (*The Straits Times*)

The sentences show *print book* and *e-book* are used when talking about preference and when discussing the changes in the sales market.

4.2.2 Collocates of *wired headphones* vs. *wireless headphones*

The thirty most common collocates of the retronym-neonym pair *wired headphones* vs. *wireless headphones* are presented in Table 8.

wired headphones			wireless headphones		
#	Collocate	Frequency	#	Collocate	Frequency
1	HEADPHONES	524	1	HUAWEI	253
2	PAIR	57	2	RELEASE	252
3	JACK	26	3	FREEBUDS	251
4	WIRELESS	23	4	PAIR	249
5	PLUG	21	5	LITE	247
6	CONNECT	17	6	TRUE	144
7	SOUND	16	7	BLUETOOTH	131
8	BLUETOOTH	15	8	AIRPODS	124
9	APPLE	15	9	BEATS	116
10	LISTEN	13	10	APPLE	99
11	IPHONE	13	11	BOSE	83
12	3.5MM	11	12	SONY	78
13	PREFER	11	13	TRULY	62
14	ADAPTER	10	14	SPEAKERS	52
15	AUDIO	10	15	NOISE	51
16	DONGLE	8	16	SOUND	51
17	EXPENSIVE	8	17	SMART	47
18	LIGHTNING	7	18	HEADPHONES	46
19	FAVORITE	7	19	BATTERY	45
20	OLDER	7	20	WIRED	43
21	NICE	7	21	SOLO3	39
22	PLUGGING	6	22	AUDIO	38
23	CONNECTING	6	23	OVER-EAR	37
24	DEVICES	6	24	SENNHEISER	36
25	JACKS	5	25	BUDS	33
26	EARBUDS	4	26	II	30
27	HIGH-QUALITY	4	27	PRO	30
28	CABLE	4	28	CONNECT	29
29	DECENT	4	29	NOISE-CANCELLING	27
30	LISTENING	4	30	CANCELLING	26

Table 8. The common collocates of *wired headphones* and *wireless headphones*.

We can observe in Table 8 that the collocates of *wired headphones* include various terms referring to functionality, such as JACK, PLUG, 3.5MM, DONGLE, PLUGGING,

JACKS, and CABLE. This suggests that the term *wired headphones* is used particularly when describing the components that are used in the technology. Other collocates include the adjective OLDER, which contrast the wired aspect with the newer wireless technology. Sentences (7) and (8) demonstrate the collocates of *wired headphones*.

(7)   Not everyone has wireless headphones and even if they do, there are times when you want a wired connection - maybe you have older, more expensive **wired headphones** or your phone or Bluetooth headphones could be low on battery -- and dongles are annoying. (TechRadar)

(8)   At the bottom of the phone is a USB-C port but no headphone jack so the phone ships with a dongle to connect **wired headphones**. (NEWS.com.au)

The sentences show how functionality is described in reviews to make a note of whether a phone has a headphone jack. Wired headphones are also associated with being older but that in some cases a wired connection is preferred.

The collocates of the neonym *wireless headphones* are notably different. Many of the most common collocates are company and brand names, such as AIRPODS, APPLE, BOSE, SONY, SOLO3 and SENNHEISER. It appears that the term *wireless headphones* is used particularly when discussing and reviewing new products. However, when it comes to the first few collocates on the list, HUAWEI, RELEASE and FREEBUDS, there appears to be heavy duplication occurring in the corpus data as the context only shows a few different sentences. There are also some collocates related to functionality, however, including BATTERY and NOISE-CANCELLING. There are also the collocates TRUE and TRULY which are apparently used to distinguish some wireless headphones from others. Sentences (9) and (10) demonstrate the collocates of *wired headphones*.

(9)   However, it's worth noting that these aren't true **wireless headphones**, and are still connected to each other by a cable. (soyacincau.com)

(10) The collaboration was inspired by Sony's new **wireless headphones**, which leave tangled, old, headphones a little redundant. (*Irish Times*)

Here we can see in sentence (9) that the phrase *true wireless headphones* is used to differentiate between headphones with a connecting wire between them from a pair of headphones that are separate from one another. The other sentence (10) shows a company name collocated with *wireless headphone* as well as the term being used to describe the product's superiority over wired headphones.

Collocates related to Apple and iPhone occur on both lists, such as APPLE, IPHONE, AIRPODS and LIGHTNING. This supports the idea that Apple's decision to remove the headphone jack from their phones caused an increase in the frequency of the terms *wired headphones* and *wireless headphones*. Additionally, the collocate WIRELESS occurs with *wired headphones* and vice versa, suggesting that comparisons were being drawn between the two. BLUETOOTH is also a common collocate of both terms. Sentences (11) and (12) demonstrate comparisons between wired and wireless headphones and the references to Apple.

(11) One year ago, Apple debuted its **wireless headphones** called the AirPods with the launch of the headphone-jack-less iPhone 7. (Financial Post)

(12) For those wishing to cling to their **wired headphones**, Apple is said to include a 3.5 mm headphone jack adapter. (Citifmonline)

4.2.3 Collocates of *acoustic guitar* vs. *electric guitar*

Next in order is the *acoustic guitar* and *electric guitar* pair of words. The thirty most common collocates are presented in Table 9.

	acoustic guitar			*electric guitar*	
#	Collocate	Frequency	#	Collocate	Frequency
1	GUITARS	1106	1	PLAYING	326
2	PLAYING	283	2	ACOUSTIC	262
3	ELECTRIC	211	3	DRUMS	191
4	PIANO	208	4	BASS	162
5	VOCALS	203	5	TRADITIONAL	146
6	PLAYED	203	6	PLAYED	136
7	STRUMMING	181	7	REVOLUTIONISED	135
8	BASS	121	8	TAMASHEK	133
9	ACCOMPANIED	110	9	LEGENDS	132
10	VOICE	106	10	HOURS	129
11	SONGS	102	11	ENDLESS	127
12	SONG	98	12	SPENDING	127
13	SINGING	97	13	PLAYS	80
14	PLAYS	94	14	SOLO	77
15	STRUMMED	79	15	DOUBLE	75
16	SOLO	73	16	PIANO	74
17	STRINGS	72	17	CUT	71
18	HARMONICA	64	18	GIBSON	65
19	DRUMS	63	19	RIFFS	61
20	SOUND	57	20	SOUND	61
21	ARMED	56	21	ROCK	58
22	SIMPLE	55	22	FENDER	54
23	MARTIN	53	23	DRUM	52
24	BANJO	52	24	VOCALS	48
25	GIBSON	51	25	BAND	45
26	PICKED	51	26	INSTRUMENTS	40
27	STRUMS	49	27	KEYBOARDS	39
28	SANG	48	28	PERCUSSION	37
29	SINGS	46	29	SOUNDS	36
30	SOFT	44	30	SONG	35

Table 9. The common collocates of *acoustic guitar* and *electric guitar*.

The lists of collocates for each term do not look all that different. Both lists include collocates associated with making music, such as PLAYING, PLAYED, PLAYS, SONGS, SINGING, SOLO, SANG, and various other musical instruments, such as PIANO, BASS and DRUMS. This makes sense, as the different instruments would typically be mentioned when listing the members of a band. Different guitar brands are also included, such as MARTIN (primarily acoustic), GIBSON (acoustic and electric) and FENDER (primarily electric).

The collocate ELECTRIC is among the most common for *acoustic guitar* and the collocate ACOUSTIC for *electric guitar*. Once again, the retronym and neonym appear to be

used often in contexts where comparisons are drawn between the two concepts, or they are otherwise mentioned separately on a list of instruments by specifying the type. Examples of this can be seen in sentences (13) and (14).

(13) The site offer review for different types of guitar including **electric guitar**, **acoustic guitar**, bass guitar and guitar strings. (Digital Journal)

(14) I like both electric and **acoustic guitar** playing, but again it depends on the situation and the volumes that you are up against. (*Limerick Leader*)

Some of the noticeable differences are the adjective SIMPLE and SOFT occurring with *acoustic guitar*, and the collocates ROCK, ENDLESS and RIFFS occurring with *electric guitar*. These can be considered the result of the type of sound and music associated with one instrument over the over. This can be seen in example sentences (15) and (16).

(15) The **acoustic guitar** is simple, boring and without variation. (The Gateway Online)

(16) Its striking feature is the enthralling distorted **electric guitar** riffs that makes eclectic communion with electronic sounds and rip-roaring percussions. (GlamSham)

The collocates REVOLUTIONISED, TRADITIONAL and LEGENDS on the list for *electric guitar* appear to be an error caused by duplicated data, as they there are only a few different instances in the context.

4.2.4 Collocates of *analog watch* vs. *digital watch*

Fourthly, the collocates of the retronym *analog watch* and neonym *digital watch* will be analyzed. For *analog watch,* only the spelling *analog* was queried. The thirty most common collocates are listed in Table 10.

	analog watch			*digital watch*	
#	Collocate	Frequency	#	Collocate	Frequency
1	WATCH	126	1	FACE	19
2	WATCHES	43	2	FACES	18
3	CLASSIC	10	3	ONCE[2]	17
4	DIGITAL	10	4	SWALLOWED[2]	16
5	TRADITIONAL	8	5	MISTAKE[2]	16
6	FACE	7	6	CASIO	14
7	SIMPLE	5	7	CALCULATORS	13
8	HANDS	5	8	NEAT	9
9	LOOKS	5	9	WATCHES	9
10	RESEMBLES	4	10	PRETTY	9
11	SMART	4	11	CHEAP	8
12	REGULAR	4	12	WATCH	8
13	TIMEX	3	13	SMART	7
14	TICKS	3	14	POCKET	6
15	MECHANICAL	3	15	WEAR	6
16	APPEAL	3	16	DISPLAY	6
17	FEATURES	3	17	APPLE	6
18	APPLE-BRANDED	2	18	MOBILE	6
19	CASIO	2	19	DESIGN	6
20	SMARTS	2	20	MULTI-FUNCTION	5
21	SMARTWATCHES	2	21	PULSAR	5
22	HANDCRAFTED	2	22	ANALOGUE	5
23	CHUNKY	2	23	CALCULATOR	5
24	CONTACTLESS	2	24	WRIST	5
25	HOURLY	2	25	PHONES	5
26	ANT	2	26	SPICKER	4
27	OLD-FASHIONED	2	27	ANALOG	4
28	MISTAKEN	2	28	BULBS	4
29	DISPOSABLE	2	29	HIGH-TECH	4
30	COVETED	2	30	CLASSIC	4

Table 10. The common collocates of *analog watch* and *digital watch.*

We can observe that collocates commonly associated with *analog watch* include CLASSIC, TRADITIONAL, SIMPLE, REGULAR, and OLD-FASHIONED. These terms draw attention to the simplicity and older status of the analog watch. The collocates HANDS and TICKS also describe the form and function of an analog watch. Example sentences (17) and (18) demonstrate this.

(17)   It's easier to wear with shirts, and looks more like a traditional **analog watch**, rather than a bulky piece of tech. (*Financial Express*)

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[2] These collocates result from duplicated instances of the sentence "She is in favour of Champagne socialism and once swallowed a digital watch by mistake." (*Wine Magazine*).

(18)   Ironic as it is, the appeal of the **analog watch** is its simple, one-feature functionality. (CBC.ca)

The collocates of *digital watch* include CALCULATORS, CHEAP, DISPLAY, and MULTI-FUNCTION. These terms associate the aesthetic of the digital watch to calculators and describe the functionality. The negative descriptor *cheap* is also assigned to the digital watch. The digital watch manufacturer CASIO and the first digital watch PULSAR also occur. Example sentences (19) and (20) demonstrate the collocates.

(19)   While she doesn't necessarily want to see a very expensive timepiece, neither does she want to see a cheap rubber **digital watch** you've picked up from road side sellers. (360Nobs.com)

(20)   It has a bog-standard monochrome display with almost-retro **digital watch** feel. (PCWorld.co.nz)

Interestingly, we have the ironic modifier *almost-retro* used for the neonym *digital watch*, which shows how the new concept has already been around for some time.

Both lists include collocates referencing Apple and smartwatches, indicating their influence on the discourse surrounding analog and digital watches. These collocates include APPLE-BRANDED, APPLE, SMART and SMARTWATCHES. The collocate DIGITAL also occurs on the list for *analog watch*, and the collocates ANALOGUE and ANALOG on the list for d*igital watch*, indicating comparisons being drawn between the two. The references and comparisons are shown in example sentences (21) and (22).

(21)   They're both huge steps up from their former plastic builds, and they bring smartwatches ever closer to matching up with the quality of **analog watches**. (The Verge)

(22)   Additionally, the two devices are also aimed at those who don't want to replace their expensive **analog watches** with **digital watches** and are looking for a relatively low-cost device that helps them keep a track of their fitness levels. (*India Today*)

However, it should be noted that the numbers are very low overall, at best only twenty hits excluding the collocates WATCH and WATCHES for *analog watch*, so it is difficult to draw any substantial conclusions.

4.2.5 Collocates of *traditional cigarettes* vs. *e-cigarettes*

Lastly, we will take a look at the collocates of *traditional cigarettes* and *e-cigarettes*. For the sake of simplicity and to avoid overlapping, the alternate retronyms *combustible cigarettes* and *tobacco cigarettes* and the alternate neonym *electronic cigarettes* will not be queried. The collocates are shown in Table 11.

	traditional cigarettes			*e-cigarettes*	
#	Collocate	Frequency	#	Collocate	Frequency
1	THAN	295	1	USE	2138
2	SMOKING	199	2	PRODUCTS	968
3	SAFER	105	3	USERS	846
4	HARMFUL	90	4	VAPING	582
5	ALTERNATIVE	88	5	JUUL	573
6	LESS	85	6	AMONG	459
7	E-CIGARETTES	81	7	BAN	360
8	SMOKE	79	8	INDUSTRY	360
9	SMOKERS	78	9	TOBACCO	333
10	QUIT	58	10	SMOKING	319
11	NICOTINE	43	11	USING	315
12	TOBACCO	42	12	COMPANIES	284
13	COMPARED	42	13	MAKER	262
14	ALTERNATIVES	38	14	YOUTH	259
15	SMOKED	35	15	SALES	259
16	SALES	26	16	VAPOUR	247
17	VAPING	25	17	NICOTINE	222
18	ELECTRONIC	25	18	FLAVORED	192
19	PRODUCTS	23	19	DEVICES	176
20	USERS	21	20	MANUFACTURERS	175
21	HEALTHIER	20	21	MAKERS	174
22	KILL	19	22	PRODUCT	172
23	DEVICES	18	23	CIGARETTE	168
24	E-CIGARETTE	16	24	LIQUIDS	165
25	DANGEROUS	16	25	ASSOCIATED	163
26	SWITCH	15	26	LABS	149
27	RISKS	15	27	VAPE	147
28	LOWER	15	28	FLAVORS	142
29	WEAN	14	29	EPIDEMIC	142
30	CIGARETTES	14	30	VAPOR	138

Table 11. The common collocates of *traditional cigarettes* and *e-cigarettes*.

The common collocates for *traditional cigarettes* include the obvious SMOKING, SMOKE, SMOKERS, SMOKED, which are associated more with tobacco cigarettes in contrast to the act of using an e-cigarette, which is often called "vaping". However, many of the other collocates seem to stem from comparisons to e-cigarettes which either paint traditional cigarettes as the worse alternative or argue against that claim. These collocates include THAN, SAFER. HARMFUL, ALTERNATIVE, LESS, HEALTHIER, and so on. Their usage is demonstrated in example sentences (23) and (24).

(23)   Acedillo cited that e-cigarettes have been promoted as safer alternatives to **traditional cigarettes** and help a smoke-dependent individual to quit smoking. (*Philippine Star*)

(24)   E-cigarettes, however, remain controversial given their claim to be less harmful than **traditional cigarettes**. (Yahoo Singapore News)

When it comes to the collocates of *e-cigarettes*, we can see words like VAPING, VAPOUR, NICOTINE, FLAVORED, LIQUIDS, FLAVORS, which are used when describing the way these products work. However, they are also used to describe the harmful effects and collocates related to flavor appear to be involved with controversy regarding the sale of flavored e-cigarettes. Sentences (25) and (26) demonstrate this.

(25)   When the user inhales, the **e-cigarette** combines the nicotine with vapour, which is often flavoured (*Vancouver Sun*)

(26)   We must act swiftly against flavored **e-cigarette** products that are especially attractive to children. (techcrunch.com)

Collocates such as JUUL, BAN, INDUSTRY, COMPANIES, YOUTH, MANUFACTURERS, MAKERS and EPIDEMIC also seem to reflect criticism directed towards the e-cigarette market, the company Juul and worry over an "epidemic" of e-cigarette use among youth, which is attributed in part to the aforementioned flavored products. The collocates seem to occur in contexts discussing various bans and regulations around the sales of e-cigarettes. This is demonstrated in the example sentences (27) and (28).

(27) That posture is changing as public, political and regulatory pressure mounts on Juul and the **e-cigarette** industry as a whole. (cnbc.com)

(28) There is an epidemic of **e-cigarette** use among children at US schools which far exceeds smoking prevalence found in previous studies. (*Daily Maverick*)

Overall it seems the retronym *traditional cigarettes* is used particularly in comparison with e-cigarettes. This can be seen in the collocates E-CIGARETTES, VAPING, ELECTRONIC, DEVICE, E-CIGARETTE. In contrast the neonym *e-cigarette* is used more generally and also has its own controversy, although the collocates TOBACCO and SMOKING do commonly occur.

5 Discussion

In this section, we will summarize the results of the analysis in chapter 4 and discuss how they can be interpreted and explained within the theoretical framework we established in chapter 2. The research questions of this thesis were the following:

1) How has the use of the retronyms and neonyms changed over the years?

2) What can be observed regarding the collocational patterns of the retronyms and the neonyms?

In regard to the first question, we observed the development of the five retronym-neonym pairs within the timeframe of 2010-2019. These pairs were *print book* vs. *e-book*, *wired headphones* vs. *wireless headphones*, *acoustic guitar* vs. *electric guitar*, *analog watch* vs. *digital watch*, and *traditional cigarette* vs. *e-cigarette*. First, we can summarize the developments in the usage of these phrases.

First, the development of the retronyms *print(ed) book* and *paper book* vs. the neonym *e-book*/*ebook*. We observed that the frequency of the neonym starts off high in the early 2010s but goes on a decline start with the year 2013. The frequency reaches the lowest in the year 2017, before starting a slight increase in the final years. In comparison, the retronyms follow a similar pattern but with significantly lower frequency overall. The increased frequency of *e-book* seems to have influenced the need to use the retronym expressions, but the neonym experienced larger shifts in frequency of use. It was also noted that the phrases *hardcover* and *paperback* also exist to differentiate between types of print books, which may inhibit the need to use these retronyms when talking about different formats.

Next, we had the retronym *wired headphones* and the neonym *wireless headphones*. We observed that both terms remain relatively stable in the first half of the observed timeframe, with the neonym slightly ahead of the retronym which was barely in use. In 2016, a spike

occurred coinciding with the controversy of Apple removing the headphone jack from the iPhone. This spike affected *wireless headphones* to a greater degree than *wired headphones*, but both terms experienced a noticeable increase. After this, the frequency stabilized slightly lower for both terms, before undergoing another spike in 2019, which was significantly higher for *wireless headphones*. However, it is still noteworthy that *wired headphones* gained some amount of traction after starting from practically nothing.

The retronym-neonym pair *acoustic guitar* vs. *electric guitar* was relatively old compared to the other pairs, and the results show that both remain about as frequent throughout the timeframe. The retronym is slightly more frequently used compared to the neonym, but this difference shrinks towards the year 2019. It was observed that both terms slowly decrease in frequency from 2010 to 2016, but this shift appears to be due to all instances of *guitar* decreasing in the data over the years. If the results are adjusted to account for this, the frequencies of the retronym and neonym remain proportionally stable.

The fourth pair of words, *analog(ue) watch* and *digital watch*, had low frequencies overall, which could be due to the fact that the new concept had already been around for a while before 2010. However, the neonym *digital watch* did start out comparatively higher in the years 2010-2015. The retronym *analog watch* slowly climbed up towards the year 2015, before both terms experience a decline, one which affects *digital watch* to a greater degree. In 2018, the terms are used in roughly equal numbers, but in the year 2019 *digital watch* is slightly more frequently in use once again.

The last set of retronyms and neonyms were *traditional cigarettes/tobacco cigarettes/combustible cigarettes* vs. *e-cigarettes/electronic cigarettes*. We observed that both terms increased in use in the year 2013 and peaked in the year 2014, with the neonyms in particular experiencing a steep increase. This coincided with the prominence of the word *vape*

and the culture impact of vaping in general, as reflected by the word being chosen as the Oxford Dictionaries 2014 Word of the Year. Afterwards the terms decreased in use in 2015-2017, with the neonyms experiencing a steeper decline. However, another spike occurs in 2018-2019, with *e-cigarettes* and *electronic cigarettes* once again significantly higher. It was also observed that the frequencies of the different retronym compounds also change relative to each other. The retronym *tobacco cigarettes* starts out with the highest percentage in 2010 but ends up with the lowest by the year 2019, while *traditional cigarettes* starts out slightly in the minority but stabilizing around 50-55% starting in 2014. The alternative *combustible cigarettes* is first introduced in 2013 and slowly increases each year up until 2019.

Overall, it can be stated that excluding the pair *acoustic guitar-electric guitar*, the neonyms we examined in this study have been more frequently used than the retronyms within the observed timeframe. Generally, the frequency of the retronyms followed a similar pattern to that of the neonyms, but the neonyms had significantly sharper changes in frequency. In the case of *e-book,* the frequency started out high in the years 2010-2012 but decreased towards the latter half of the 2010s. In comparison, *wireless headphones* only started to increase after 2015. With *e-cigarette*, there were two noticeable peaks: One in the middle in 2014, and another at the end in 2019. It is clear that the neonyms had their own booms at different points in time, and the use of the retronyms has mostly evolved in tandem with these shifts. The older set of retronym-neonym, *acoustic guitar* and *electric guitar*, has likely already stabilized a long time ago and thus does not experience any major shifts during the timeframe.

Xydopoulos (2009) argued that the process of retronym creation can be divided into the following four phases:

1. The creation of the neonym ("retronymy instigator"), which has a basic difference to the old concept.

2. The protonym becomes an autohyponym, that is, a hyponym of itself.

3. The creation of the retronym, a co-hyponym of the neonym that has an opposite and incompatible premodifier.

4. Optional nominalization of the premodifier and clipping of the noun head in well-established terms.

When it comes to *print books* vs. *e-books*, *acoustic guitar* vs. *electric guitar* and *analog watch* vs. *digital watch*, we can say that the first three phases have already occurred at the beginning of the timeframe. But for *wired headphones vs. wireless headphones* and *traditional cigarettes* vs. *e-cigarettes*, we may still be witnessing the third phase of the retronym creation within the observed period of time. The retronym *wired headphones* undergoes an increase from negligible numbers in the first half to a few hundred hits by 2019, while with *cigarettes* there is some competition over the modifier used to form the retronym.

The fourth optional phase does not seem relevant for any of the retronyms or neonyms observed in this thesis, as the modifiers in the terms do not particularly lend themselves to this type of usage virtue of being too common. We would not expect paper books to be called "papers" or e-books "Es". This phenomenon seems to mostly occur in situations where the modifier is relatively unique, such as *microwave oven* → *microwave*.

In terms of the collocational patterns of the terms, we observed that the retronym *print book* is used particularly in a sales context with collocates such as SALES, SOLD, SELL etc. The neonym *e-book* is used with collocates related to the digital reading experience and advertising free e-books, such as DOWNLOAD, AMAZON, KINDLE, FREE, AVAILABLE. In addition, the collocational patterns indicated comparisons being drawn between the digital

and physical formats, with E-BOOKS and DIGITAL collocating with *print books* and PRINT and PAPERBACK collocating with *e-book*.

When it comes to *wired headphones*, we observed collocates such as JACK, PLUG, DONGLE, which are used for example in a review context to describe whether wired headphones can be used with a particular phone. The common collocates of the neonym *wireless headphones* included various company and brand names, but also functionality such as NOISE-CANCELLING and the collocates TRUE and TRULY used to distinguish types of wireless headphones. Both terms also collocated with each other, and words related to Apple, which coincided with Apple removing the headphone jack from the iPhone.

The common collocates for *acoustic guitar* and *electric guitar* were similar overall, both including verbs like PLAYING, SINGING and various instruments like PIANO, BASS and DRUMS. The terms also collocated with each other's modifiers ACOUSTIC and ELECTRIC, showing the two types listed separately in different contexts. Some differences were noted, such as SIMPLE and SOFT occurring with *acoustic guitar* and ROCK and RIFFS with *electric guitar*, but these were not significant overall.

Once again, the numbers for *analog watch* and *digital watch* were low overall. However, collocates such as CLASSIC, TRADITIONAL and SIMPLE occurred with *analog watch*, drawing attention to its older status. Collocates related to aesthetic and function such as CHEAP, DISPLAY and MULTI-FUNCTION were listed for *digital watch*. In addition, both terms collocate with one another and words like SMARTWACHES, indicating they used as comparison points to smartwatches.

The results for *traditional cigarettes* vs. *e-cigarettes* showed the retronym being used in contexts arguing for or against e-cigarettes being a safer alternative, with collocates such as THAN, SAFER, ALTERNATIVE occurring with *traditional cigarettes*. In addition,

traditional cigarettes collocates with word like SMOKING and SMOKE while *e-cigarettes* collocated with VAPING, VAPOUR and LIQUIDS. The neonym *e-cigarettes* was also used in relation to controversy surrounding their use among youth and regulations against them, with collocates such as BAN, INDUSTRY, YOUTH and EPIDEMIC.

In general, we can say that the retronyms and neonyms were often used in comparisons between the old and new concepts or a as a way of listing the two separately and making a distinction between them. The collocational patterns also showed the natural tendency of different properties being associated with a particular version of the concept. In addition, some collocates stemmed from discussion or controversy around events that led to the neonym becoming widespread. This was observed in particular with discussion of the sales of print books vs. e-books, phones removing the headphone jack in favor of wireless headphones, and controversy regarding e-cigarette use among the youth.

One way we could think about the factors affecting the use of retronyms and neonyms is through prototype theory. As we discussed in chapter 2, prototype theory posits the existence of prototypes which are abstract representations of semantic categories (Lipka 2011: 85-92). This could be applied to the protonym process by considering the generalized protonym the category and the retronym and neonym referring to members in it. This idea is illustrated in Figure 11 with the example of the category *book.*

3

1

print
book

e-book

audiobook

2

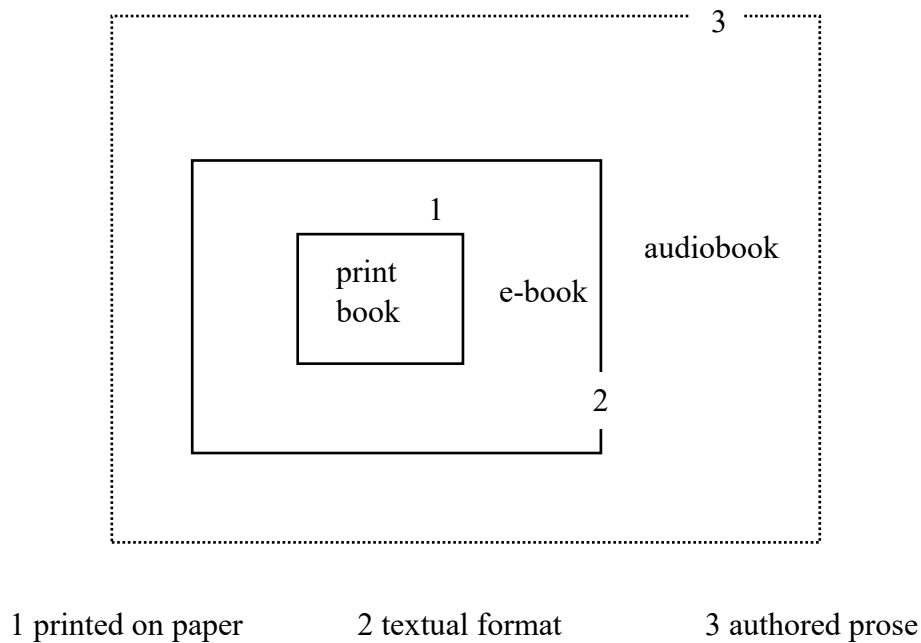1 printed on paper   2 textual format   3 authored prose

Figure 11. An example of applying prototype theory to the category *book*.

In this example, we have placed concept *print book* as the most prototypical member of the category. This is indicated by the fact that it has all features associated with the prototype, here exemplified by "printed on paper", "textual format" and "authored prose". The concepts *e-book* and *audiobook* are given as examples of less prototypical members. According to research on prototype theory, people are more likely to think of prototypical members when asked to list members of a given category (Geeraerts 2009: 186). Thus, if we assume *print book* is the most prototypical member of the category, then people are more likely to think of print books when hearing or reading the word *book*. In terms of retronyms and neonyms, this would mean that the need to use to retronym phrase *print book* is lessened, as the word *book* by itself is unlikely to cause confusion: Most people think of paper books when encountering the word. Whereas, talking about e-books just by using the word *book* is more likely to result in semantic ambiguity due to e-books not being a prototypical member of the category.

Most of the retronyms we observed in this thesis were less frequently used compared to their neonym counterparts, and the instances they did occur in were often when comparisons were made between the new and old concept. This could suggest that the older versions denoted by the retronyms have remained more prototypical than the new versions, which is why the retronym phrases are needed mainly only in instances where both versions are being discussed side by side. The exception to this phenomenon is the retronym-neonym pair *acoustic guitar-electric guitar*, where the retronym was used slightly more frequently than the neonym, suggesting that electric guitars may in fact be more prototypical members of the category *guitar*. This is not that surprising considering that the concept of electric guitars is relatively old compared to the other neonyms examined in this thesis.

While the application of prototype theory to analyze the use of retronyms and neonyms would require more research, it could serve to explain why some retronym phrases remain significantly less frequently used compared to neonym phrases, despite the fact that that the protonym has undergone generalization and become a hypernym category to both the retronym and the neonym. The protonym could refer to either the new version of the concept or the old version, but in practice it more often refers to the more prototypical member of the category.

6 Conclusion

In this thesis we have examined the development of a set of retronyms and neonyms in English in the years 2010-2019 through use of a corpus. We set out to determine how the use of the terms has changed within the timeframe in terms of frequency, as well as to observe the collocational patterns of the terms to the analyze the contexts in which they occur. The theoretical framework of the study consisted of four main sections: lexical semantics, word-formation, retronyms, and corpus linguistic. Of particular significance were the works of Xydopoulos (2009) and Xydopoulos & Lazana (2014), who have provided a detailed description of retronyms and coined the terms *neonym* and *protonym*. The data was collected from the NOW Corpus using the CHART and COLLOCATES displays.

The analysis in chapter 4 showed that different pairs of words have undergone different developments during the timeframe. For example, the neonym *e-book* starts out high but drops in frequency, while the neonym *wireless headphones* starts low but increases towards the end. The neonym *e-cigarettes* experience two notable spikes in frequency, one in 2014 and another in 2019. However, for most of the pairs the neonym was the one to experience major shifts in frequency while the retronym was less frequently used and underwent similar but more subdued changes in frequency. An exception to this was the pair *acoustic guitar-electric guitar*, where both terms remained quite close in frequency with the retronym slightly in the lead. The collocation portion of the analysis showed that retronyms and neonyms were often used in contexts where the two concepts were compared with one another, or their functionality was described. Some collocates also stemmed from controversies or marketing surrounding the new versions.

In the discussion in chapter 5 we pondered why the retronyms remain less frequently used for the majority of terms and suggested the application of prototype theory. In prototype

theory, membership in a given category is graded and dependent on resemblance to the abstract prototype. According to this hypothesis, the older version of these concepts has remained the more prototypical of the two, which limits the contexts in which the retronym phrase is needed to clear ambiguity. For example, print books are seen as more prototypical of the category *book*, reducing the use of the retronym *print book*. In the exception of *acoustic guitar-electric guitar*, the concepts are relatively older, and it is possible that prototype of the category now more closely resembles the newer concept.

In this thesis, we only observed a set of five retronym-neonym pairs, so the number of conclusions we can draw from the analysis is limited. In addition, the amount of data was low in some instances, which reduces the accuracy of the results. The corpus also had some issues with duplicated data which caused some collocates to falsely appear common. However, the overarching patterns appear to be sufficiently reliable when it comes to this set of retronyms and neonyms in particular.

This subject has the potential for many future research topics. Although this thesis was corpus-based study into the matter, there are other ways to approach this matter such a as lexicographic approach into the retronyms that have entered the English language at various points in history. Research could also be carried out on the protonym and how it undergoes the phase of generalization and becomes an auto-hyponym, though this could be difficult as it requires ways to determine the sense of a word in various different contexts. This thesis has merely provided one perspective and attempted to fill the research gap that exists for the subject of retronyms.

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