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The rise in the Productivity of the *O'clock* Construction

Nárůst produktivity konstrukce [*it BE ... o'clock*]

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Poděkování

Vřelé poděkování patří vedoucímu mé bakalářské práce Mgr. et Mgr. Jakobovi Slámovi za jeho trpělivost, cenné komentáře a čas strávený společnými konzultacemi práce.

Prohlášení

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Abstract

The BA thesis zeroes in on the [non-numeral] *o'clock* construction, exemplified by instances such as *beer o'clock* or *stupid o'clock*, relying on the framework of Usage-based Construction Grammar. The central aim of the thesis is to reconstruct the semantic and syntactic development of the construction in recent years and to analyse the rise in the productivity. The theoretical part introduces the framework of Usage-based Construction Grammar and the terminology relevant for the analysis, such as type and token frequency, entrenchment, and productivity. The third chapter describes the distinct but related senses of *o'clock* according to English dictionaries and lays foundation for later attempts to construe a more precise explanation of the nature and the meaning of the [non-numeral] *o'clock* construction.

The analysis of 329 examples, collected from COHA, COCA, BNC, and Twitter, focuses on the type-based, semantic, and grammatical productivity of items in the free slot of the [non-numeral] *o'clock* construction. Additional focus is given to the external syntax of the construction. The qualitative analysis outlines basic observations about the collective interaction between the semantic and grammatical properties of free-slot types and the external syntax, and further discusses their relevance to the overall relative productivity.

Key words: *o'clock*, construction, usage-based, construction grammar, frequency, productivity

Abstrakt

Bakalářská práce se zaměřuje na anglickou konstrukci [ne-číslovka] *o'clock*, jejímiž instancemi jsou například *beer o'clock* nebo *stupid o'clock*. Práce se opírá o teoretický rámec usage-based konstrukční gramatiky a jejím hlavním cílem je popsat sémantický a syntaktický vývoj konstrukce a prozkoumat samotný nárůst její produktivity v posledních letech. Teoretická část představuje rámec konstrukční gramatiky spolu s terminologií, která se užívá v praktické části, jako například typová a tokenová frekvence, upevnění, nebo produktivita. Třetí kapitola nastiňuje příbuzné významy *o'clock*, jak jej popisují anglické slovníky, a zároveň pokládá základ následným pokusům vysvětlit přesněji, jaký význam konstrukce [ne-číslovka] *o'clock* nese.

Analýza 329 dokladů, posbíraných z anglických korpusů COHA, COCA a BNC a z Twitteru, se soustředí na typovou, sémantickou a gramatickou produktivitu konstrukce. Práce se dále také zaměřuje na externí syntax celé konstrukce. Kvalitativní analýza nastiňuje základní poznatky o vzájemné interakci sémantických a syntaktických prvků ve volné pozici i s externí syntaxí konstrukce a posuzuje, do jaké míry jsou relevantní pro celkovou produktivitu zkoumané konstrukce.

Klíčová slova: *o'clock*, konstrukce, usage-based, konstrukční gramatika, frekvence, produktivita

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Introduction

The central focus of the thesis is the [non-numeral] *o'clock* construction used in instances such as *It's beer o'clock* or *I've been up since ridiculous o'clock this morning*, which has risen in productivity in the past twenty or so years. The theoretical chapter outlines the Usage-based approach to Construction Grammar, on which the research part of the thesis builds its hypothesis, and it further introduces the key concepts such as type and token frequency, entrenchment, and productivity.

The [non-numeral] *o'clock* construction can be argued to have emerged through the extension of the [numeral] *o'clock* construction, with which it still retains its polysemic relations. The distinct but related senses of both constructions are explored in Chapter 3, which further compares the definitions for the [non-numeral] *o'clock* and [numeral] *o'clock* constructions aiming to elaborate on the nature of the senses construed by the [non-numeral] *o'clock* construction.

The analytical part bases its assumptions on the hypothesis that the productivity of the [non-numeral] *o'clock* construction rises due to the increasing number of distinct items in the free slot. Further assumptions state that the overall productivity of the construction is dependent on four factors: the increasing type frequency of the construction, the rising variability of semantic and grammatical categories in the free slot, and the use of the construction in context. The sample was drawn from several distinct corpora of British and American English and Twitter (cf. 4.1.1–4.1.5) between the years 1879 and 2021. Only examples from the years 2006 to 2021 were considered for the analysis of the rising productivity. The analysis yielded results which corroborated the hypothesis and opened the door for the discussion of additional observations about the nature of relative productivity of the [non-numeral] *o'clock* construction

2 Framework

2.1 Construction Grammar

Construction Grammar (commonly abbreviated as CxG) is a term describing a rich family of linguistic approaches grounded in the framework of cognitive linguistics which view constructions as the basic linguistic units (Goldberg, 2003: 219). Constructions in CxG are understood to be conventionalized and learned pairings of form and meaning organized into a hierarchical network that captures the entirety of our grammatical knowledge of language (ibid). CxG has emerged as a response to the generative theory lead by Noam Chomsky which has for many years dominated the linguistic field (Croft and Cruse, 2004: 225). CxG and generative linguistics have in common certain fundamental views on language. Both approaches treat language as a cognitive phenomenon, both try to explain how speakers combine structures to make novel utterances, and both approaches advocate for a non-trivial theory of language learning (Goldberg, 2003: 219). From this point onwards, generativists and constructionists make sharp distinctions in their approach to language.

Like gestalt psychologists, who emphasize the analysis of structures in terms of their wholeness and deter from analysing parts separately (Sternberg & Sternberg, 2017: 14), constructionists also attempt to study linguistic elements holistically without separating their formal and functional properties. Goldberg (2006: 4) contrasts this constructionist principle with the generativist consensus that “the nature of language can best be revealed by studying formal structures independently of their semantic or discourse functions,” (ibid.) which directly contradicts the holistic notion of the CxG approach. Generativists further commit to the hypothesis that language is an independent entity which functions via the system of “universal grammar” (Chomsky, 2000: 73). Construction Grammarians, on the other hand, take it as evident that language is learned through mental processes and is influenced by social factors and human experience, which makes language an entity dependent on and emerging from the human cognition (Diessel, 2019: 4). Another sharp contrast between the two approaches is in

the generativist claim that linguistic structures emerge via transformation and derivation of meaning (Chomsky, 1968: 15). In CxG, most constructions emerge through the “combination of at least half a dozen different constructions” (Goldberg, 2006: 10), which contrasts the notion of language being derivational in meaning.

2.2 The Evolution of Construction Grammar

It is important again to emphasise that CxG does not refer to one centralised theory of grammar but rather to multiple distinctive approaches that share enough fundamental principles to be subsumed under the term Construction Grammar.

The emergence of CxG was preceded by “calls for a rethinking of syntactic representation” (Croft & Cruse, 2004: 225) which followed the study of idiomatic phrases by Fillmore et al. (1988). Before the study, idioms were pushed to the side lines as they were not viewed as productive contributors to the “core” grammar due to their linguistic irregularities (Croft & Cruse 2004: 225; Goldberg, 2003: 219). The study carried out by Fillmore et al. (1988), however, concluded that idioms have the potential to be fully productive linguistic elements as well. As one of the examples, Filmore et al. (1998) analysed the idiom *pull X's leg*. Since there is a slot in the idiom which is lexically open, the idiom can be understood as a kind of a schema that can be filled (Croft & Curse, 2004: 236). This example illustrated that idioms could not be viewed merely as “stored fixed strings” which “form a kind of ‘appendix’ to the dictionary” (Hilpert, 2014: 6). According to Fillmore et al.’s (1988) observations, speaker’s knowledge of idioms should be represented in terms of constructions (Croft & Curse, 2004: 236), learned form-meaning pairs ranging from schematic syntactic constructions to substantive lexical items (Croft and Cruse, 2004: 256).

The syntactic reformation induced the rise of a variety of new approaches to language and grammar. The emerging frameworks placed the same emphasis on the central role of the construction as the basic unit of language (Hoffman & Trousdale, 2013: 4). But the range of the constructionist approaches that arose is broad and diverse and the notion of construction has undergone development and changes in the distinct frameworks. For example, despite the initial focus on the irregular and low-frequency items used in language, Adele Goldberg’s framework accounts for exhaustive analyses of the argument structure patterns. In instances like *Mina sent a book to Mel*, Goldberg identifies the instance as the CAUSED MOTION Construction (Goldberg, 2006: 33) which, similarly to other instances of argument structure patterns like the

DITRANSITIVE construction or the PASSIVE construction (Goldberg, 2006) would be considered as frequent and fairly regular in contrast to Fillmore et al.'s (1998) agenda.

2.3 The Basic Tenets of the Constructionist Approaches

The constructionist approaches, despite adapting and emphasising different principles in their frameworks, follow four fundamental principles outlined in Goldberg (2013). The first tenet confirms what has already been discussed: that all CxG approaches treat complex and phrasal phenomena in terms of conventionalized and learned form-meaning pairings (cf. 2.1). The second tenet stresses that the semantic meaning of a construction is directly associated with the surface form of the construction (Goldberg, 2013: 4–5). Returning to the example of CAUSED MOTION construction in section 2.2, the examples (1–3) show that if each of the three examples is analysed based on its surface form and the conventional meaning of the instance, the general correspondences between them are captured more naturally and generally than if the analysis took place only at the level of the verb *sent* (Goldberg, 2013: 5).

(1) *Mina sent a book to Mel.*

(2) *Mina sent a book to Chicago.*

(3) *Mina sent a book toward the front of the room.*

The third tenet emphasises the notion that constructions are not arbitrarily structured but systematically organized into a hierarchical network or relations. (Goldberg 2013: 5–6) The function and nature of the network has generated various studies across the constructionist frameworks. For example, Diessel (2019) approaches the constructional network as a dynamic network model and analyses all elements in the network based on their “associative connections between different aspects of linguistic knowledge” (Diessel, 2019: xiii) which are shaped and influenced by their frequency of occurrence (ibid.). The final tenet recognises grammatical differences across different languages as the outcome of cross-linguistic generalizations of cognitive processes (Goldberg 2013: 6–8).

An additional fifth tenet, one that supports the usage-based model of language, has not been adapted by all CxG theories but sets up the building stones of this thesis. The usage-based approach views language as emergent from usage and knowledge through items and generalizations on varying levels of specificity (Goldberg, 2013: 8–9). According to Diessel (2015: 19), grammar is “a dynamic system of emergent categories and flexible constraints.”

2.4 The Construction

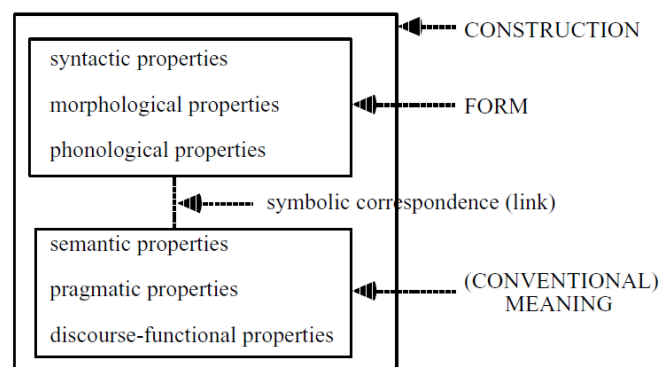
As has been emphasised in the previous sections, CxG is first and foremost “a theory of language that sees grammar (morphemes, words, idioms, etc.) as pairings of form and meaning, i.e., as constructions” (Divjak, 2019: 46). Constructions are regarded as cognitive phenomena emerging from the human mind via general cognitive processes (Diessel, 2016: 296), so every construction carries “a piece of speakers’ linguistic knowledge” (Hilpert, 2014: 9) with it. The inner structure of the construction is sequential and consists of “positions that are fixed as well as positions that are open” (Bybee, 2010: 9). The notion that a construction consists of fixed and open positions gives full meaning to Goldberg’s summarization that language essentially consists of “constructions all the way down” (Goldberg, 2003: 223). Constructions can be seen as moving on a scale that begins with simple phonemes and continues to morphemes, words, phrases, all the way to complex sentential and phrasal elements. In addition to their varying complexity, constructions also differ in their level of schematicity: some constructions are fully fixed and specific, such as the word *Iran* or the idiom *give the Devil his due* (see Figure 1), others can be partially productive with open (free) slots that can be filled by other constructions. The instance of THE XER THE YER construction in Figure 1 *The more you think about it, the less you understand* is a great example of how partially filled constructions can be construed and used in a specific instance. The end of the spectrum presents the most abstract and schematic constructions like the PASSIVE construction, which is an entirely unfilled schema consisting of all free slots.

Figure 1 Constructions at varying levels of complexity and abstraction (Goldberg, 2013: 3)

Table 2.1. Constructions at varying levels of complexity and abstraction	
Construction	Examples
Word	<i>Iran, another, banana</i>
Word (partially filled)	<i>pre-N, V-ing</i>
Idiom (filled)	<i>Going great guns, give the Devil his due</i>
Idiom (partially filled)	<i>Jog <someone's> memory, <someone's> for the asking</i>
Idiom (minimally filled) <i>The Xer the Yer</i>	<i>The more you think about it, the less you understand</i>
Ditransitive construction: Subj V Obj1 Obj2 (unfilled)	<i>He gave her a fish taco; He baked her a muffin</i>
Passive: Subj aux VPpp (PPby) (unfilled)	<i>The armadillo was hit by a car</i>

Constructions are composed of formal and conventional properties (Figure 2) which are connected via symbolic links (Croft & Cruse, 2004: 258–262). The formal properties of a construction are represented by a combination of syntactic, morphological, and phonological properties, while the conventional meaning consists of semantic, pragmatic, and discourse-functional elements. Form and function are connected by symbolic links which are based on pure convention (ibid.).

Figure 2: Inner structure of the construction (from Croft and Cruse 2004: 258)



The fundamental notion that is reflected in the inner structure of the construction is that the meaning of linguistic units is conveyed not only by the semantic, pragmatic, and discourse-functional properties, but also by the formal properties of the construction. Because they are interconnected, they inevitably influence each other and the overall meaning of the instance of the construction. (ibid.) Take for example the instance of Fillmore and Kay’s WHAT IS X DOING Y? construction in (4).

(4) *Diner: Waiter, what’s this fly doing in my soup?*

Waiter: Why, madam, I believe that’s the backstroke.

(Fillmore and Kay, 1994 in Bybee, 2010: 29)

The joke lies in the ambiguous meaning of the construction. The utterance *what is the fly doing in my soup* is an instance of a construction whose formal properties are a wh-question with *doing* and a locative phrase (Bybee, 2010: 28–29) and part of the conventionalised meaning of the instance is the “surprise at incongruity accompanied by more than a hint of disapproval” (Bybee, 2010: 29). The negative implications that the construction takes on “arise from language use in context” (ibid.) and the WHAT IS X DOING Y? construction emerges.

The scalability of complexity and schematicity of constructions together with the mutual interconnection of formal and conventional properties helps fill in the holes created by the

dictionary-and-grammar model which separates the knowledge of vocabulary from the knowledge of grammatical rules (Hilpert, 2014: 5). Identifying constructions as the basic units of linguistic knowledge enables us to disregard the strict and empirically inadequate boundary between grammar and lexicon (ibid.).

2.4.1 Coercion

The second tenet of CxG, which states that surface form and the conventional meaning of an instance of a construction must be examined together in order to fully capture the meaning of the instance, leads to the introduction of a crucial phenomenon studied in CxG: coercion. Michaelis (2004) describes the process of coercion as follows:

If a lexical item is semantically incompatible with its morphosyntactic context, the meaning of the lexical item conforms to the meaning of the structure in which it is embedded (Michaelis, 2004: 25).

In other words, the meaning of a lexical item can be overridden by the constructional form in which it is found (Hilpert, 2009: 17) when “the interpreter must reconcile the meaning of a morphosyntactic construction with the meaning of a lexical filler” (Michaelis, 2004: 7). In examples (5–6), the meaning of the verb *squeeze* and *urge* and the meaning of the prepositions *inside* and *outside* do not have the meaning of directional movement independently encoded in them. It is the CAUSED MOTION construction in which they are found that coerces their locative meaning of both lexical items into a directional movement (Goldberg, 1995: 158).

(5) *Sam squeezed the rubber ball inside the jar.*

(6) *Sam urged Bill outside of the house.* Goldberg, 1995: 158)

Coercion does not happen to every lexical item in a construction, only to those which require a reinterpretation of a particular meaning that they have not yet independently encoded. (Goldberg, 1995: 158) However, these local changes in meaning that coercion accounts for produce “incremental changes in grammatical meaning” (Bybee, 2010: 187).

2.4.2 Constructional Network and Polysemy

The usage-based research on grammar and language acquisition has benefited greatly from the taxonomic organization of linguistic structure (Diessel, 2019: 1). In the approach, the

constructional network is a dynamic model of grammar which subsumes all aspects of linguistic structure under one network of signs which are connected to each other by links and relations carrying distinct aspects of linguistic knowledge (Diessel, 2019: xiii). Essentially all constructions, like lexemes, have their own “ecological location” in the network and that location is dependent on the mutual relationship to all the other constructions (Diessel, 2019: 18). Since the model is dynamic, the relations, which are shaped by domain general learning processes, exhibit constant changes influenced by their frequency of occurrences (Diessel, 2019: xiii). The evidence for new constructional schemas emerging without any relation to already existing ones is scarce compared to those emerging through the extension and modification of existing constructional schemas (Diessel, 2019: 39).

A type of relation between constructions crucial for this thesis is what Goldberg calls *constructional polysemy* (Goldberg, 1995: 33). A linguistic form is polysemous when it “is associated with a range of different but conceptually related meanings” (Diessel, 2015: 59). Usually, there is the central sense of the construction, one that is considered the base, from which the novel extended senses inherit some aspect of meaning or of the scenario (Hilpert, 2009: 60–61). Goldberg (1995: 75) explains constructional polysemy on the DITRANSITIVE construction which has the basic sense of ‘X causes Y to receive Z’ as in example (7), but it also has extended senses such as ‘X enables Y to receive Z,’ as in example (8), or ‘x intends Y to receive Z in the future’ as in example (9).

(7) Johnny gave Sally the ball.

(8) Joes permitted Jill and apple.

(9) Joe baked Bob a cake.

Polysemy is gradient and borders with vagueness, the relations between the senses are judged based on the conceptual distance that the distinct but related senses or uses have and on the degree of conventionalization of the senses or uses. It is deemed impossible to draw strict distinctions between constructions that are vague and those that are polysemous, but the consensus is that if the construction “has multiple conventional uses that are associated with clearly delineated senses,” then it is more than likely polysemous (Diessel, 2019: 105).

2.5 Usage-Based Theory and Principles

The usage-based approach to language is listed as the fifth, optional tenet of CxG. But in reality, constructionist approaches are in general usage-based (Goldberg, 2006:14). This section will explain in more detail the usage-based model, its principles, and the key terms which are applied in the research part of this thesis.

The basic premise of the usage-based model is that “grammar emerges from usage” and usage is therefore at the “centre stage in all accounts of language” (Dąbrowska, 2016: 2). The term “usage-based” was originally coined by Roland Langacker, who stated that “usage events are the source of all linguistic units” (Langacker, 2013: 220). Diessel offers a brief summary of the usage-based model describing grammar as “a dynamic system of emergent categories and flexible constraints that are always changing under the influence of domain-general cognitive processes involved in language use” (Diessel, 2015: 296; Tomasello, 2003; Goldberg, 2006; Bybee 2006). In other words, language is not an independent module in the mind, but is rather grounded in general cognitive processes such as attention, memory, perception, categorization, abstraction, and conceptualization (Taylor, 2019: 87). Usage-based cognitive linguists attempt to “derive linguistic structure from the application of (these) domain-general processes” (Bybee, 2010: 1). Understanding the broadness of the experience with language is crucial and quantitative studies are therefore extremely important in the studies based within the framework of Usage-based CxG (Bybee, 2010: 12).

All items of language experience, from phonetic details to meanings and inferences of utterances, are stored in our rich memories. These rich memories are recognized and matched onto existing stored representations via the categorization process (Bybee, 2010: 8). Identical tokens of language experience build up mental exemplars that represent the memory for linguistic forms (ibid.). Stored exemplars are generalised and represented by a prototype structure, ranging from the most central member to the most peripheral ones (ibid.). Linguistic information is also stored redundantly at different levels of abstraction (Hilpert, 2009: 72) and is “built up through categorization of similar instances of use into more abstract representations” (Bybee 2010: 9).

2.5.1 Frequency, Frequency Effects and Entrenchment

How grammatical representations are structured in the human mind is affected by their frequency of occurrence and the meaning of words and constructions (Croft & Cruse, 2004:

292). Frequency in the usage-based model “captures how frequently a stimulus (such as a word or a phrase) is encountered and processed in the environment” (Divjak & Caldwell–Harris, 2015: 54). As a result, items which are encountered with high frequency are processed and identified faster, easier and with higher accuracy. Items with lower frequency, on the other hand, are harder to recognize and process and are prone to erroneous recognition. Additionally, high frequency items are resistant to acoustic and visual pollution and are more likely to resist brain changes due to damage or aging. Bybee made a distinction between two forms of frequency: token frequency and type frequency. (cf. Bybee, 2006; Bybee & Hopper, 2001). This distinction is fundamental to the usage-based model precisely because each of the forms affects differently the degree of entrenchment and productivity of all existing linguistic items and constructions (Bybee, 2006).

2.5.2 Token Frequency

Token frequency “counts the number of times a unit appears in running text” (Bybee, 2006: 9). This means that should the corpus generate three instances of *beer o'clock* and three instances of *wine o'clock*, the token frequency of the construction is six tokens. Repeated experience of a particular token facilitates its learning and access to it (Divjak & Caldwell-Harris, 2015: 54–55) and allows for the form to gradually become entrenched and retained in language. For example, higher token frequency of verbs increases their representations (Goldberg, 2019: 68) which leads among other frequency effects (cf. Bybee, 2006; Goldberg, 2019) to the retention of English irregular verbs such as *keep*, *sleep*, *weep*, *leap*, and *creep*. They are most resistant to change because their high token frequency strengthens their presence and their use in language (Bybee, 2006: 10).

2.5.3 Type Frequency

Type frequency counts “the number of distinct items that are used in or within the structure of interest” (Divjak & Caldwell-Harris, 2015: 54–55) In essence, only patterns of language have type frequency since the effects of type frequency show “how many distinct items are represented by the pattern” (Bybee, 2006: 14). This means that if the corpus generates three instances of *beer o'clock* and three instance of *wine o'clock*, the token frequency of the construction will be six and the type frequency will be two, meaning that the construction is represented by two types *beer* and *wine*. Type frequency determines the degree of productivity of constructions, with higher type frequency predicting higher productivity and lower type frequency predicting lower productivity (Bybee, 2010: 94–96). If a construction has been

witnessed with 1,000 distinct verbs (hence with the type frequency of 1,000), its variability will be much greater than that of a construction which has been witnessed with only 10 distinct verbs (i.e., one with the type frequency of 10) (Goldberg, 2019: 65). Low variability of types “leads to the formation of a narrow category that is less easily extended to new cases that would fall outside the range of previously witnessed variability” (Goldberg, 2019: 67).

2.5.4 Entrenchment

With every use (token) of a construction, speakers activate nodes or patterns of nodes in their mind. The frequency of activation strengthens their mental representations (memories) until they become entrenched units (Croft & Cruse, 2004: 292). In general, there is a correlation between the token frequency of a particular form and the degree to which the forms become entrenched. The more entrenched they are, the more resistant they become to reformation (Bybee, 2006: 10–11). The degree of entrenchment varies based on the frequency of occurrence. However, frequency alone is not the sole factor which influences the degree of entrenchment of items, or if an item becomes entrenched at all (Croft & Cruse, 2004: 292–293). The variability of time and location affects the process of entrenchment as well: as Adelman et al. (2006) found in their study on language exposure, items of widely time-spaced exposures in different and unpredictable environments are recalled better than items found in predictable environment and/or in defined time periods (Divjak & Caldwell-Harris 2015: 63). Additionally, it is argued that memory traces must logically be retained after one single exposure, otherwise their entrenchment would never increase. In rare cases, items can become entrenched through only a single exposure if they are “associated with intense emotions” (Divjak & Caldwell-Harris 2015: 68-69).

2.5.5 Productivity

Language productivity refers to “our vast ability to produce language creatively” (Sternberg & Sternberg, 2017: 333), in other words, to create novel words, sentences, and utterances. Productivity determines “the likelihood that a pattern or a construction will apply to a novel item” (Bybee, 2016: 97) In morphology, an example of a highly productive pattern is the suffix *-ed* denoting the past tense of verbs: the vast majority of Present Present-Day English verbs take the regular ending *-ed* in comparison to about 180 Present-Day English verbs with some types of irregularities (ibid.).¹ Productivity is measured by the degree of type and token

¹ The exact number of irregular verbs differ, for example Quirk et al. (1985: 104) lists 250 irregular verbs.

frequency which interact with the degree of schematicity of the constructions (Bybee, 2010: 67). Schematicity demonstrates the “degree of dissimilarity of the members of a class” (Bybee, 2010: 67) which poses restrictions on the potential items that the extension of use could apply to (ibid.) Higher productivity is conditioned by higher type frequency and higher degree of schematicity. Highly schematic constructions with high type frequency showcase maximal productivity; with decreasing schematicity the degree of productivity gradually becomes limited (Bybee, 2010: 67–69). Productivity is also hindered by high token frequency which causes that “only the entrenched specific word form will be activated in language use and thus will not reinforce the superordinate schema” (Croft & Cruse, 2004: 297). High entrenchment mostly results in what Bybee (2006) describes as conservatism, reduction, and the autonomy of constructions. While low entrenchment (and therefore low token frequency) allows for constructions to be used productively, high entrenchment works in favour of retaining the highly frequent irregular verbs in Present-Day English.

Productive types can eventually transform into their own categories for several reasons: 1) higher number of distinct lexical items in the free slot of the construction prevents constructions from being associated with only particular lexical items, this allows general categories to emerge over the items that occurs in the free slots of the construction; 2) growing type frequency leads to the growing generalisations of criterial features and creates a broader extension to new items; 3) high type frequency strengthens the representational schema and makes space for creative uses in the future (Divjak & Caldwell- Harris 2015: 55). What this implies is that if the free slot in the [non-numeral] *o'clock* construction contains a high number of distinct types such as *beer*, *tea*, *cheese*, or *party* and not only one type *beer*, and the number of distinct types keeps rising, the construction can potentially emerge over the references to specific items (for examples the types referring to alcoholic beverages) and become more creative with the types that can be found in the free slot.

3 The *O'Clock* Construction

From a diachronic viewpoint, the word *o'clock* consists of a preposition *of* and the noun *clock*. According to the Oxford English Dictionary, the phrase was phonetically reduced

to *o'clock* over time.² The *o'clock* construction appears in two formally distinct forms. The first form is the [numeral] *o'clock* construction, which employs a numeral or items substituting for numerals in the free slot of the construction. The second form is the [non-numeral] *o'clock* construction, which employs items other than numerals or items which substitute the numeral in the free slot. The two distinct forms are recorded in dictionary definitions of the word *o'clock* and will be outlined in this chapter. The particular dictionaries consulted and cited are the Oxford English Dictionary (OED), Merriam Webster Dictionary (Merriam-Webster), the Collins Dictionary (CoD), the Cambridge Dictionary (CaD), and the Lexico Dictionary (LD). The aim is to shed light onto the distinct but related senses recorded in the dictionaries and to lay foundation for the later attempts to develop a more precise definition of the [non-numeral] *o'clock* construction.

The following sense in (a)-(d) regards the [numeral] *o'clock* construction and can be found in all entries of the consulted dictionaries.

- a) 'of or according to the clock: used to express time, after a numeral indicating the hour' (OED)
- b) 'according to the clock' (Merriam-Webster)
- c) 'used after a number from one to twelve to indicate the hour of the day or night' (CoD)
- d) 'used after a number from one to twelve to say the time when it is exactly that hour': *He called me at four o'clock in the morning.* (CaD)

Another sense with three definitions in all the consulted dictionaries is used to refer to a position or a location. All definitions are listed in (e)-(g). As in the previous case, *o'clock* follows after a numeral, as explicitly stated in two of the three definitions.

- e) 'used following a numeral to indicate direction, bearing' (OED)
- f) 'used for indicating position or direction as if on a clock dial that is oriented vertically or horizontally': *an airplane approaching at six o'clock* (Merriam-Webster)

² Full diachronic description can be accessed here
<<https://www.oed.com/view/Entry/130270?redirectedFrom=o%27clock#eid>>

- g) ‘used after a number to indicate direction or position relative to the observer’ (Collins D.)

The Oxford English Dictionary and Cambridge Dictionary include the sense of the [non-numeral] *o'clock* construction which is the subject of this thesis. OED lists a definition which addresses the [non-numeral] *o'clock* constructions that contain an adjective, as can be seen in (13):

- h) ‘with specifying adjective, as *stupid o'clock*, *silly o'clock*, etc. An unreasonably, excessively, or inconveniently early or late hour’: *with the festival over it is time to set aside the alcoholic enlightenment with Richard Whiteley at silly o'clock in the bar* (OED)

Unlike the previous instances of the [numeral] *o'clock* construction, the free position in this instance of the [non-numeral] *o'clock* construction is occupied by the word *silly*, but also other words such as *daft(er)*: *Did I mention I start at daft o'clock, meaning I'd have to trudge to the bus stop at even dafter o'clock* (OED; 2006).

The Cambridge Dictionary also lists a definition which describes the [non-numeral] *o'clock* construction: ‘used to refer to a time of day when you usually do or have a particular thing (Cambridge D.)

The listed examples use *chocolate* and *wine*:

- (i) *For many mums, the kids' bedtime is chocolate o'clock.*
(j) *It's wine o'clock!*

There is a formal and a semantic shift in the free slot of the construction where the numeral was replaced by a word and the meaning shifted from a specific reference to an hour to a foreground an event.

Additionally, *beer o'clock* already has its own entry in the Collins dictionary: ‘the time of day when it is acceptable or customary to start drinking alcohol.’ Lexico Dictionary lists entries for *beer o'clock*: ‘an appropriate time of day for starting to drink beer’ and *wine*

o'clock: 'an appropriate time of the day to start to drink wine.' While the entry for *stupid o'clock* is labelled as informal British: 'A time of the day that is extremely early.'

The word *o'clock* can be found in two polysemous constructions, in the [numeral] *o'clock* construction and the [non-numeral] *o'clock* . The two constructions are formally distinguished by different items in the free slot position; while the former construction employs a numeral, the latter employs words or larger grammatical units. As illustrated in the definitions, the constructions also differ semantically; while the former is used to refer to a specific hour or to give directions, the latter refers to activities and events. The thesis aims to analyse how productive the uses of the [non-numeral] *o'clock* construction are; therefore the items analysed in this thesis will all be instances of the [non-numeral] *o'clock* construction.

4 Material and Method

The second chapter laid out the framework of Usage-Based Construction Grammar from which the research part draws. The third chapter further discussed the lexicographic definitions of the *o'clock* construction and its different senses with the aim to narrow down the phenomenon studied in the research part of the thesis. This chapter summarizes the process of data collection and accounts for the methods used to collect and analyse the data. It also addresses the scope of the research and its limitations.

4.1 Data Collection

The data compiled is drawn from several corpora and the social media network Twitter. The data drawn from corpora includes 60 examples (cf. 4.1.1 to 4.1.4) and data collected from Twitter includes 272 examples (cf. 4.1.5) When collecting the data, the goal was to obtain examples of the *o'clock* construction which do not employ a numeral in its free position. Each corpus was analysed individually using a query. Twitter was searched via its advanced search function, which allows the user to search for tweets containing the phrase *o'clock* in a selected period of time.

4.1.1 COHA

The Corpus of Historical American English (COHA) is the largest corpus of historical American English consisting of 400 million words recorded between the years 1810 and 2000.³ To search for all phrases containing *o'clock*, the query ** o'clock* was used, with the number of results (hits) set to 1,000. The subsequent frequency breakdown presented 557 type hits with the total of 29,709 token hits. The frequency breakdown results were then manually analysed to collect relevant data and discard irrelevant examples. Irrelevant hits included numerals (1) and words standing for numerals (as in example 2), textual and formatting errors (3–4), incomprehensible examples (5), and generally irrelevant examples:

- (1) *At **twelve o'clock** the horses arrived at the mouth (...)*
- (2) *I wonder **what o'clock**' t is non?*
- (3) *The bell of the courtyard clock gonging **outp180eight o'clock**.*
- (4) ***Tivo o'clock!** I sat up quickly and the pain almost split my skull.*
- (5) *It **was zr o'clock** in the morning and stifling hot.*

³ The corpus can be accessed via the interface at <<https://www.english-corpora.org/coha/>>.

The final results include only 3 relevant examples of the *o'clock* construction studied in this thesis, dating from the years 1844 to 1997. (Vzorek příkladů .slsx)

4.1.2 COCA

The Corpus of Contemporary American English (COCA) is a 1-billion-word corpus of contemporary American English dating from 1990 to 2020 with a fair balance of genres from spoken and written English.⁴ The employed query was again * *o'clock*. The frequency breakdown presented 168 type hits with the total of 13,189 token hits. In the same manner as previously, the frequency list was then manually searched, and all the relevant data was extracted from the list. Irrelevant examples, which were discarded, consisted of numerals (6) and words standing for numerals, textual errors (7) and formatting errors(8), incomprehensible instances (9), and generally irrelevant examples (10).

(6) *Eight o'clock in the morning, babe?*

(7) *I woke up attwo o'clock.*

(8) (...) *hello hello hello who is it hello hmm ok hopefully you're not o'clock is here was like she (...)*

(9) *It began at S o'clock and the guests remained for some time (...)*

(10) *It was close upon io o'clock when I reached the Chaikins' flat in Harlem (..)*

The final results include 42 relevant examples of the *o'clock* construction studied in this thesis. (vzorek příkladu .xlsx)

4.1.3 Spoken BNC 2014

The Spoken British National Corpus 2014 is an 11.5-million-word corpus consisting of transcripts of 1,251 recorded conversations between 672 speakers in informal settings from the years 2012–2016.⁵ The query * *o'clock* produced 24 type hits with the total of 1468 token hits. After the manual analysis of the frequency list, data deemed irrelevant was discarded. As in previous situations, the irrelevant examples included numerals (11), contained formatting errors (12), or were incomprehensible (13):

⁴ The corpus can be accessed via the interface at <<https://www.english-corpora.org/coca/>>.

⁵ The corpus can be accessed via the interface at <<https://cqpweb.lancs.ac.uk>>.

(11) *I phoned him about **one o'clock** just having lunch he was like ooh*

(12) *it 's --UNCLEARWORD **o'clock**. it 's getting dark*

(13) *rm but they get back in about **four (.) o'clock** ish*

The final results include 15 examples of the *o'clock* construction studied in this thesis. (vzorek příkladů .xlsx)

4.1.4 BNC

The British National Corpus (BNC) is a 100 million-word corpus which consists of spoken and written English; the samples were collected from various genres between the years 1985 and 1994.⁶ The same query as previously was employed and produced 40 type hits and a total of 4,372 token hits. The manual search discovered that no type hits instantiated the [non-numeral] *o'clock* construction and thus no data was collected. The fact that the data was collected some three decades ago may have been the reason why no relevant data was retrieved.

4.1.5 Twitter

Twitter is an international social media network which allows its users to publish public messages known as tweets, limited to 280 characters.⁷ The phrase *o'clock* was searched between the years 2006 and 2021 via the advanced search function,⁸ which allows the user to filter specific words, phrases, or their combinations in a selected time period. The phrase *o'clock* was entered in the text field, and English was set as the default language. The rather low number of examples allowed for all tweets searched between the years 2006 and 2010 to be collected. The data from the following years (2011 to 2021) was restricted to 10–20 examples collected per each year from arbitrarily selected dates, since the number of tweets kept continuously increasing. As an example, data from the year 2020 was collected from the days 28 to 31 March 2020 and includes 8 examples. The advanced function enabled search for all tweets containing the word *o'clock*, the tweets were then manually sorted and all examples which did not feature a numeral or a substituent for a numeral in the free slot position were selected. The final list consists of 269 examples taken from Twitter. (vzorek příkladů. xlsx.)

⁶ BNC can be accessed via the interface at <<https://www.english-corpora.org/bnc/>>.

⁷ However, until the year 2017 tweets were limited to 140 characters per each tweet.

⁸ The advanced search function can be accessed via the interface at <<https://twitter.com/search-advanced?lang=en>>.

4.2 Scope and Limitation of Material

To summarize the scope of the material detailed above, the examples were collected from two American English corpora and two British English corpora, covering to an extent the use of the construction in American and British English. Due to the objectively small amount of data, insufficient to perform a quantitative analysis, more data was obtained from the social media network Twitter. Twitter was selected due to being frequented by different kinds of users such as public journalists, brands, commentators of various kinds, or private users, all of which produce different types of tweets. The relatively large amount of data obtained from Twitter allowed for a larger analysis of the *o'clock* phenomenon.

Nevertheless, possible shortcomings of the material obtained from Twitter must be addressed. The instances collected from the network are a small portion of the actual size of potential data that could be drawn upon; however, the actual number of examples would be well beyond the scope and extent of this thesis. As a solution, 10–20 examples were collected to represent each year following 2011. In an attempt to not compromise the material, a random date (or sometimes several) was selected per each year and the first 10–20 relevant instances were collected.

4.3 Method

The aim of the thesis is to analyse the productivity of the *o'clock* construction based on the expanding variability of items found in the filler-slot position. The data will be analysed in three parts: the first part will present items found in the free position and will outline their semantic and grammatical categories, the second part will analyse the semantic and syntactic categories in detail. The final part will analyse the frequency of the items over time and will compare their realised and potential productivity separately as well as in comparison with the semantic and syntactic categories.

4.3.1 The Semantic Category

The aim of the semantic categorization is to analyse what concepts are most frequently referred to in the construction and how the semantic categories develop over time. Based on the qualitative analysis of the semantic meanings of the categories, the thesis will also focus on the development of the construction itself with comparison of the semantic meaning of the [numeral] *o'clock* construction as well as the definitions offered by the dictionaries (cf. Chapter 3). Additionally, possible links and overlaps among different semantic categories will be highlighted.

4.3.2 The Grammatical Category

The grammatical category of the free position items is approached with the consideration of coercion and conversion due to which the grammatical categories will be divided into two major categories: phrases and interjections, and clauses. The second part of the analysis will describe in more detail the qualitative properties of both grammatical categories.

The thesis will also look at the syntactic function of the construction in clausal units and will highlight its most common syntactic functions.

4.4 Measures of productivity

Two scores will be used to measure the productivity of the construction, i.e., realized productivity and potential productivity.

4.4.1 Realised Productivity

Realised productivity will be calculated from the presented data by a simple type/token ratio. On the index scale, 0 denotes no productivity and 1 denotes absolute productivity. According to the usage-based approach to productivity, an estimated productivity index nearing 0 would suggest low or no schematicity of the free position caused by a high level of realised entrenchment. On the same basis, an index nearing 1 would suggest high to absolute level of schematicity of the free position caused by a low level of entrenchment.

4.4.2 Potential Productivity

Potential productivity will be calculated using Baayen's (1992) measure of morphological productivity, which estimates the growth rate of the filler slot items extended to syntax. The model calculates productivity using the simple formula $P = n_1/N$, where P refers to productivity, n_1 stands for the number of types which appear in the filler slot only once (also known as hapax legomena), and N stands for the total number of tokens. On the scale of potential productivity, 0 denotes no productivity and 1 denotes absolute productivity. The implications of the values are identical to those detailed in 4.4.1.

5 Results and Interpretation

All the data collected from the corpora and Twitter includes 329 examples. The oldest example, collected from COHA, dates back to the year 1879. The newest example, taken from Twitter, is from the year 2021.(Vzorek příkladů.xlsx.)

5.1 The Free Slot

5.1.1 Types and Tokens in the Free Slot

The overall type frequency of the items in the free slot is 227 types (cf. Figure 4). Out of the 227 types, only 22 types appeared more than once and accumulated altogether 124 tokens from the overall 329 examples. The remaining 205 types occur only once (hapax legomena), representing the remaining 205 tokens. All items which appeared in the free slot more than once are listed below in Figure 4.

Figure 4: The quantitative breakdown of filler-slot frequency

Filler-slot Type	Number of Occurrences
<i>beer</i>	37
<i>wine</i>	20
<i>stupid</i>	17
<i>silly</i>	5
<i>booze</i>	4
<i>coffee</i>	5
<i>vodka</i>	3
<i>Gin</i>	3
<i>drink</i>	3
<i>party</i>	2
<i>I wanna die</i>	2
<i>fuck this shit</i>	3
<i>I hate myself</i>	2
<i>Bedforshire</i>	2
<i>are you fucking serious</i>	2
<i>Sex</i>	2
<i>blunt</i>	2
<i>martini</i>	2
<i>Daft</i>	2
<i>ridiculous</i>	2
<i>Dark</i>	2
<i>early</i>	2
<i>total</i>	124
<i>hapax legomena</i>	205

Beer is visibly the most frequent token used in the free slot of the construction, with 37 instances. *Wine* is the second most frequent token in the construction, with 20 instances of use⁹.

⁹It is important to note that, in the construction, higher frequency of *beer* compared to *wine* was not caused by an overall higher frequency of *beer* in English. For example, when searching for *beer* in COCA, the results offer 43,789 examples while the search for *wine* presents 51,393 examples.

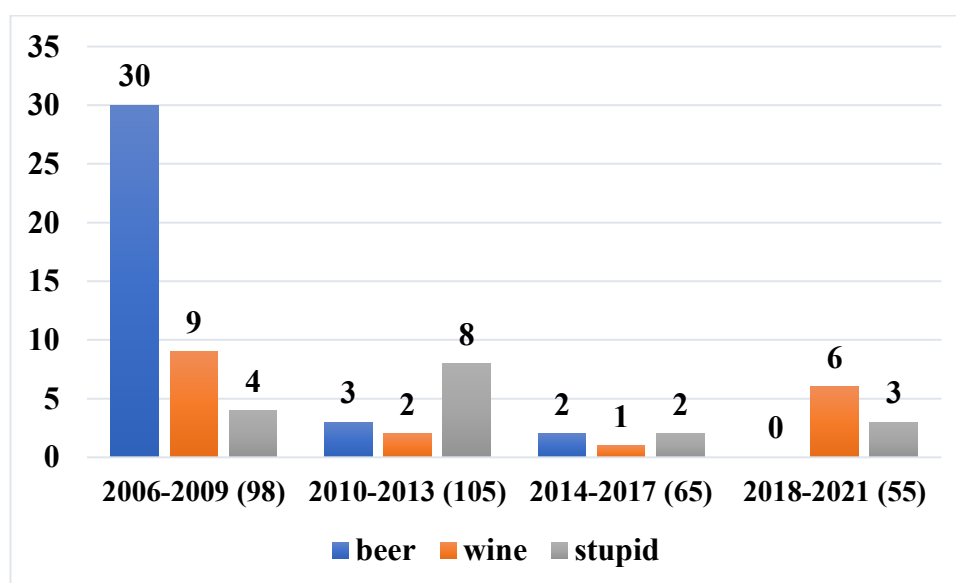
The results for beer in COCA can be accessed here < <https://www.english-corpora.org/coca/>>.

The results for wine in COCA can be accessed here < <https://www.english-corpora.org/coca/>>.

Stupid demonstrates 17 instances. The remaining types listed in the table do not exceed four instances of occurrence.

The highest token frequencies of *beer*, *wine*, and *stupid* might suggest that these items are most frequently encountered in the construction. This claim could be supported by the dictionaries discussed in Chapter 2, which list separate entries for *beer o'clock*, *wine o'clock*, and *stupid o'clock* but not for other types used in the construction. However, a closer look at the chronological development of the types in Figure 5¹⁰ suggests a decrease in the use of *beer* from 2006 to 2021.

Figure 5: Distribution of *beer*, *wine*, and *stupid* over Time



The high frequency of the type *beer* and its implications are further discussed in 5.2.1.2 and 5.4.4.

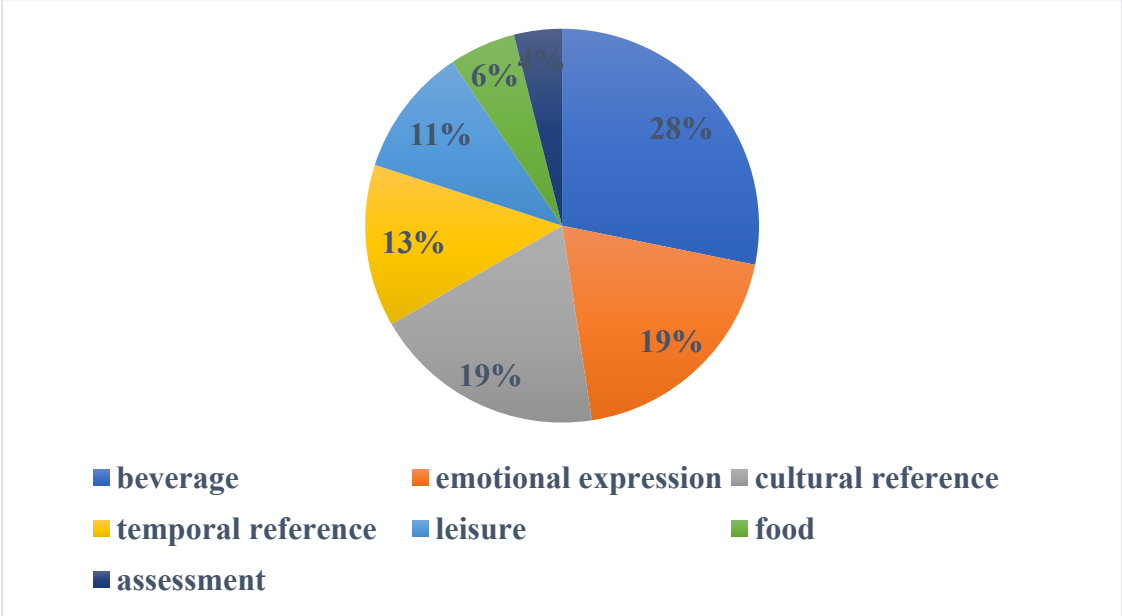
5.1.2 Semantic Categories in the Free Slot

The 329 examples were categorized into seven separate semantic categories (see Figure 6). The category BEVERAGE consists of examples like *beer*, *wine*, *drink*, or *booze*. The category of TEMPORAL REFERENCE includes examples such as *stupid* or *silly*, but also metonymical examples like *dark* or *blue*. The category of ASSESSMENT consists of examples such as *cute* or *counterproductive*. Examples like *I want to die* or *miss macmillan and cry* belong to the category EMOTIONAL EXPRESSION while examples such as *sit and read a book* or *girl date* are categorized under LEISURE. CULTURAL REFERENCE accounts for examples like *Obama*, *spam* or *Zeppelin*, and the final category, FOOD, includes examples like *cheese*, *Almond Joy*, or *dinner*. Section 5.2.1 analyses each category in detail and presents subcategories of the semantic categories

¹⁰ The number of tokens per each period is given in parentheses next to the years.

which enable a deeper analysis of the meaning of the construction. Figure 6 demonstrates how the semantic categories are distributed in terms of their token quantity in the data overall.

Figure 6: Distribution of Semantic Categories Overall



Similarly to the results in 5.1.1, the following results show that almost 30% of all examples are categorized under BEVERAGE, which subsumes the types *beer* and *wine*. The overall analyses therefore suggest that the most prominent category is BEVERAGE with regards to *beer* and *wine* being the most prominent types not only in the semantic category but overall. This claim is tested and challenged in section 5.5.2, which outlines and comments on the chronological developments of the semantic categories over time.

5.1.3 Grammatical Categories in the Free Slot

The results of the quantitative analysis show that there is a significant dominance of phrases and interjections, with 246 tokens, in comparison to 74 tokens of clauses. Figure 7 lists all types of phrases with interjections and clauses which appear in the data, with an example. Section 5.2.2 explores in detail the properties of all grammatical categories and the number of times they appear.

Figure 7: List of Grammatical Categories identified in the data

Category	Example
Noun phrase	<i>It's beer o'clock, I'm buying</i> (COCA1)
Adjective phrase	<i>I've been up since ridiculous o'clock this morning</i> (COCA19)
Verb phrase	<i>It's looking like unwind'o'clock to me...</i> (T271)
Adverb phrase	<i>i wish school started at never o'clock</i> (146)
Interjection	<i>I'd I'd type "The End" on The Devil in the Bottle, but I'm not sure it won't wake me up at oh-damn-o'clock to rewrite it.</i> (T139)
Finite-clause	<i>It's 4 pm on a Saturday, otherwise known as Why Am I Sober O'Clock?</i> (T131)
Non-finite clause	<i>Calendar says it's Teaching on Zoom O'clock, my brain says it's Cry O'Clock, this is going to be interesting.</i> (T255)

The results suggest that phrases together with interjections appear more frequently than clauses. This is further noted in section 5.4.4, which explores the chronological development and frequency of the grammatical categories across time with implications to the semantic and type frequency.

5.2 Qualitative Analysis

5.2.1 Semantic Categories

This section takes a closer look at the semantic categories outlined in 5.1.1 and introduces their subcategories. The aim is to give a more detailed insight into the semantic nature of the examples, which should allow for a more precise characterization of the construction, as well as to draw attention to the semantic overlaps between individual categories.

As demonstrated previously (cf. 5.1.1), all examples were put into seven categories based on their semantic properties. Some of the categories were then divided into various subcategories, which allows for a more detailed analysis of the examples. All categories along with their subcategories are presented in Figure 8.

Figure 8: Semantic Categories and Subcategories

Category	Subcategory	Example
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ASSESSMENT	positive	<i>cute o'clock</i>
	negative	<i>counterproductive o'clock</i>
BEVERAGE	alcoholic	<i>beer o'clock</i>
	non-alcoholic	<i>tea o'clock</i>
CULTURAL REFERENCE	location	<i>bedforshire o'clock</i>
	work	<i>consult o'clock</i>
	television	<i>Baby Einstein o'clock</i>
	technology	<i>leet o'clock</i>
	politics	<i>Obama o'clock</i>
	music	<i>Zeppelin o'clock</i>
	sport	<i>Goodwood o'clock</i>
LEISURE	-	<i>lex o'clock</i>
EMOTIONAL EXPRESSION	undetermined	<i>oh-damn o'clock</i>
	positive	<i>gimme a kiss o'clock</i>
	negative	<i>I wanna die o'clock</i>
FOOD	-	<i>cheese o'clock</i>
TEMPORAL REFERENCE	degree of definiteness	<i>just o'clock</i>
	metonymy	<i>bird o'clock</i>
	unreasonable time of the day	<i>stupid o'clock</i>

5.2.1.1 Assessment

The category of ASSESSMENT consists of 11 examples which give a positive (4 examples) or negative (7 examples) evaluation of events or states. The example (T198) taken from Twitter¹¹ refers to a state of counterproductivity, assessing the situation negatively. The second example (T66) assesses a state or a situation positively.

(T198) *It's **counterproductive** o'clock*

(T66) *What time is it? It's **Cute**'O'Clock!*

5.2.1.2 Beverage

The category of BEVERAGE is divided into alcoholic and non-alcoholic beverages, where the former are represented by a much larger number of overall 85 tokens compared to 7 tokens of the latter. The types in alcoholic beverages include mainly *beer* (COCA1; COHA6; T21) and *wine* (COCA3), but also *vodka* (T12), *sangria* (T21), *margarita* (T21), and general items referring to alcohol like *booze* (COCA7) or *drink* (T70).

¹¹ All examples marked with an initial T refer to examples from Twitter. The full list containing all marked examples is part of the appendix.

(COCA1) *It's **beer** o'clock, I'm buying*

(COHA6) *at three Capitan Osbourne would say, Beer O'clock! But he was never drunk.*

(COCA3) *And during the mixing stage, every day at 6:30 was "**wine** o'clock."*

(T12) ***Vodka** o'clock in liverpool. tequila went down nicely thankyou*

(T21) *I could handle some **beer** o'clock... (or **sangria** o'clock... or **margarita** o'clock...)*

(COCA7) *Let's get our drink on. Ticktock, **booze** o'clock. Wait, where are the boys?*

(T70) *It's **Drink** o'clock somewhere.*

The oldest example of an alcoholic beverage is *beer* (COHA6), later the use extends to *wine* (COCA3). *Beer* and *wine* have the highest overall token frequency (cf. Figure 5) and are assumed to appear more likely than any other beverages (cf. 5.1.1).

Non-alcoholic beverages are referred to significantly less often, and the category includes mostly *coffee* (T35) or *tea* (T111).

(T35) *oh boy, is it **coffee** o'clock yet? is it **coffee** o'clock yet?*

(T111) *Yipes! Half-past **tea** o'clock!*

The first example (T35) of the non-alcoholic subcategory appeared on Twitter in 2007. These findings demonstrate that the *BEVERAGE* category expanded from alcoholic beverages alone to include only later non-alcoholic beverages as well.

5.2.1.3 Cultural Reference

The category of CULTURAL REFERENCE has the largest number of subcategories. The example (T61) refers to a politician and therefore falls into the subcategory of cultural reference to politics, with 10 examples.

(T61) *What time is it? It's **Obama** O'Clock!*

Example (T50) references the process of seeing and sorting unwanted mail in one's mailbox, the example therefore falls under to the subcategory of technology, with 6 examples. This example can also easily be categorized under WORK, noting the mutual overlaps of the semantic (sub)categories.

(T50) *TEN O'CLOCK IS **SPAM** O'CLOCK*

The example (COCA10) references a TV series which streams a fight between robots and human wrestlers. The subcategory is therefore television, this subcategory accounts for 12 examples. Similarly to the previous examples, the item can be also categorized as referring to technology.

(COCA10) *Ted. It's time to go. It's **Robots vs. Wrestlers o'clock**.*

'Consult O'clock' (COCA24) is the name of a company and therefore references the process of paid consultations. The subcategory is work, which consists of 12 examples.

(COCA24) *We at **Consult O'clock** (www.consultoclock.com) are a 100% virtual company.*

Bedforshire (BNC7) is a place in the east of England and belongs into the subcategory of location, counting 10 examples.

(BNC7) ***Bedfordshire o'clock** (.) I loves it I do bed (.)*

Myounng is the name of a Korean Pop boyband's member and the construction refers to an event or time period of listening to him. It falls into the subcategory of music, which has 9 examples.

(T227) *From 8:01 AM until **Myoung o'clock** in the PM*

Finally, *Goodwod* is in the category of sport, with 4 examples, as it refers to the Goodwood Festival of Speed.

(T266) *It's **Goodwood** o'clock, how cool is this? Happy 60th Birthday Super Mini Cooper.*

5.2.1.4 Leisure

LEISURE, which accounts for 35 examples, refers to activities and states which take place during one's free-time. Such activities can include social activities (T152) and their resultative states (T102), sexual activities (COCA31), rest (T56), and relaxation (T141).

(T152) *It's almost **girl date** o'clock. Beer!*

(T102) *It's somewhere between **walk of shame** o'clock and hangover shits-thirty.*

(COCA31) *"**Sex** o'clock, Larry," he said daily before waddling over to his room.*

(T56) *Ok, it's officially **nap** o'clock.*

(T141) *I think it's "**Sit in bed and read a book**" o'clock.*

In this category, it is important to point out the connection between social events and alcoholic beverages. In the example (T152) the reference to a girl date is associated with drinking beer, while the example (T102) implies the state of hangover caused by drinking an alcoholic beverage.

5.2.1.5 Food

FOOD represents all direct references to food (T94), but also mealtimes (T269), and activities involving food (T140). The category accounts for 18 examples.

(T94) *a day in the life: coffee o'clock! **cheese** o'clock! wine o'clock!*

(T269) *This is me right now even trying to make it to the **dinner** o'clock.*

(T140) *oh my soul i's gone half past **putting yogurt on things** o'clock.*

Again, the semantic category of BEVERAGE is clearly present in the first example where cheese is referenced in the same utterance as wine and coffee. It may be a reference to cheese and wine tasting, which is a social activity and may as well be categorized as LEISURE.

5.2.1.6 Emotional Expression

EMOTIONAL EXPRESSION is a category demonstrating the most diverse semantic tendencies, whose main function is to express a specific emotion. The semantic categorization shows three different subcategories of emotional expression: positive (T229), which accounts for 10 examples, negative (T257), which accounts for 46 examples, and undetermined (T154), which accounts for 5 examples.

(T229) *oh look at the time! **gimme a kiss** o'clock.*

(T257) *oh would u look at the time..it's **miss mac miller and cry** o'clock.*

(T154) *I'd type "The End" on **The Devil in the Bottle**, but I'm not sure it won't wake me up at **oh-damn**-o'clock to rewrite it.*

The most often expressed negative emotions are self-derogation and self-hate, as exemplified in (T150) and (T158). Another common theme among negative emotional expressions is the feeling of indifference (T179), or anger and aggression expressed towards oneself or someone else (T159).

(T150) *It's **Facebook Chat That Guy You Dated in College** o'clock.*

(T158) *Oh look it's **I hate myself** o'clock*

(T179) *It's officially **I-don't-care-about-school-anymore** o'clock*

(T159) *It's **tell your husband to fuck off** O'Clock apparently.*

Adding to the expression of negative emotions, a significant part of these examples contains expletives, creating vulgar connotations in the constructs.

(T120) *It was totally worth getting up at **are you fucking serious** o'clock.*

(T144) *Well look at the time; it's **fuck this shit** o'clock.*

(T148) *i guess i'll wake up at **WheneverTheFuckiFeelLikeIt** o'clock*

Positive emotional expressions are found in a much smaller quantity of 10 tokens only and are reduced to positive affection (COCA29) and appreciation (T121).

(COCA29) *Hey, **Big Bob's in the back**, and I think it's **hug** o'clock.*

(T121) *It's **New Order's Vanishing Point Is Still Incredible** o'clock.*

Similarly to the previous categories, semantic overlaps can be seen for instance in the example (T257), *it's miss mac miller and cry o'clock*, which references a singer and could therefore also fit into the category of CULTURAL REFERENCE, or in the example (T121), which refers to a TV programme and could also belong to the category of CULTURAL REFERENCE.

Examples categorized under EMOTIONAL EXPRESSION show a more complex structure in terms of their grammatical properties. As will be pointed out in the section on syntactic productivity (cf. 5.4.4), the items found in the free position which were categorized under EMOTIONAL EXPRESSION are mostly identified as clauses.

5.2.1.7 Temporal Reference

The category of TEMPORAL REFERENCE is divided into three subcategories: degree of definiteness, unreasonable time of the day, and metonymy.

The subcategory of degree of definiteness comprises of 6 examples which foreground the temporal aspect of the construction. Example (BNC10) refers to an exact time, twelve o'clock, when an event is due:

(BNC10) (...) *one minute to the like at the **bang on** o'clock like twelve o'clock when it was due they'd shut close the door and lock it (...)*

The subcategory of unreasonable time of the day, with 34 examples, has its own entries listed in dictionaries (cf. Chapter 3). Using the formal definition from OED, this subcategory refers to 'an unreasonably, excessively, or inconveniently early or late hour.' The most frequent type used in this context is the word *stupid* (T26), but examples can also be found with words such as *silly* (T7), *ridiculous* (T117), or *daft* (T197):

(T26) ***Stupid** o'clock on FOWA day 1: Stupid o'clock on FOWA day 1 October 3rd, 2007 It's definitely...*

(T7) *now needs to work out how to get back from Oxford Street to Hampshire at **Silly** o'clock after (hopefully) obtaining a Wii*

(T117) *It's **ridiculous** o'clock.. way past drink-thirty but before blue o'clock.. which of course is before bird o'clock.*

(T197) *Complain that I'm tired all the time then stay up till **daft** o'clock every night guaranteed*

The last subcategory, consisting of 3 examples, demonstrates metonymical references to time, limited to the expressions *dark* (T55), *blue* (T118), and *bird* (T118). *Dark* refers to late night or early morning hours, *blue* refers to the hour when the dark sky becomes lighter, and *bird* refers to early mornings when birds begin to sing.

(T55) *Yes, you'd be cranky too if you discovered your yard was the home of special needs birds who screech at shut the hell up **dark o'clock**.*

(T118) *It's ridiculous o'clock.. way past drink-thirty but before **blue o'clock**.. which of course is before **bird o'clock**.*

A continuum between the meanings of the [numeral] and [non-numeral] *o'clock* construction is evidenced in the last category TEMPORAL REFERENCE. The meaning of the [non-numeral] *o'clock* construction is 'to indicate the hour of the day or night' which is still to a degree reflected in all three subcategories of the construction which, despite not directly referring to a specific hour of the day or night, employ their associations with the specific hour to describe it. Compared to that, examples like *beer o'clock* or *Obama o'clock*, which 'refer to a time of day when you usually do or have a particular thing,' do not aim to reflect or to refer to any specific hour. In fact, the reference to Obama in (T61) does not refer to any particular thing one does or has; rather the temporal aspect is backgrounded and the subject to which the item in the free slot refers to is the main focus of the construction. It may be suggested that the phrase *beer o'clock* is related to the notion of 'it's five o'clock somewhere,' which still associates a certain hour with a specific activity. But the following development in the semantics of the examples shows that they may refer to places or emotional expressions, and suggests that the construction keeps distancing itself on the scale from the numerical sense (which tells the time) as well as from the earlier category of TEMPORAL REFERENCE (which foregrounds the notion of a specific hour).

5.2.2 Syntactic Function

Based on the analysis of the free slot items, the items were classified as noun phrases, adjective phrases, verb phrases, adverb phrases, interjections, finite clauses, and non-finite clauses.

There are 164 examples of a noun phrase with only the head embodying the phrase, as shown in (T4) and (T262).

(T4) *waits for **beer o'clock***

(T262) *It's **Africa o'clock***

Modified noun phrases appear 20 times and consist of a head and a modifier, with both pre-modifiers (T206) and post-modifiers (T206) attested:

(T206) *Dry lips O'clock*

(T102) *It's somewhere between **walk of shame** o'clock and hangover shits-thirty.*

Some examples contain words which frequently appear as both nouns and verbs, as exemplified in (T70) and (COCA20). These examples were not categorized due to their ambiguous status, however, based on Dahl's (2013) theory of events as objects which suggests that people interpret events as objects in order to understand the concept of time, the thesis leans towards categorizing the ambiguous examples as noun phrases rather than verb phrases.

(T70) *It's **Drink** o'clock somewhere.*

(COCA20) *I find myself a bit unable to remember how everyone arrived in play, so it's probably **re-read** o'clock.*

Bare adjective phrases appear 38 times (COCA13), and modified adjective phrases such as (T190) appear 4 times.

(COCA13) *you get to wake up at **stupid** o'clock every morning*

(T190) *When someone vacuuming the house at **early af** o'clock¹²*

There are also some examples of adjectives and adverbs which may function as both grammatical categories. While (T146) is an example that can only be interpreted as an adverb phrase, (T57) can be interpreted as an adjective or an adverb.

¹² According to the Cambridge Dictionary, 'af' means 'as fuck: used, for example on social media and in text messages, for emphasizing something'; cf. <<https://dictionary.cambridge.org/dictionary/english/af>>.

(T146) *i wish school started at **never** o'clock*

(T57) *I slap together PBJ sandwiches at **Late O'Clock** & somehow get peanut butter in my eye.*

Examples consisting of interjections appear 6 times and, as the examples (T139) and (T151) suggest, they are mostly limited to expletive exclamations:

(T139) *I'd type "The End" on *The Devil in the Bottle*, but I'm not sure it won't wake me up at **oh-damn-o'clock** to rewrite it.*

(T151) *That's what I get for staying up until **fuckingjesuschrist** o'clock in the morning.*

The data inventory contains 145 examples of clauses. The following example is the first attested clause, which appeared on Twitter in 2008:

(T47) *It's not 3:15, it's **get/me/some/alcohol/now/and/no/one/gets/hurt** o'clock.*¹³

What appears in the free slot of the *o'clock* construction can be interpreted as a compound sentence consisting of an imperative clause and a declarative clause. Its function is to ask for an alcoholic beverage by giving a warning.

Similarly, the example (T104) clearly displays a declarative clause in the free slot which expresses happiness:

(T104) *Finally, it's **This Week Is Over** o'clock.*

Interrogative sentences can also be found, as can be seen in following examples:

(T131) *It's 4 pm on a Saturday, otherwise known as **Why Am I Sober O'Clock?***

(T138) *Why, hello **are/you/effing/serious** o'clock.*

¹³ The original example was written together, slashes were added for easier analysis.

Here, and in all interrogative clauses in the data, the interrogative clause functions as a rhetorical question. Some of the interrogative clauses are emphasised by an added expletive, as can be seen in example (T138).

Again, due to the coercive environment the level of certainty with which one can easily identify the syntactic function is different in the examples (T252) and (T141).

(T252) *“don’t forget to put your wine in the fridge” o’clock*

(T141) *I think it’s “Sit in bed and read a book” o’clock*

The example (T252) contains a finite verb and a covert subject, confirming that the syntactic function of the clause is imperative. On the other hand, the example (T141) does not contain the *not*-negation, which would allow for a clearer classification of the clause. Therefore the interpretation of the clause is ambiguous since the clause can be identified as an imperative as well as a non-finite clause.

According to the results of the analysis, shorter and less complex phrases, usually consisting of only a head, appeared 164 times, most frequently in comparison to other grammatical categories. Phrases appear to be the most common grammatical items in the construction. Clauses appear 145 times.

5.2.3 Syntactic Context of the *O’clock* Construction

So far the analysis has focused on the syntactic properties of the free slot items. However, the construction itself demonstrates various syntactic functions in larger grammatical units, which may produce some interesting observations about its productivity as well. The results of the analysis reflect the lack of context, which yielded many of the examples incomprehensible or impossible to be identified. Nevertheless, some examples whose syntactic function it was possible to identify are presented in the section below.

In 164 examples, the construction functions as the subject complement. In examples like (COCA1) or (T201), the subject is a prop *it*:

(COCA1) *It’s beer o’clock, I’m buying*

(T201) *It’s delayed-o’clock somewhere.*

Meanwhile in examples such as (T96) or (T131) the subject is a noun phrase:

(T96) *On a holiday, every o'clock is beer-o'clock.*

(T131) *Getting excited. Around the office, 4 o'clock is beer o'clock.*

The construction also appears as an adverbial 58 times, most often in a prepositional phrase introduced by *at* as in (T9), *since*, as in (COCA19), *until*, as in (T277), or *to*, as in (T194).

(T9) *Feeling full of the joys of having been woken up **at silly o'clock** by angle grinder o/s window.*

(COCA19) *I've been up **since ridiculous o'clock** this morning*

(T227) *From 8:01 AM **until Myoung o'clock** in the PMIt's delayed o'clock somewhere.*

(T194) *We're getting real close **to Almond Joy o'clock***

The construction appears as an object 20 times, as in examples (T20) or (COCA11). In some examples of prepositional objects, such as (T77) or (T6), the preposition *for* precedes the *o'clock* construction with a verb denoting want or desire for the event or state in question (usually drinking alcohol).

(T20) *I could handle some beer o'clock... (or sangria o'clock... or margarita o'clock...)*

(COCA11) *The ladies down at the country club are always talking about "wine o'clock."*

(T77) *Been waiting for beer o'clock & didn't notice it's been & gone.*

(T6) *is gagging for beer o'clock*

There are 8 examples of the *o'clock* construction functioning as the subject of a clause, as in the examples (T68) and (T87):

(T68) *booze o'clock cannot come soon enough today*

(T87) *Beer o'clock never fails to brighten my whole day.*

The *o'clock* construction, as seen in examples (T173) and (T272), may also function as a whole utterance. However, due to the lack of context in majority of the examples, it is possible that the examples have different syntactic functions, as in example (T72). The first two

examples can be compared to grammatically more complex examples (T259) and (T60) which contain clauses in their free slot.

(T173) *Game of Thrones o'clock.*

(T272) *Carrot cake and coffee o'clock.*

(T72) *beer o'clock < wine o'clock. however, beer o'clock > no booze o'clock. ∴ wine o'clock = best o'clock.*

(T259) *i miss wooyoung o'clock*

(T260) *wash your hands o'clock*

A unique example appears in the data which uses the whole construction as a non-finite verb:

(T10) *has got to Baby Einstein o'clock.*

Additionally, as examples (T174), (T116), and (T11) show, the construction can be preceded by phrases such as *almost*, *20 past*, or *half past*, which foreground the temporal aspect of the construction's meaning.

(T174) *Almost hating my life o'clock again*

(116) *Alarm went off at 20 past 'holy shit' o'clock (...)*

(T111) *Yipes! Half-past tea o'clock!*

As has been shown in the analysis, the construction appears mainly as a subject complement or an adverbial.

5.4 Productivity

This section analyses the type-based, semantic, and syntactic productivity of items in the free slot of the construction. Realised type-based productivity is contrasted with potential type-based productivity, and possible future productivity is indicated based on the available data. Semantic productivity is analysed across semantic categories over time, and grammatical productivity compares the frequency of phrases and interjections with clauses. The corpora account for 57 examples while Twitter represents the remaining 268 examples. Because examples before the year 2006 occur minimally (only 7 times in the period of over 100 years), the analysis only considers Twitter data and data collected from corpora from the year 2006. The main goal is to draw conclusions from consistent and most recent data. The examples are

distributed into four separate four-year clusters (starting from the year 2006), since the small amount of examples does not allow for an effective year-by-year analysis. Figure 9 shows all data distributed into the four-year clusters with the number of types and tokens as well as of hapax legomena per each period and overall.¹⁴

Figure 9: Quantitative breakdown of all examples from 2006 to 2021

	2006–2009	2010–2013	2014–2017	2018–2021	overall
<i>tokens</i>	98	105	65	55	323
<i>types</i>	49	89	60	47	224
<i>hapax legomena</i>	39	82	55	44	202

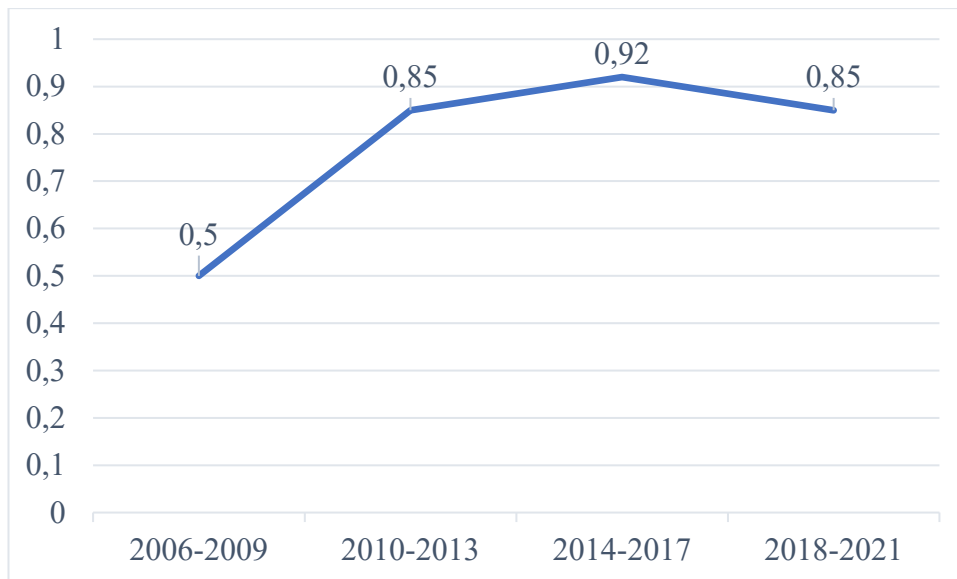
5.4.1 Realised Type-Based Productivity

The total realised productivity averaged from the realised productivity counts in the four separate periods (cf. Figure 10) is 0.78. In accordance with Baayen’s measure of potential productivity, which states that higher index number indicates higher productivity, the number 0.78 suggests the [non-numeral] *o’clock* construction has a potential to be highly productive. As can be seen in the following figure, the realised productivity recorded between the first two periods rose significantly from 0.5 to 0.85. The number 0.85 implies higher productivity, which can be supported by the number of 82 hapax legomena compared to only 7 types that have occurred more than once and accumulated 16 tokens. The decrease between the third and fourth period from 0.92 to 0.85 is not statistically significant according to Pearson’s chi-square test ($\chi^2 = 0.147$; $p = 0.702$).¹⁵

Figure 10: Realised Productivity Over Time

¹⁴ The overall number of types and tokens refers to the Figure 4.

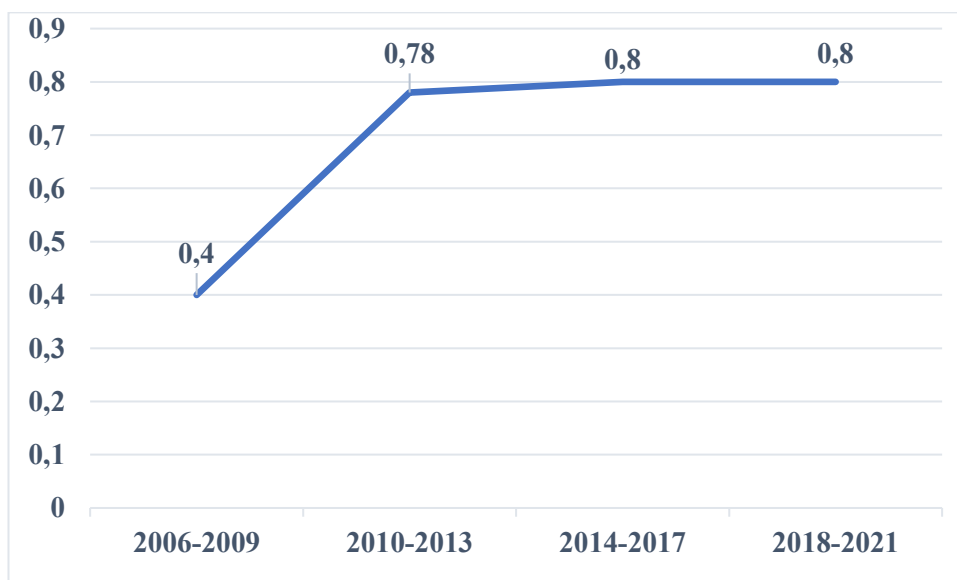
¹⁵ The test was performed using the online calculator available at <<https://www.socscistatistics.com/tests/chisquare2/default2.aspx>>.



5.4.2 Potential Type-Based Productivity

As stated in the previous chapter (cf. 4.4.2), potential type-based productivity estimates the growth rate of the filler slot items by dividing the number of hapax legomena by the total number of tokens. Following Baayen's measure, the potential productivity averaged from the index numbers in the four separate periods (cf. Figure 11) is 0.7.

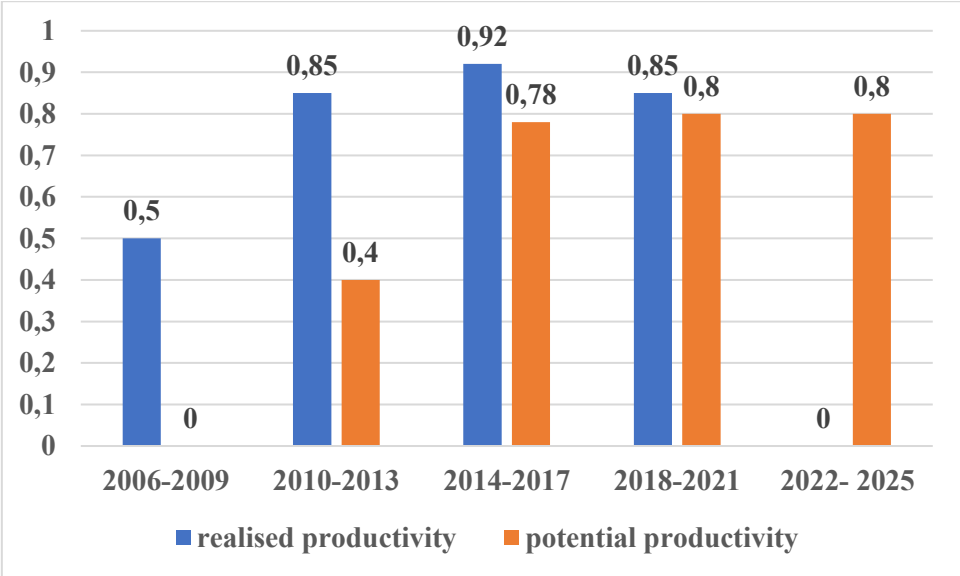
Figure 11: Potential Productivity Over Time



This number has two potential drawbacks. The first drawback is the fact that it includes data from over a decade and half ago, a period long enough to witness considerable changes in language use. The second drawback is that the estimate relies mainly on the number of hapax

legomena to suggest the rate of the construction’s productivity and nothing else. The graph in Figure 12 contrasts the realised productivity of each of the four periods with the growth estimate from their preceding periods.

Figure 12: Comparison of Potential and Realised Type-based Productivity over Time



The first contrasted period highlights the 0.45 margin between the realised productivity from the period 2010–2013 and the potential productivity estimated from data from the years 2006–2009. The data contrasted in the periods between 2014 and 2021 suggests that the productivity of the construction is to a degree based on the growing or decreasing variability of types in the free slot. However, the large margin in the period 2010–2013 which failed to predict the increasing productivity allows us to hypothesise that the growth or decrease in productivity may be influenced by other factors as well.

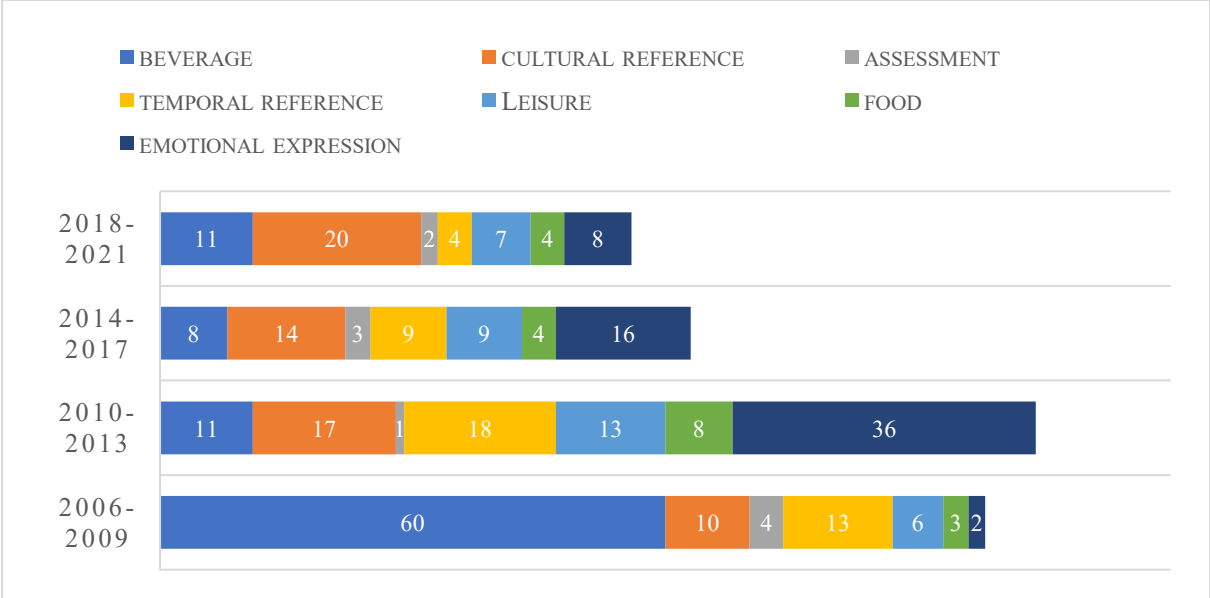
5.4.3 Semantic Productivity

The distribution of items across semantic categories supplies additional information about the semantic properties of the construction.

Figure 13 shows the number of tokens in each of the semantic categories according to the time-period from which they were collected. As can be seen, BEVERAGE in the first period (2006–2009) has the largest number of tokens and accounts for 60 examples. The number of BEVERAGE tokens is high in comparison to other semantic categories in the first period, but largely decreases in the following periods. The graph also reflects the rising productivity of

almost all the other categories (apart from ASSESSMENT) between the first two periods at the expanse of the category BEVERAGE.

Figure 13: Token Frequency of Semantic Categories over Time



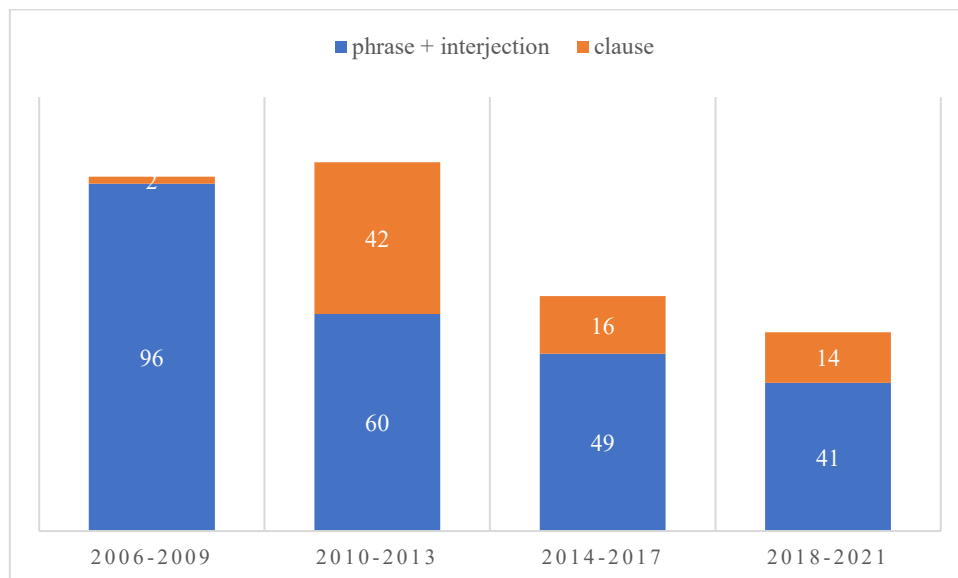
The category BEVERAGE in the first period (2006-2009) accounts for the highest number of *beer* tokens, with 30 examples, and 9 tokens of *wine* and accumulates overall 15 types per 60 tokens. The type/token ratio estimates 0.25 productivity of the BEVERAGE category in the first period which, combined with the largest number of tokens in the entire period, may be suggested as the cause of the overall low productivity of the construction in the first period. In comparison, BEVERAGE in the second period shows only 11 tokens and 6 types.

The subsequent rise to 0.78 in the second period (2010-2013) may also be influenced by the rising token frequency of the semantic category EMOTIONAL EXPRESSION, which appears to have both high number of tokens (cf. Figure 13) and high type frequency of 35 types. The type/token ratio suggests almost absolute productivity of 0.98. It does not say that the category of EMOTIONAL EXPRESSION is the cause of the rise in overall productivity. In fact, the data shows that, in the following periods, no semantic category has a high dominance over the construction. The observations made rather hint at the complex relationship between the items in the free slot and their semantic properties. As the category BEVERAGE shows, some categories may favour particular types over others, which, if the overall token frequency of the category itself is high, may influence the overall productivity of the construction.

5.4.4 Syntactic Productivity

Similarly to the analysis of productivity in 5.4.3, grammatical development may also be a factor in the overall productivity of the construction. Figure 14 compares the number of phrases and interjections with the number of clauses used in each separate period. The use of clauses increased from the first period from only two occurrences to 42 in (2010-2013), which is a statistically significant difference according to Pearson's chi-square test ($p < 0.001$).¹⁶ A possible explanation of the rise in the use of clauses sprung from the comparison of grammatical categories and semantic categories in the second period, which revealed that the semantic category EMOTIONAL EXPRESSION accounts for 32 clauses in the second period. Furthermore, the analysis of productivity shows a steep rise of the semantic category EMOTIONAL EXPRESSION and the grammatical category of clauses at the same time in the second period (2010-2013), which both decrease in the following periods to 16 tokens of EMOTIONAL EXPRESSION (cf. 5.5.3) and 16 clauses, out of which 12 tokens overlap across the categories. The observations that sprung from the syntactic analysis further imply that the overall productivity is not only influenced by factors such as the meaning of a grammatical category, but also that the categories might be mutually dependable and responsible for the construction's productivity.

Figure 14: Frequency of Phrases + Interjections and Clauses over Time.



¹⁶ The test was performed using the online calculator available at <https://www.socscistatistics.com/tests/chisquare2/default2.aspx>.

6 General Discussion

As the measure of realised type-based productivity indicates (cf. 5.4.1), the construction has since the year 2006 become more productive, with its productivity rising from 0.5 (from the period 2006–2009) to 0.85 (in the period 2018–2021). The overall productivity estimated from the four periods (cf. Figure 10) is 0.78. As explained in section 4.4.1, a rising index indicates a rise in the productivity of the construction. The changes in type/token ratio across four time periods indicate that the overall relative productivity of the construction is high (cf. 5.4.1) and the slight decrease between the third and fourth period is not statistically significant (cf. *ibid.*). The implications of the high token frequency of the construction suggest that the [non-numeral] *o'clock* construction expresses a tendency towards schematicity, meaning that the free slot in the construction, apart from the first period, does not necessarily favour a specific (lexical) type over others and has the potential to attract novel items.

It is precisely the change between the first and the second period that generates more questions about the nature of types and tokens and their involvement in the productivity of the construction. The implications surfacing from the comparison of realised type-based productivity and potential type-based productivity (cf. Figure 12) for the second period (2010–2013) reveal a 0.45 erroneous margin, produced by the potential productivity index and estimated by the hapax legomena/token ratio (from the first period 2006–2009). The potential productivity measure estimated productivity of 0.4, while the realised productivity measure yielded the value 0.8 (cf. Figure 12). Although the following periods showcase smaller margins in comparison to the first period, the implications made by the estimation of potential productivity (decreasing trend in productivity), poses the questions not only as to why the productivity has increased, but what other factors might have played a role in the increase of the productivity if the hapax legomena/token ratio suggested otherwise.

The thesis makes several suggestions based on the observations of types and tokens and their distribution across several semantic and syntactic categories, overall as well as across the four time periods. The results outlined in 5.1.1 demonstrate all items which have appeared in the free slot more than once (cf. Figure 4). The types *beer* and *wine* appear most frequently out of all types: *beer* has the highest overall frequency of 37 tokens in all of the data, *wine* accounts for 20 tokens. Both types are semantically categorized under BEVERAGE (cf. 5.1.2), which accounts for 28% of all examples in the available data (cf. Figure 6). From the chronological perspective, *beer* and *wine* have appeared most frequently in the first period (2006–2009) and decreased in use following the second period (2010–2013). The implications from the last two

periods are not as telling due to the large gap between the number of examples per each period, but the similar number of examples in the first and second period still reveals a large decrease in the use of *beer* and *wine* between 2006 and 2013: from 37 instances of *beer* per 98 tokens to 3 instances of *beer* per 105 tokens, and from 9 instances of *wine* per 95 tokens to 2 instances of *wine* per 105 tokens. The sharp decline in frequency of both types coincides with the decrease of the category BEVERAGE (cf. Figure 13 in 5.4.3) from 60 tokens in the first period (2006–2009) to 11 tokens in the second period (2010–2013). The decrease in the token frequency of *beer* leads to the decrease of the semantic category BEVERAGE (with estimated productivity of 0.25 in the first period), which might suggest the rising type productivity of the construction in the second period (cf. 5.4.3). The analysis also suggested that the rise in productivity may have been caused by the rising token frequency of the semantic category EMOTIONAL EXPRESSION (cf. Figure 13), which demonstrates a high realised productivity of 0.98 in the second period. The decrease in the frequency of the less productive BEVERAGE combined with the increase in the frequency of the highly productive EMOTIONAL EXPRESSION could to a degree have influenced the change in productivity of the construction between the two periods. However, as emphasised in section 5.4.2, that is not to say that either the decrease in reference to beverages or the increase of emotional expressions made the construction more productive. Figure 13 clearly shows the frequency rise in other semantic categories, not only in EMOTIONAL EXPRESSION, so it is more than likely that the changes in productivity were caused by the frequency rise in all the semantic categories and further supported by the decrease in the category BEVERAGE. Observations made about the influence of semantic categories and their types on the overall type productivity aim primarily to highlight the need to assess the free slot items in terms of their semantic and syntactic properties as well.

The qualitative analysis of semantic categories in section 5.2.1 produced additional information about them. This paragraph will summarize the most relevant observations. BEVERAGE is divided into two categories of alcoholic beverages and non-alcoholic beverages. Alcoholic beverages, which account for 85 tokens, first appeared in COHA in 1997. The higher token frequency and later uses of the non-alcoholic examples lead to the conclusion that the category of alcoholic beverages expanded over time to non-alcoholic beverages as well. CULTURAL REFERENCE features 7 subcategories of location, work, television, technology, politics, music, and sport, and has the highest semantical variability of subcategories. EMOTIONAL EXPRESSION features mostly negative emotional expressions such as self-derogation, as in *It's Facebook Chat That Guy You Dated in College o'clock* (T150), or self-hate, as in *Oh look it's I hate myself o'clock* (T158), while examples referencing positive

emotional expression appear much less frequently. Many of the examples categorized under negative emotional expression tend to employ expletives, as in *It was totally worth getting up at are you fucking serious o'clock* (T120). Additionally, the category appears to coincide with the grammatical category of clauses; this is evidenced in the analysis of syntactic productivity (cf 5.4.4). Finally, TEMPORAL REFERENCE, which features three subcategories of degree, namely definiteness, unreasonable time of the day, and metonymy, plays a crucial role in assessing the meaning of the construction itself.

As shown in Chapter 3, the phrase *o'clock* has been listed in various dictionaries, which present several definitions for both the [non-numeral] *o'clock* and the [numeral] *o'clock* construction, and the phrases *beer o'clock*, *wine o'clock*, and *stupid o'clock* have their own entries in some of the dictionaries as well. It would therefore be reasonable to attempt to provide a definition of the [non-numeral] *o'clock* construction based on the entries and definitions. However, the qualitative analysis of the semantic categories resulted in a different, more descriptive approach towards the construction. The meaning of the [non-numeral] *o'clock* construction appears to be moving on a polysemous scale from and towards the [numeral] *o'clock* construction. The degree of relatedness between the two constructions differs based on the semantic categories employed in the free slot. Such observations were made based on the analysis of the semantic categories and the comparison of examples from the categories with definitions of the *o'clock* constructions. The [numeral] *o'clock* construction is used to express time, indicating the hour (cf. Chapter 3), while the subcategory of unreasonable time of the day in TEMPORAL REFERENCE is specified as unreasonably, excessively, or inconveniently early or late hour (ibid). The two definitions seem to be semantically closer than the entries for *beer/wine o'clock*, which define the phrases as an appropriate time of day for starting to drink beer/wine (cf. ibid) or the definition specifying that *o'clock* is used to refer to a time of day when you usually do or have a particular thing (cf. ibid). What the semantic meaning of the [numeral] *o'clock* construction and the examples in the unreasonable-time-of-the-day subcategory have in common is the notion of foregrounding the temporal aspect of the construction. This is evidenced in examples such as *It's ridiculous o'clock.. way past drink-thirty but before blue o'clock.. which of course is before bird o'clock* (T117), where the main focus of the construction is on the association of *ridiculous o'clock* with a specific time rather than any activity taking place at that specific moment. The other temporal references in the example, *blue o'clock* and *bird o'clock*, further support the notion of temporal foregrounding, since they describe particular hours of the day/night with typical associations they have with the hour. This notion of foregrounding and focusing on the descriptive aspects of time are not

as prevalent in other examples from different semantic categories. The examples *beer o'clock* or *wine o'clock* do not refer to a specific hour, but rather to the act/event of having a beer itself. It may be suggested that *beer o'clock* is associated with the five o'clock hour, an hour deemed appropriate to start drinking (cf. 5.2.1.7) but even if that were the case, later uses of the [non-numeral] *o'clock* construction distance themselves from the temporal reference even more. The reference to Obama in *What time is it? It's **Obama** O'Clock!* (T161) does not indicate any reference to a specific hour nor the need to know when Obama is relevant with regards to the time of the day; instead, the focus is on President Obama himself. Similarly, the category of emotional expression features examples such as *oh look at the time! gimme a kiss o'clock* (T229), which focuses on the thing or event happening at the exact moment, but it does not seem to matter at what hour.

The notion of a semantic continuum between the two constructions is supported by syntactic evidence as well. Section 5.2.3, which focuses on the syntactic function of the construction, evidences examples in which the construction is preceded by phrases such as *almost*, *past*, or *half-past*, with reference the [non-numeral] *o'clock* construction. The phrases function as emphasisers of the temporal aspect of the construction which otherwise would not have strong associations with time, in examples such as *Alarm went off [sic] at 20 past 'holy shit' o'clock* (T116).

The syntactic analysis in section 5.2.2 was problematic to assess quantitatively due to the effects of coercion on tokens in the free slot. Words which frequently appear in various grammatical categories cannot be identified in the syntactic environment of the [non-numeral] *o'clock* construction, but Dahl's theory of time and temporal events being cognitively presented as objects rather than events (cf. 5.2.2) supports the tendency to identify ambiguous verbs or nouns as nouns in the context of the construction. General observations (cf. 5.2.2) reveal that the free slot of the construction prefers bare head noun phrases (164 examples). Adjective phrases appeared less frequently, only 38 times without modifiers and 4 times modified. Interjections are almost always limited to expletive exclamations. Clauses in the filler slot first appeared in 2008 and since then have been featured in 145 tokens of the construction. The clauses are finite as well as non-finite, but the coercive environment of the construction and a lack of further context pose problems when trying to differentiate between non-finite clauses and affirmative imperative clauses. What can be said with certainty about the nature of the clauses is that alongside imperative and non-finite clauses there appear to be also declarative clauses and interrogative clauses (functioning as rhetorical questions).

In the final section of the qualitative analysis (5.2.3), the thesis concerns itself with the syntactic function of the construction in context. Similarly to the previous section, the lack of context posed an issue in attempts to identify the function in particular examples. However, the overall analysis revealed that the construction most often appears as a subject complement in the [*it + BE + o'clock*] pattern. The construction also appears as an adverbial in 58 examples, in which it is preceded by prepositions such as *at*, *since*, *until*, or *to*, which is usually the case with items of the category of TEMPORAL REFERENCE. When they appear with items from other categories, they reduce the meaning proposed by the semantic category and foreground the temporal aspect of the construction (cf. (T9); (COCA19); (T227); (T194) in 5.2.3 for comparison). The instances of the construction can also appear as objects, frequently preceded by the preposition *for* and a verb denoting desire, as in the example *gagging for beer o'clock* (T6), or a subject at the beginning of the clause. Finally, the construction sometimes appears with no further context and stands by itself. However, it is the lack of context which makes it impossible to say with certainty whether the instance indeed is the whole utterance or a simple answer to a question which is not available in the data (implying ellipsis, i.e., a potentially incomplete utterance).

What the qualitative semantic and syntactic analyses together with the productivity estimates suggest about the [non-numeral] *o'clock* construction is that there is a complex interplay of several factors at once and over time. The productivity as estimated in 5.4.1 presupposes that the construction has a higher degree of schematicity, yet the number of types does not necessarily reflect or predict how inclusive of novel items the construction is. Some semantic categories may be preferred over others, and the results of this thesis suggest that the decrease of categories with lower type frequency as well as the rise of categories with higher frequencies may influence the overall productivity of the construction. The range of grammatical categories which appear in the construction may also influence the potential expansion of types in the filler slot. Additionally, the results show that semantic and syntactic categories can influence each other's frequencies of occurrences. Finally, the use of the construction itself is a telling factor about the context in which the construction can be used, and, as the results show, it can also be a useful indicator of the nuances in the meanings that the construction features.

7. Conclusion

The goal of the thesis was to analyse the [non-numeral] *o'clock* construction and to describe the development of the construction over time. The hypothesis, based on the framework outlined in Chapter 2, predicted that the rise in the productivity would be in accordance with the construction's rising type frequency. Additionally, the hypothesis suggested that the productivity of the construction would be influenced by three other factors: the semantic and grammatical properties of the construction and the syntactical function of the construction in larger grammatical units. The results of the analytical part support the hypothesis while also generating interesting observations with regard to the productivity of the construction.

Even though, given the size of the sample studied, it is somewhat questionable whether the results are fully generalizable, the thesis analysed the productivity of the [non-numeral] *o'clock* construction from various points of view and outlined relevant observations which evidenced the collective impact of various aspects on the productivity of the construction.

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Resumé

Bakalářská práce se zabývá specifickou anglickou konstrukcí [non-numeral] *o'clock*, v češtině [ne-číslovka] *o'clock*, jejímiž instancemi mohou být například *beer o'clock* nebo *stupid o'clock*. Cílem je analyzovat postupný nárůst produktivity volné pozice konstrukce a popsat ji v rámci usage-based konstrukční gramatiky. Práce dále analyzuje sémantické a gramatické vlastnosti prvků nacházejících se ve volné pozici, hodnotí frekvenci jejich výskytu a porovnává jejich vliv na produktivitu konstrukce. Teoretická část se skládá ze dvou kapitol. První kapitola teoretické části nastiňuje rámec usage-based konstrukční gramatiky a představuje termíny relevantní pro analytickou část práce. Druhá kapitola pak nastiňuje definice slova *o'clock*, jak ho prezentují slovníky Oxford English Dictionary, Merriam Webster Dictionary, Collins Dictionary, Cambridge Dictionary a Lexico Dictionary.

Jak již bylo nastíněno ve druhé kapitole, v konstrukční gramatice je základní lingvistická jednotka konstrukce. Konstrukce se nachází na všech jazykových úrovních, od afixů až po větné struktury a idiomy. Drtivá většina nových konstrukcí vzniká rozšiřováním a modifikováním již existujících konstrukcí, zatímco konstrukcí vznikajících nezávisle na ostatních je minimálně. Konstrukční polysémie odráží příbuzenské vztahy existujících a vznikajících konstrukcí. Právě polysémie hraje důležitou roli v analýze konstrukce [ne-číslovka] *o'clock*, která vznikla rozšířením z konstrukce [číslovka] *o'clock*.

Konstrukce [ne-číslovka] *o'clock* a konstrukce [číslovka] *o'clock* se od sebe liší formálně i významově. Zatímco konstrukce [číslovka] *o'clock* má ve volné pozici vždy číslo nebo referenta k číslu, konstrukce [ne-číslovka] *o'clock* čísla ani referenty k číslům nikdy nezahrnuje. Významově, na základě slovníkových definic, se od sebe liší tak, že konstrukce [ne-číslovka] *o'clock* buď určuje přesný čas, jako v příkladu *He called me at four o'clock in the morning* (Merriam-Webster), nebo zadává směr dle hodinových ručiček, jako v příkladu *an airplane approaching at six o'clock* (Merriam-Webster). Konstrukce [ne-číslovka] *o'clock*, dle definice slovníků, temporální aspekt potlačuje a omezuje na referenci k nespécifické denní době, kdy se určitá věc dělá nebo odehrává, jako v příkladu *For many mums, the kids' bedtime is chocolate o'clock* (Cambridge Dictionary). Zároveň také může asociovat brzké či pozdní hodiny s negativními emocemi, jako v příkladu *with the festival over it is time to set aside the alcoholic enlightenment with Richard Whiteley at silly o'clock in the bar* (Oxford English Dictionary). Práce se soustředí pouze na užití konstrukce [ne-číslovka] *o'clock*.

Jak již nastínila čtvrtá kapitola, produktivita konstrukce se interpretuje pomocí realizované produktivity a potenciální produktivity. Realizovaná produktivita se počítá porovnáním počtu typů a tokenů, zatímco potenciální produktivita se odhaduje na základě porovnání hapax legomena (typů, které se ve vzorcích objevují pouze jednou) a tokenů. Čím je typová frekvence vyšší, tím větší je i typová produktivita konstrukce. Produktivita se pak porovnává na škále od 0 do 1, kde 0 signalizuje nízkou produktivitu a 1 vysokou produktivitu.

Analytická část se skládá ze vzorku 329 příkladů posbíraných z Twitteru a ze tří korpusů; The Corpus of Historical American English, The Corpus of Contemporary American English a The Spoken British National Corpus 2014. Twitter představuje 269 vzorků, zatímco zbylých 60 vzorků pochází z korpusů. Hypotéza vychází z předpokladu, že narůstající produktivita konstrukce [ne-číslovka] *o'clock* poroste spolu s typovou frekvencí volné pozice konstrukce. Dále pak předpokládá, že sémantické a syntaktické vlastnosti prvků ve volné pozici a funkce konstrukce ve větných celcích ovlivní vývoj relativní produktivity konstrukce.

Výsledek první části analýzy všech 329 tokenů odhalil přítomnost 227 typů, z čehož se pouze 22 typů objevilo více než jednou. Nejčastěji se ve vzorku vyskytovaly tokeny *beer* s 37 tokeny, *wine* s 20 tokeny a *stupid* se 17 tokeny (cf. 5.1.1). Příklady byly taktéž rozřazeny do sémantických kategorií; ASSESSMENT, BEVERAGE, CULTURAL REFERENCE, LEISURE, EMOTIONAL EXPRESSION, FOOD a TEMPORAL REFERENCE (cf. 5.1.2). Při analýze sémantických kategorií se podařilo odhalit významové nuance konstrukce [ne-číslovka] *o'clock* napříč kategoriemi. A totiž, že kategorie TEMPORAL REFERENCE dává do popředí temporální aspekt. Příkladem jsou *Complain that I'm tired all the time then stay up till **daft** o'clock every night guaranteed* (T197) nebo *Yes, you'd be cranky too if you discovered your yard was the home of special needs birds who screech at shut the hell up **dark** o'clock.* (T55). Instance konstrukce [ne-číslovka] *o'clock* v těchto příkladech dávají do popředí negativní asociace s určitou denní hodinou, což se liší například od příkladu v sémantické kategorii CULTURAL REFERENCE, která do popředí dává samotný předmět ve volné pozici, což lze vidět u příkladu *What time is it? It's **Obama** O'Clock!* (T61), kde je hlavním referentem prezident Obama.

Za účelem analýzy gramatických vlastností konstrukce se příklady pak dále rozdělily do dvou gramatických kategorií na fráze a interjekce, klauze. (cf. 5.1.3) Kvantitativní analýza syntaktických kategorií odhalila, že konstrukce [ne-číslovka] *o'clock* preferuje fráze a interjekce, kterých se ve vzorku vyskytlo celkově 246, ve srovnání s klauzemi, kterých je ve vzorku pouze 74. (5.1.3) Vyšlo také najevo, že se ve volné pozici nejčastěji vyskytují holé substantivní fráze, jako například *waits for **beer** o'clock* (T4), a to ve 164 příkladech (5.2.2). V syntaktickém kontextu se konstrukce nejčastěji vyskytuje v syntaktickém uspořádání [*it + BE + o'clock*] (cf. Chapter 6).

Výsledek výpočtu realizované produktivity ukázal nárůst typové produktivity konstrukce z 0.5 z prvního období (2006–2009) na 0.85 v posledním období (2018–2021), zatímco celková realizovaná produktivita všech vzorků je 0.78. (cf. 5. 4.1). K největší změně došlo mezi prvním a druhým obdobím, kdy se realizovaná produktivita navýšila z 0.5 na 0.8. Potenciální produktivita, která měla odhadnout produktivitu konstrukce v následujícím období porovnáním hapax legomena s počtem tokenů, chybně odhadla klesající produktivitu konstrukce na 0.45 (cf. 5.4.2). Chybná predikce potenciální produktivity indikovala přítomnost dalších faktorů, které měly vliv na nárůst produktivity konstrukce mezi prvním a

druhým obdobím a analýza se obrátila k výsledkům sémantických a gramatických kategorií. Ta ukázala, že 28 % všech příkladů spadá do kategorie BEVERAGE, která obsahuje 92 tokenů (cf Figure 6). Nejčtetnějším zastupitelem této kategorie jsou typy *beer* a *wine*, které společně tvořily 39 tokenů v prvním období, a reflektují tak produktivitu kategorie 0.25 (cf. 5.4.3). Pokles typové frekvence *beer* a *wine* mezi prvním a druhým obdobím zároveň s poklesem kategorie beverage ve srovnání s prvním a dalšími obdobími podporuje hypotézu, že celkový nárůst produktivity konstrukce může být do jisté míry ovlivněn i dalšími faktory, jako například sémantické a syntaktické vlastnosti konstrukce.