

**UNIVERSITY OF TARTU  
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**HOW COME THAT'S A CONSTRUCTION? A CONSTRUCTION  
GRAMMAR APPROACH TO THE *HOW COME* CONSTRUCTION IN  
SPOKEN AMERICAN ENGLISH  
MA thesis**

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## ABSTRACT

This MA thesis aims at combining corpus linguistics and construction grammar, two of the active fields in contemporary linguistics. The research focuses on a construction used in informal spoken American English: *how come*. Studies taking a constructional approach to spoken discourse are more recent and less numerous than those dealing with written language. I will show how the two modes differ and why it can be difficult to analyze spoken language. The research question of the thesis is as follows: What are the form-meaning properties of the *how come* construction and how are they attested in spoken American English? I expect to see non-normative sentence structure and prominent features of spoken language in my data, in addition to some instances of non-canonical discourse functions of the said construction.

The thesis comprises six main sections: an introduction, a chapter about the theoretical background, two empirical chapters about the studies on *how-x* and *how come* respectively, a conclusion, and appendices. In the introduction, I explain why the approach I adopted is worth using in the context of spoken constructions and why spoken language in particular is suitable for a constructional study. The theoretical part consists of four sections. Section 1.1 explains what construction grammar is and Section 1.2 explains how it relates to the analysis of spoken language. Section 1.3 compares and contrasts spoken and written language, describing why these cannot be studied in a similar way. Section 1.4 focuses on spoken corpora, listing the main features and Section 1.5 narrows down on the issue of corpora, revealing frequency and collocations as some of the central concepts related to corpus linguistics.

The empirical part entails the two corpus studies that led to describing the *how come* construction. I used the Michigan Corpus of Academic Spoken English (Simpson et al. 2019) and the spoken part of the Open American National Corpus (Ide and Suderman 2016) to achieve the final objective of this thesis, the constructional representation of *how come*. In Sections 2.1 and 2.2 I give reasons for choosing MICASE and explain how the data was collected and prepared for further analysis. Section 2.3 reports the results of the first corpus study and Section 2.4 discusses and reviews the results of the first corpus study on the *how-x* sequence. In Sections 3.1 and 3.2 I give reasons for choosing OANC and explain the data collection and preparation procedures. The intermediate section of Chapter 3, Section 3.3, gives reasons for describing *how come* as a construction. Section 3.4 reports the results of the second corpus study. Section 3.5 presents the constructional representation of *how come* based on the discussion of the two samples. After the three principal chapters, a conclusion summarizes and draws special attention to the main points established in the thesis.

This thesis also includes 5 appendices. Appendix 1 contains the script I used for getting results concerning the utterance types and what words follow *how* in the first corpus study, and Appendix 2 shows how many times a particular word followed *how* in this study. Appendix 3 includes an extract from the downloaded and annotated dataset from the Michigan Corpus of Academic Spoken English (Simpson et al. 2019); Appendix 4 presents its subset, containing utterances that feature *how come* only, omitting some of the parameters present in the larger dataset of Appendix 3. Appendix 5 also lists utterances containing *how come* but does so on the example of the second corpus, the Open American National Corpus (Ide and Suderman 2016).

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## **LIST OF ABBREVIATIONS**

MICASE = Michigan Corpus of Academic Spoken English

OANC = Open American National Corpus

## INTRODUCTION

Spoken language is rich in idiomatic expressions that speakers use to achieve their communicative goals. As conversations often have multiple participants, some of the talk makes sense only in the larger context, not just on the level of individual utterance or turn. There are expressions that are predominately used in spoken register, but this does not mean that they may not appear in written register. This thesis focuses on one expression, *how come*, arguing that it is a stand-alone construction characteristic of American English in particular (Quirk et al. 1985: 840). Through this expression, some of the patterns present in spoken language will be shown.

The research will be conducted using spoken corpora, sources of data that are increasingly used in linguistic research. Spoken corpora are relatively new as the technological means required for recording speech and transcribing in addition to annotating it are resource-intensive both in terms of time and skills. Swan (2009: 40) has said that “[i]t is only recently [...] that we have found it easy to assess spoken language as a linguistic entity in its own right” thanks to technological advancements. Carter and McCarthy (2006: 164) also mention that spoken language has been undertreated in the field of corpus linguistics.

Spoken language has not been the focus of other linguistic approaches either. Construction grammar in particular, a leading approach to language within the larger field of cognitive linguistics, has been mostly used to study written language. Hilpert (2019: 208) argues that due to the fundamental differences between written and spoken discourse, the same criteria cannot be applied to both modes, as spoken language is temporal, resulting in different structures. Imo (2015: 70) further argues that by considering spoken constructions we can study “pre-patterned ‘chunks’”, linguistic units that are used for communicating with others. Norms

established in reference grammars apply to written discourse, first and foremost, and spoken discourse in the form of chunks may fail normative rules, such as word order.

The temporal dimension plays a key role in spoken language. According to Swan (2009: 43), speech is “characteristically anchored in the here and now”, a claim that is supported by Carter and McCarthy (2006: 193) who say that “spoken language exists in time, not space”. It is deictic, which in turn can influence word choice as some things are obvious from what the speakers know about the world and where they are (Swan 2009: 43). Despite the differences between spoken and written language, all texts still need to be “structured if they are to communicate successfully” whatever the mode or register (*ibid.*: 42). Otherwise, they may not form a coherent and cohesive unit.

The construction grammar approach I am taking has the goal of treating the network of form and meaning pairs as a way of giving a more comprehensive take on language. Most syntactic theories focus on form which is especially problematic when it comes to spoken discourse, but pose a challenge to empirical linguists in general, as context matters as well (Imo 2015: 71). Functionalism, however, does consider semantics and pragmatics, so Imo’s claim does not always hold true. I argue that in studying syntactic and semantic properties of constructions, pragmatics are also involved as construction grammar is a usage-based framework. Imo (2015: 69) comments that construction grammar describes the structures of language, including “both cognitive and usage-based aspects” and has different, narrower subfields.

This research follows the example of another corpus study in formulating its research question and developing its methodology. As I am analyzing spoken data, I expect to see non-normative utterance types that reflect the dynamicity of speech as conversation is based on co-operation (Enfield 2017: 16). Põldvere and Paradis (2019: 2) list three research questions, based

on which I formulated my own. The research question of this MA thesis is as follows: What are the form-meaning properties of the *how come* construction and how are they attested in spoken American English? My final objective is to build a constructional representation of the *how come* construction on the example of the study by Põldvere and Paradis (2019: 21). With the two corpora serving as primary sources, this study relied on the aforementioned study by Põldvere and Paradis (2019) for developing its methodology. Other secondary sources were consulted as well. I decided to base my corpus study on their study because of its coherence, clear structure, and Põldvere and Paradis having taken part in compiling the corpus they are using.

The aim of this thesis is twofold: I intend to add to the research on spoken constructions and to show how spoken corpora can be valuable in usage-based linguistic research. This thesis therefore contributes to theoretical linguistics through a study focusing on a timely topic. More specifically, my goal is to investigate the syntactic and functional properties of the *how come* construction, leaving out intonation due to the lack of available recordings and the resulting limitations of annotation. Opting for *how come* as the construction to be investigated in the second study was the result of analyzing the preliminary results of the first study by looking at what follows the word *how* in the data. The thesis therefore follows a bottom-up approach, drawing conclusions based on patterns forming from individual examples. The data I am analyzing comes from two collections of spoken text, the Michigan Corpus of Academic Spoken English (henceforth, MICASE) (Simpson et al. 2019) and the spoken subcomponent of the Open American National Corpus (henceforth, OANC) (Ide and Suderman 2016). These were chosen by looking through the corpora available online and not behind a paywall, thus accessible by anyone.



The thesis is structured into three chapters as follows: the first one introduces the theoretical framework on constructions and spoken corpora; the second one describes the first corpus study conducted, discussing the source material, its limitations, and the results of the research; the third one focuses on the main corpus study. Chapter 3 includes the same aspects as Chapter 2, but comprises the constructional representation of *how come* as well. The theoretical chapter gives a brief overview of what is a constructional approach to language, then focuses on spoken constructions. It also draws comparisons between spoken and written language, lists the characteristics of spoken corpora, and discusses some of the key concepts crucial to studying corpus data, namely frequency and collocations. The two empirical chapters introduce the two corpora used in the thesis, MICASE and OANC, plus summarize the steps that preparing the data entails. In turn, these chapters report the results of both the preliminary corpus analysis of MICASE about the *how-x* sequence as well as the results and interpretation of the second corpus search focusing specifically on *how come*. The third chapter also includes a constructional representation of the *how come* construction, the final objective of the thesis.

# 1 SPOKEN LANGUAGE AND CONSTRUCTION GRAMMAR

When we speak, we are often unaware of the complex processes taking place in our mind. It is often surprising for those not trained in linguistics to see their speech analyzed in publications for they do not focus on the structure of their speech during actual conversations. This is where corpora can be of considerable help. Often anonymized or coded to deflect attention away from individual speakers, corpora aid in describing general patterns in language. This chapter sets the theoretical framework for the present thesis, giving an overview of corpora of spoken language and what could be of interest in them. Apart from the sources of data, the chapter also introduces the approach taken, namely construction grammar and how it relates to spoken data. Construction grammar, a relatively recent approach to language, describes among other approaches how we normally speak in word clusters of various levels. Spoken and written language themselves will also be compared to understand the fundamental differences between them.

## 1.1 Construction Grammar: Introduction to the Approach

*Construction grammar*<sup>1</sup> is an umbrella term, comprising several different approaches in the field of functional and usage-based theories of language. There is some debate on how to call this framework. Goldberg (2013: 38) notes that labeling a framework as “X or Y Grammar” might be divisive and deter researchers from different related fields from adopting it, and this hinders collaboration in return; therefore, she uses the term “constructionist approaches”. In this thesis, however, it was decided to use the term “construction grammar” as this is more frequent in the sources that were consulted. *Constructions*, or form-meaning pairs, are treated as the basis

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<sup>1</sup> Key terms here and hereafter are introduced in italics.

for linguistic observations in all these approaches (Goldberg 2003: 219–220). The interrelation between form and function is what distinguishes this approach when set against generative and other functional approaches, for the former pays less attention to function, and the latter to form (Goldberg 2013: 37). The connection between form and meaning has been tested for the so-called mental reality by replacing a usual verb with a nonsense verb in a ditransitive construction, an experiment which showed that people rely on the meaning of a construction, rather than the specific word in it (Ahrens 1995). An important, although somewhat outdated characteristic of a construction is also *non-compositional meaning* and/or *form*, meaning that the elements cannot be analyzed separately; e.g., it might be difficult to define what part of speech an element belongs to (Hilpert 2019: 10). Some expressions, meanwhile, are compositional, but have simply *conventionalized* (*ibid.*: 12–13). For example, *I love you*, an instance of the transitive construction, is the standard way of expressing love, so it is not a construct (see p. 13 for further discussion).

According to Hilpert (2019: 2), all linguistic knowledge “is thought to be represented at the level of constructions,” and constructions are related to phonology, morphology, syntax, semantics, and pragmatics. This contradicts the traditional view that learning a language falls into two parts: words and syntax, called the “dictionary plus grammar book model” (Taylor 2012: 8). Especially problematic is this kind of two-fold treatment with regard to idioms because they need to be learned one by one, require “separate entries in the mental lexicon,” and meaning together with register play an important role in that case (Hilpert 2019: 3). Constructions can therefore be referred to as the “interface between language as experienced and language as represented in the brains of the speakers” (Taylor 2012: 9). This statement is echoed by Hilpert (2019: 9) who says that constructions are generalizations made by the speakers after coming across them multiple times.

**Table 1.** Classification of constructions (adapted from Goldberg 2003: 220)

Construction	Form/Example	Function
Morpheme	e.g., <i>anti-</i> , <i>pre-</i> , <i>-ing</i>	
Word	e.g., <i>Avocado</i> , <i>anaconda</i> , <i>and</i>	
Complex word	e.g., <i>Daredevil</i> , <i>shoo-in</i>	
Idiom (filled)	e.g., <i>Going great guns</i>	
Idiom (partially filled)	e.g., <i>Jog &lt;someone's&gt; memory</i>	
Covariational-Conditional construction	Form: The Xer the Yer (e.g., <i>The more you think about it, the less you understand</i> )	Meaning: linked independent and dependent variables
Ditransitive construction	Form: Subj [V Obj1 Obj2] (e.g., <i>He gave her a Coke; He baked her a muffin</i> )	Meaning: transfer (intended or actual)
Passive	Form: Subj aux VPpp (PP <sub>by</sub> ) (e.g., <i>The armadillo was hit by a car</i> )	Discourse function: to make undergoer topical and/or actor non-topical

Goldberg (2003: 220) lists the main constructions available in English, included in Table 1. This categorization can be compared to the classification that is based on the fixedness of the construction (Imo 2005: 2; see p. 17 for further discussion) as “morpheme” and “word”<sup>2</sup>, for example, are less specific than “passive voice” and “ditransitive construction”. These form-meaning pairs are therefore of different length and complexity. Both regular and irregular elements belong to the network of constructions, also called a *construct-i-con* (Penjam 2008: 15; Goldberg 2003: 219). Goldberg (2003: 219) treats language itself as a “network of constructions”, exemplified by Table 1 as these linguistic units make up most of the sentences. To get a better sense of the difference between regular and irregular elements, consider the formation of the passive construction which is quite rule-based, while idioms as a phenomenon,

<sup>2</sup> Goldberg (2013: 28) notes, though, that not all researchers working in the field of construction grammar necessarily use the term *construction* nor does everybody treat morphemes or words as constructions.

for instance, are productive and open-class, meaning that people coin new ones, even though not all elements can be manipulated. More specifically, Hilpert (2019: 6) compares idioms to schemas that have slots which are limited to certain elements and may be grammatically constricted, so the above-mentioned model described by Taylor (2012: 8) would be difficult to execute, as this would mean grammar entering the list of words.

Goldberg (2013: 29) even distinguishes between different kinds of idioms based on how *filled* they are, i.e., how much variation they allow. In relation to the possible variation, a separate section in her article focuses on the creative and formulaic properties of a given language wherein an argument is made that some parts of constructions are kept in our memories, even when we hear certain utterances only once, though some abstraction always occurs, as our memory has limits (*ibid.*: 34–36). Goldberg (*ibid.*: 33) also explains that while some constructions may seem identical across languages, in most cases, differences exist, be it then in terms of syntactic form, semantics, or discourse, in addition to frequency in general. Generalizations do occur, but they should not be analyzed through grammatical properties, but rather as “independently motivated general cognitive mechanisms” (*ibid.*: 34).

It is also possible, and quite frequent, to combine constructions. Goldberg (2003: 221) uses the term *construct* to describe “an actual expression” and illustrates her argument on the example of *What did Liza buy the child?* (see Figure 1). The multitude of constructions included in the question presented in Figure 1 show how such short sentences can reveal the complex processes that occur in our mind. Hilpert (2019: 12) expands on the issue, saying that constructs are more concrete than constructions.

(a) [ What did Liza buy the child? ]

(b) 1. *Liza, buy, the, child, what, did* constructions (i.e. words)  
 2. Ditransitive construction  
 3. Question construction  
 4. Subject–Auxiliary inversion construction  
 5. VP construction  
 6. NP construction

*TRENDS in Cognitive Sciences*

**Figure 1.** The combination of constructions in a single expression (figure with a different caption appears in Goldberg 2003: 221)

## 1.2 Spoken Constructions

As far as construction grammar is concerned, spoken language has not been the main focus of scholarly attention, unlike, for example, with Conversation Analysis or Discourse Analysis. Only a limited number of sources can be found that associate a constructionist approach and spoken phenomena of a language, as spoken language is inherently different from written language, and cannot be analyzed in a similar manner (see Section 1.3 for further discussion). This, according to Hilpert (2019: 208), is a problem, as the focus on written constructions relies more on formal and functional characteristics often associated with grammatical acceptability, which would not be applicable to spoken language. “Utterances are produced in real time by actual speakers” and the structure of utterances might be different from written language (*ibid.*). However, given that construction grammar is a relatively new field, its focus is likely to shift over time, and first steps are being taken. An overview of some of the few studies about spoken constructions in relation to interaction can be found in Pöldvere and Paradis (2019: 6–8), including those that treat linguistic items which cannot always be studied

based on “purely grammatical models of language” and those which include the temporal aspect (Põldvere and Paradis 2019: 7–8).

Methodologically, my thesis relies on Põldvere and Paradis (2019) to some extent. The article reports a study on the reactive *what-x* construction in their data from *London-Lund Corpus 2* (henceforth, LLC-2). Põldvere and Paradis (2019: 8–9) used spontaneous and private face-to-face conversations from LLC-2, a corpus of spoken British English from 2014–2019, amounting to 251,550 words. The authors compiled a sub-corpus with instances of the word they were studying, *what*, excluding utterances that were of low quality or possibly incomplete, which may cause confusion as to how the word functions (*ibid.*: 9). When hesitance or repair led to several subsequent instances of *what*, only one counted, amounting to 1,566 search results; 95 had been excluded for one or several of the above-mentioned reasons (*ibid.*). Naming the specific reasons for data exclusion helps when the study is replicated. The remaining tokens, or instances of *what*, were first divided into the categories established by reference grammars and articles, leaving 45 utterances containing *what* that did not fit into the traditional classification, i.e., instances of the reactive *what-x* construction (*ibid.*: 10–11).

Põldvere and Paradis (2019: 1) first provide the frequency and distribution of the reactive *what-x* construction, followed by an in-depth explanation of its form and meaning. Extract (1) is an example of this new construction, where *what* is non-canonically preceding the prepositional phrase that follows and is a reaction to the previous turn.

- (1) A: we've got like fifty students they have to put up their work so we might have to put some screens in  
 <pause/> uhm  
 B: **what for film** <pause/> **or screens to [separate the spaces]**  
 A: [screens to] separate the spaces (Põldvere and Paradis 2019: 2)

The authors explain which elements follow *what*, if anything at all, and that the construction accompanies the complement it precedes in one tone unit (*ibid.*: 12–13). The semantic function

of the reactive *what-x* construction is also given, and it is said that it belongs to the (informal) spoken register, as this construction is used to interact with the preceding turn to negotiate or express doubt about what was last said by the other(s) (Pöldvere and Paradis 2019: 16).

There are three functions of the reactive *what-x* construction according to Pöldvere and Paradis (2019: 16): a request for verification, a request for information, or an adversative request. The article gives the number of occurrences and provides specific functions. The first, verifying reactive *what-x*, is used to establish the truth about what was referred to before (*ibid.*: 17). Requests for information, meanwhile, function to manipulate the topic, but not change it entirely (*ibid.*: 18). Adversative requests, the third type, do not function as questions; rather, they are stance-taking and oppose the other speaker's view (*ibid.*: 19). The multifunctionality of the construction shows the context-dependency of spoken language and the discussion allows for a comprehensive constructional representation of the reactive *what-x* construction, seen in Figure 2. It emphasizes that register also plays a role in the knowledge, and interaction should be considered – the question is not just about form and meaning properties (*ibid.*: 21).

Form	Internal	# <i>what</i> X <sub>phrase or clause</sub> #
	External	Obligatory preceding turn by another speaker, subsequent turn is more flexible
Meaning	Meaning potential	Reacts to something in the preceding turn, negotiates and calls it into question, conveys immediacy and urgency
	Dialogic functions	Request for verification Request for information Adversative request
	Register	(Informal) spoken dialogue

**Figure 2.** Comprehensive constructional representation of the reactive *what-x* construction (figure with the same caption appears in Pöldvere and Paradis 2019: 21)



Another exemplary study of constructions in spoken language focuses on *I mean* in spoken American and British English (Imo 2005). This study includes schematic summaries of constructions (see Figure 3 for a potential, more detailed representation of a construction as compared to Figure 2). Although the study itself has a different focus from Pöldvere and Paradis (2019), the author introduces an important notion. Namely, Imo (2005: 2) differentiates between *schematic* and *specific constructions*, the former allowing for different words to be represented in the schema, while specific constructions offer limited to no varieties and are quite “frozen”. *I mean* can be considered a specific construction and so is *how come* as both tend to prefer certain lexical forms, such as verbs and pronouns respectively.

<b>I mean</b>	
<i>Type of construction: complex, specific, free</i>	
Syntax:	autonomous phrase, can be combined with other discourse markers
Topology:	tendency to be placed in an utterance-initial position
Prosody:	variable prosodic realization (own intonation contour, integrated into the intonation contour of the utterance it precedes, integrated into the intonation contour of some previous utterance)
Semantics:	bleached semantics; only in some cases residual traces of the original semantic content of <i>to mean</i> are activated
Pragmatics:	projective power: some further utterance is expected after <i>I mean</i>
Function:	general indexical function: cut-marker specific functions are context-dependent and are mainly textual ones; interpersonal functions are only secondary

**Figure 3.** A potential description of the *I mean* construction (figure appears in Imo 2005: 30)

Different authors favor different types of analyses that overlap in some respect, but not completely. For example, the descriptive schemas that different authors have proposed use distinctive categories and forms of representation (see Figure 2 and Figure 3 in the overview

above). Goldberg (2013: 37) takes a cautious stance about formalizing constructions, saying that it is more of a matter of computational linguistics, and listing all features applicable across languages is not possible, an impression that could be left when taking a formalist stance. However, both the article by Põldvere and Paradis (2019) as well as the one by Imo (2005) include two sides of the construction: form and meaning. The detail with which they discuss the specific constructions they base their analyses on, deviates, but overall, all mention intonation, syntax, and function.

I will also focus my analysis on syntax and function, but not intonation because the corpora I am studying, MICASE and the spoken component of the OANC (available through SketchEngine 2021), are not annotated for phonetic or phonological features to an extent that would deem it suitable. In MICASE, only pauses have been transcribed, unlike intonation contour, etc., plus there were no recordings I could listen to. In OANC, even the pauses have not been transcribed in the majority of cases, complicating things further.

### **1.3 Comparing Spoken and Written Language**

In the previous section on spoken constructions, it was explained why analyzing spoken language from the point of view of construction grammar requires different treatment than the one which could be applied to written language. To understand why, the main differences between spoken and written language will be provided in this section.

Spoken language differs from written language in many respects. Bright (n.d.: para. 2–4) lists the main differences in his article, such as the earlier occurrence of speech in history; the universality of speech as opposed to literacy; and that in language acquisition, speech is produced sooner by children than written text. The syntax of utterances found within a spoken corpus is therefore less smooth and more fragmented than that of a written production. People

have less time to prepare what can be regarded as verbal input and, in turn, conversation partners must react, either verbally or nonverbally, to hold a dialogue. So, instead of focusing on producing elaborate complex sentences, people often do their best to convey the most important information in a limited amount of time, unless the setting is reserved for monologues, such as lectures or church sermons.

In a book about human interaction and specific nuances that we might not recognize as participants in the communication we engage in every day, it is stressed that conversations require “high-level interpersonal cognition” (Enfield 2017: 11) and they are *inherently cooperative* (*ibid.*: 16) and *co-constructed*, so all participants are expected to contribute (Swan 2009: 47). Because of that, a typical conversation includes variables beyond our control, such as the clarity of others’ messages, or interruptions, and it changes constantly, adapting to other speakers. We have all probably felt the frustration when waiting until the other person takes a breath. Yet, we let them (almost) finish before interjecting; we also give them a chance to take their turn after we have finished ours. Deviations from this rule result in overlap. While we do not normally think about why we act like this, Enfield (2017: 15) has referred to this activity as the “norms of conversation”. Much like in traffic, people adhere to rules and regulations that aid in organizing the whole system. An example of abiding by the conventions would be when somebody asks you a question. There is no doubt that an answer is expected, and that it should come from the person who is asked the question, while leaving a chance to evade; think of politicians, for example (Enfield 2017: 18, 21–22).

Enfield (2017) echoes the claims about distinguishing conversation from written text made in the chapter titled “Grammar in spoken and written text” (Swan 2009: 40–50). Swan (2009: 40) says that since much of formal communication happens on paper, written language

has significantly more prestige, and “a society’s language comes to be equated with its written form”. However, as Swan (2009: 40) points out, to compare verbal and written communication is to juxtapose two very different modes: spoken text is usually produced in the form of a dialogue, although the aforementioned lectures and church sermons are monologized, while written text resembles a monologue. Therefore, the two should not be assessed based on the same criteria. The first is based on feedback; writing, however, can be interpreted, but is not built upon feedback – a reason why written text needs to be clearer (*ibid.*).

Synthesizing the ideas that were expressed by Enfield (2017) and Bright (n.d.), Hilpert (2019: 208) starts his chapter on constructions in spoken language by juxtaposing the terms sentence and utterance. Through a quotation from *Syntactic Structures* (Chomsky 1957: 13), Hilpert treats the two as inherently different phenomena used in different contexts. *Sentences* are used in written language, while *utterances* usually belong to the domain of spoken language, the former being “static, complete units that can be assessed with regard to their constituent structure and their grammatical acceptability” (Hilpert 2019: 208). To give an example, in English normative grammar, a transitive sentence has three compulsory elements – subject, verb, and object. Utterances, on the other hand, may often fail to fit these criteria, as the *temporal dimension* (*ibid.*: 209) must be taken into consideration too. Context matters, and language is dynamic not static. This approach to language is reminiscent of most usage-based approaches of language. Imo (2005: 71) also highlights the importance of context, saying that many theories of syntax do not take context into account, focusing on form instead, while construction grammar treats form and meaning as equal. There are exceptions – as was said in the introduction, functionalists do consider context.

The nature of sentences is also discussed by Crystal (2019). He (*ibid.*: 226) starts by challenging the notional approach taught in schools, according to which a sentence is “a complete expression of a single thought” as it might not always be complete nor express one thought only. Crystal (2019: 226) does not use the term utterance, stating that we do speak in sentences, it is just that the organization and grammar of these sentences differs from that of written syntax. He (*ibid.*: 228) further distinguishes between *major* and *minor sentences*, the former being more common in written works; minor sentences, however, usually dominate in spoken language. Minor sentences, also used in headlines and advertisements in the written form, resist changes in person and tense and use “abnormal patterns which cannot be clearly analysed into a sequence of clause elements” (*ibid.*: 228). The trait of minor sentences being non-compositional relates them to the foundations of construction grammar (see Section 1.1). It is also important to highlight that Crystal (2019: 228) emphasizes the differences between registers, even within the same mode of communication. Coming back to Hilpert’s (2019: 208) definition of a sentence, what is considered grammatically acceptable and what has a clear constituent structure in a specific mode of communication might not coincide. Compare, for instance, an academic essay and advertisement – different rules apply in the two cases, as advertisements are composed of minor sentences, while academic essays contain major sentences.

Auer (2009) has investigated the temporal dimension of language. He focuses on three characteristic features: transitoriness, irreversibility, and synchronization (*ibid.*: 2–4). *Transitoriness*, Auer (*ibid.*: 2) states, is related to the limitations of the memory of interactants, and, more specifically, how bound we are to what we say or hear. After all, most people cannot remember entire conversations by heart, and therefore, it is understandable why official communication is preferably written. Swan (2009: 41) adds that as listeners lack control over

the speed of others' speech, decoding complex material is more difficult. This in turn can affect the structure of utterances, e.g., word order. Auer (2009: 3) then proceeds to the discussion of *irreversibility*, or the need to sometimes edit what has been uttered, mentioning phenomena such as hesitation, self-repair, and restart. He also comments that in the end, some things simply cannot be unsaid, but spoken language in general is more lenient, at least when it comes to syntax, as there is less time to polish our utterances (Auer 2009: 3). Examples of how temporality plays a role in describing the *how come* construction are provided in Section 3.5.

The last item in Auer's (2009: 3) list, *synchronization*, refers to the feature that the joint process of language production and reception are almost simultaneous in spoken, but not in written communication (*ibid.*). The latter is read later and by somebody else, so the gap is bigger, even though technological advancements, especially social media, have changed the situation somewhat (*ibid.*: 3–4). In other words, one often needs to comprehend text to produce it, but the timescale might vary across modes. Auer (*ibid.*: 4) concludes that transitoriness, irreversibility, and synchronization have not received much scholarly attention, as is evident from the lack of relevant terminology when the need arises to describe spoken language, such as the concept of *left-right headedness* that relies on text as seen on paper, i.e., line after line with a clear direction. Carter and McCarthy (2006: 193) make the same comment when discussing headers, saying that these cannot be substituted with the term *left-dislocation*, as it is not possible to decide what is on the left or the right in spoken language.

Overall, it can be said that spoken constructions are complex and follow rules different from those applicable to written language. However, language in general varies significantly depending on the specific conversation and the way the interactants see the world, no matter the mode.

## 1.4 The Characteristics of Spoken Corpora

The definition of corpus differs according to the focus of the researchers. Biber et al. (2007: 4) characterize *corpus* as “a large collection of spoken and written texts, stored electronically, and searchable by computer”. Crawford and Csomay (2016: 21) add that a corpus is “a representative collection of language that can be used to make statements about language use.” It provides researchers with a compactly presented dataset that can be analyzed linguistically, such as by looking at frequency and collocations (see Section 1.5). This thesis is, more specifically, concerned with a sample of spoken language, so a narrower definition is called for. McCarthy and O’Keeffe (2013: 104) define *spoken corpora* as “collections of transcripts of real speech.” The authors (*ibid.*) also make an important distinction between spoken corpora and speech corpora, a point that may sometimes go unnoticed for linguists working in a different subfield. When a *speech corpus* is created, the focus falls on the technical aspect, i.e., the speech signal, rather than the actual content (*ibid.*). Spoken corpora, however, are studied to find out the whats and whys of people’s ideas as well as to analyze the ways of using spoken language for communicative and interactional purposes (the so-called hows) (*ibid.*).

As can be seen from the definition already, a corpus is, essentially, a collection of texts, based on written and/or spoken material. However, this definition is not sufficient, for there are various characteristics to take into consideration. The larger question is concerned with how we define text. One of the possible explanations is that it is a sample of language (Stefanowitsch 2020: 1). The texts in the corpus can be from different genres, and of various levels of formality (McCarthy and O’Keeffe 2013: 104). The number of speakers and setting also vary, and people’s goal in the conversation is an important factor as well (*ibid.*). In Section 2.1, more information about metadata is provided, a feature related to the recording environment that also

shows how restricted a corpus is, what categories are included, and of what quality the data is. It can be seen from the above that what is understood as a corpus is quite multi-faceted. Some people argue that there are a certain number of words needed for a corpus to be called one, but this depends on the language in question, and the purpose of the corpus. Endangered languages have fewer speakers, which makes it much more difficult to gather as much data as in case of English or French, for example.

There are some general features and types of spoken corpora. They are often based on a recording, and the people present in the recordings can be a representative sample of the general population, or a specific social group (McCarthy and O’Keeffe 2013: 105). Spoken language is ultimately transcribed in corpus research, thus available in writing. Spoken corpora can be divided into three types (following Timmis 2015: 82):

- 1) Spoken components of large general corpora,
- 2) Exclusively spoken corpora,
- 3) Genre-specific spoken corpora.

Examples of the first type would be COCA, the Corpus of Contemporary American English, and one of the sources of this thesis, OANC. A corpus that is compiled from recordings of speech only, and belongs to the second category is, for instance, the Santa Barbara Corpus of Spoken American English. Lastly, the other corpus studied in the present thesis, MICASE, is a genre-specific spoken corpus accessible free of charge and with a focus on the use of spoken language in a university environment.

Sinclair (1991: 15–16) claims in his seminal book titled *Corpus, Concordance, Collocation* that spoken language must be included in the corpus so that it would “reflect a ‘state of the language’”. He adds that spoken language is more natural, showing how we most



frequently use language, and displays the “fundamental organization of the language” better than written language (Sinclair 1991: 16). The observations are true in the sense that spoken language is more spontaneous because people do not have as much time to think about what they are going to say as opposed to writing. The lack of restraint reveals deeper processes of how our language is organized. However, we need to generalize and draw our own informed conclusions based on the corpus data, considering that the sociocultural context also plays a role. Therefore, while spoken corpora are useful, they should not be taken as sources of absolute truth in all contexts<sup>3</sup>.

Having touched upon the characteristics of spoken corpora, it should be once again highlighted how useful spoken corpora can be. The focus of the chapter “Spoken corpus research” (Timmis 2015: 81–118) essentially lies elsewhere, as it is a resource for English language teaching (henceforth, ELT), which is evident from some of the terms below. However, it is useful for the purposes of this thesis to point out the author’s two main points about the relevance of spoken grammar (abbreviated from Timmis 2015: 91):

- 1) New understanding about grammatical phenomena that, despite having been covered in the standard ELT grammar syllabus, have been mentioned only in the context of how they are used in the written form.
- 2) Certain non-canonical spoken grammatical features that are not usually covered in the standard ELT grammar syllabus are more systematic and prevalent than has been

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<sup>3</sup> Noam Chomsky has said that “[c]orpus linguistics doesn’t mean anything,” (in Andor 2004: 97) as simply gathering extensive data produced by various speakers will only lead to vague generalizations. Drawing any significant conclusions from the corpus data is therefore problematic. However, Chomsky’s linguistic theories have recently been challenged. Cognitive linguists, for example, take a usage-based approach, where grammar and usage are not separated (Diessel 2017: para. 1). In this thesis, corpora are treated as valuable sources of language in use, thus supporting the cognitivists’ viewpoint, but with some caution as the recordings were not available for listening.

considered in the past: these features could be of use for learners from the point of view of communication (McCarthy and Carter 1995, quoted in Timmis 2015: 91).

Timmis (2015) shows that spoken language has not received much attention in school, even though it forms a major part of natural language use and is particularly relevant when practicing what one has learned with native speakers of English. In other words, we do not speak the way we write, and language presented in textbooks may sound unnatural to native speakers. Constructions that might seem ungrammatical from the point of view of normative grammar (cf. Swan 2009: 40) tend to be more common than we think, and as spoken language uses a different register, such constructions can become grammatical in their own right. Language, after all, is a tool for communication, and the focus should be on transmitting the message according to the requirements of the specific register.

### **1.5 Studying Corpus Data: Frequency and Collocations**

With the advent of modern technology, analyzing corpora, both spoken and written, has become much easier, leading to the development of corpus linguistics as a field. In the empirical part of this thesis, the focus will be on the number of occurrences and collocations, but there are other parameters that could be looked at. For example, the context parameter is visible with the concordance tool that shows how a chosen word or phrase has been used without making distinctions between speakers, places, or specific contexts (McCarthy and O’Keeffe 2013: 107). Crawford and Csomay (2016: 7) name studying collocations, frequency, and whether prescriptive rules are followed in the sample or not, as the three main aspects of language that can be analyzed in corpora. The latter is important for this thesis as spoken language often deviates from normative grammar (some instances are provided in Section 3.5). Yet, by focusing on orthographic words, researchers may habitually overlook other aspects, such as parts of

speech, which are often tagged, even though parts of speech can also be counted, and conclusions made about them (McCarthy and O’Keeffe 2013: 108; see also Section 2.3 and Section 2.4 for specific examples).

Frequency of words can be associated with the topic of collocations as it is also possible to measure how frequently words occur together. McCarthy and O’Keeffe (2013: 104), for example, claim that the tools corpus linguists use allow them to gain an understanding of the relative *frequency* of words as well as patterns in spoken data. Frequency count is normally presented as a list of words in decreasing order (*ibid.*: 106)<sup>4</sup>. In the case of *collocations*, it can be statistically measured how often which words occur together; the frequency score might not be the same when it comes to different forms (McCarthy and O’Keeffe 2013: 107). Certain collocations might be more frequent in writing, others in speech. Numbers themselves do not reveal everything, though – they need to be analyzed in context.

The frequency of individual words is one thing; the frequency of words in relation to other words as well to constructions is another matter (Taylor 2012: 106). Crystal (2019: 174) comments that randomness versus predictability should also be accounted for, as sometimes an individual speaker, uttering phrases such as *I like*, can choose from numerous words that may follow that sequence – these are called *free combinations*. Language in general, however, is deemed to be “never, ever, ever, random” according to Kilgrarriff (2005). Taylor (2012: 106–107) writes that coming up with a set phrase *the foreseeable future* contributes to the “idiomatic command of the language”, but it is not an idiom as other words can precede and follow both ‘foreseeable’ and ‘future’, thus failing the definition of an idiom. Stefanowitsch (2020: 215–216) lists three criteria that could be considered when deciding whether sequences of words

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<sup>4</sup> In Appendix 2, there is an example of a frequency list of the words following *how* based on the sample from MICASE.

count as collocations: grammatical (e.g., a transitive verb taking an object NP, so the verb precedes either a pronoun, determiner, adjective, or noun), semantic (e.g., a liquid should come after ‘to drink’), and topical considerations (e.g., a liquid is thematically related to drinks).

Not all researchers call combinations of words *collocations* or *free combinations*. McCarthy and O’Keeffe (2013: 106) introduce the term “ready-made ‘chunks’ (strings of two or more words sometimes referred to as n-grams, lexical bundles, lexical phrases, clusters, multiword units)”. These so-called *chunks* are favored by speakers because they allow for a “fast retrieval of items from the mental lexicon” (*ibid.*). O’Keeffe et al. (2007: 58–59) also emphasize that while learning single words is also useful as they provide information about grammar, attention should be paid to the chunks, too, as these are common in everyday interaction, reflecting the idea of studying language in use. This view is supported by Imo (2015: 70) who adds that these chunks can have different functions and may often be categorized as constructions. *How come*, it can be argued, is also a chunk (cf. Section 3.3).

The length of chunks (how many words does one n-gram include) can be decided on by the researcher. It should once again be remembered, though, that a collocation is not just a combination of any two words but takes into account frequency and therefore words can be said to prefer certain collocates, forming established meanings, e.g., idioms, in turn (O’Keeffe et al. 2007: 59). Firth (1962: 11) has said, “You shall know a word by the company it keeps!” He adds that lexicographers study an arbitrary number of meanings they have found and then provide examples, showing how a word may have changed over time. Studying collocations in corpora can therefore “reveal the regular, patterned preferences of the language users represented in it” (O’Keeffe et al. 2007: 60). Analyzing the patterns in corpora is also the motivation behind my study as this gives an insight into how people speak.

This chapter introduced the theoretical framework adopted in the thesis. Above, the central tenets of construction grammar were examined before giving a more in-depth overview of spoken constructions. There was a summary of a study that aided in formulating the research questions for this thesis and helped with structuring the analysis itself. The section also explained the main characteristics of spoken corpora and gave examples of some of the core features that can be analyzed in them. As it was presented, with the help of technological advancements, it is becoming easier to study large amounts of data, both written and spoken. The main differences between these two modes of communication were provided in this chapter. The present thesis makes use of spoken corpora, investigating the data through a usage-based linguistic theory called construction grammar. In the next chapter, my focus will be on one specific construction in two corpora of American English.

## 2 PRELIMINARY INVESTIGATION: *HOW-X* SEQUENCE IN MICASE

The empirical part of this thesis is divided into two chapters. The first chapter contextualizes the second study of the thesis, which concentrates on the *how come* construction. The following section focuses on the *how-x* sequence in my sample from MICASE. The description of the MICASE corpus and the overview of what data collection entailed precede the results and discussion of the preliminary study. This study sets the scene for the one on the *how come* construction. I will also explain why the MICASE corpus might not be about academic speech only despite its name, what its limitations are in terms of linguistic research, and introduce the difference between corpus-driven and corpus-based approaches to language. The utterance types used in the two studies are also introduced.

### 2.1 Introducing the MICASE Corpus

The first of the corpora serving as the primary source for my data in the thesis belongs to one subcategory of spoken corpora, called *genre-specific spoken corpora* (Timmis 2015: 82). The full name of the corpus, the Michigan Corpus of Academic Spoken English (Simpson et al. 2019), is a testament to the specificity of the genre, as the corpus focuses “on contemporary university speech within the microcosm of the Univ of Michigan” (Weisser 2016: para. 21). The data was collected over five years, between 1997 and 2002 (Simpson et al. 2019), and it should be kept in mind that language, spoken language in particular, is dynamic and changes constantly, which may cause doubts regarding the validity of the data. Five years, however, is a relatively short period overall and the compilation of spoken corpora is a multi-fold process that is demanding both in terms of time and effort. As for the size of MICASE, it contains approximately 1.8 million words, corresponding to about 200 hours of recorded speech – both monologues and dialogues – and includes different types of speech events, such as consultations

during office hours, defenses, and study groups (Simpson et al. 2019). Biber (2006: 9) has said that MICASE is “one of the most productive efforts to describe spoken university registers (including lectures)”.

An attempt has been made to make the corpus representative of the academic world, as both faculty and students were recorded. The recordings vary in length, ranging from 19 to 178 minutes. The aforementioned types of speech events also showcase that with regard to MICASE, academic speech does not refer to formal register only, considering that consultations are less formal than lectures, for instance. It can therefore be said that the corpus contains *naturalistic data*. While the MICASE corpus enables researchers to specify a high number of sociolinguistic parameters, such as the speakers’ age, gender, or first language, the corpus has its limitations. The search results, also called *hits*, are not part-of-speech (henceforth, POS) tagged, and to give an example for another limitation, it is not possible to search for direct questions by inserting the question mark symbol in the search box. This limitation is an issue when the study involves a larger dataset, as another step, automatic or manual POS-tagging, is required. After defining the search item, the web interface will give statistics that show what kinds of speech events are in the results and how frequent they are, such as colloquium, study group, and advising session. A link is given for statistics about the whole corpus too. The results themselves, downloadable in XML (extensible markup language) or tab-delimited format (useful for data tables), present an automatic analysis with a focus on sociolinguistic parameters: *key word in context* (abbreviated in corpus linguistics as KWIC), i.e., pre-hit and post-hit context with hit string (e.g., *how*) in between, plus metadata about the speakers and file. There are no POS-tags, morphological nor detailed phonetic annotation.

Most corpora have an additional feature called *metadata*, the importance of which may sometimes be overlooked. McCarthy and O’Keeffe (2013: 105) comment on how metadata,

which provide further information about the speakers, make corpora particularly valuable, enabling researchers to study different aspects of the same conversation, and placing the study in context. This is especially true when another researcher wishes to use the same corpus for studying a different phenomenon. McEnery and Hardie (2012: 29) also agree that metadata can play an essential role in analyzing a transcript. Information about the recording, not just the participants, such as the setting, date, and equipment used can typically be found when looking through metadata. In MICASE, for example, the speakers' gender, age, and role (academic position) are provided alongside the recording date, the category of the event (speech event type), and interactivity rating (highly/mostly interactive/monologic or mixed). OANC, one of the sources of data for Study B presented in Chapter 3, focuses more on linguistic information, such as POS-tagging and tokens. Collecting metadata has to do with research ethics as well, since detailed demographic and socioeconomic background information is potentially sensitive personal data. In this thesis, I analyze the speech event as this can play a role in how interactive the conversations are and the native speaker status of the interactants to make sure the speakers are native speakers of American English. No other types of metadata were analyzed as these are not my focus.

## **2.2 Preparing the Data**

In the following, I will explain how the data downloaded from MICASE was prepared for analysis. The steps below include some quantitative methods, but these are only used to enhance qualitative analysis.

Every step is guided by the principle that I took all the examples from the corpus and examined them, but the corpus was not used to find examples to illustrate a specific claim. I therefore did not approach the data with a specific construction in mind, opting for a *corpus-*



*driven* method instead. Following this approach, the data is used as the sole basis for my analysis. The *corpus-driven* approach is opposed to a *corpus-based* approach where the data is used to prove or reject a specific hypothesis (Tognini-Bonelli 2001: 65). Keeping in mind that construction grammar is a family of usage-based theories, I did not decide whether to include all the various words that follow *how* in my later analysis before seeing the frequency lists. This strategy results in a more accurate view of what is present in the data. In other words, I picked the specific construction to be analyzed based on the overall data, but not with a focus on its *frequency* as constructions that are infrequent may be just as legitimate as those that occur frequently. I first determine the general tendencies, then develop hypotheses for testing.

The screenshot displays the MICASE (Michigan Corpus of Academic Spoken English) search interface. At the top, the logo 'MICASE' is on the left, and the title 'Michigan Corpus of Academic Spoken English' is on the right. Below this is a navigation bar with 'Home', 'Search', 'Browse', and 'Help' tabs. The 'Search' tab is active, and the page title is 'Search'.

The main search area is divided into three columns:

- Search Input:** A text box for entering search terms, with a 'Submit Search' button below it. To the left of the text box is a detailed instruction: "Enter the exact word or phrase you wish to find in the box. The wildcard character \* may be used at the end (but not the beginning) of a search word or phrase to represent zero or more characters (e.g. typing in walk\* will give you walk, walks, walked, and walking). If you wish to search the entire corpus, use the default settings on the speaker and transcript attributes. If you wish to do a more specific search, choose the speaker and transcript level criteria using the menus on the right. When you click the button, utterances by speakers that fit the speaker-level criteria within transcripts that fit the transcript-level criteria will be found."
- Speaker Attributes:** A column of filters for speaker characteristics:
  - Gender:** All, Female, Male
  - Age:** All, Unknown, 17-23
  - Academic Position/Role:** All, Junior Faculty, Junior Graduate Student
  - Native speaker status:** All, Non-native speaker, Near-native speaker
  - First language:** All, Arabic, Armenian
- Transcript Attributes:** A column of filters for transcript characteristics:
  - Speech Event Type:** All, Advising Session, Colloquium
  - Academic Division:** All, Biological and Health Sciences, Humanities and Arts
  - Academic Discipline:** All, Afroamerican and African Stud, American Culture
  - Participant Level:** All, Junior Faculty, Junior Graduate Students
  - Interactivity Rating:** All, Highly interactive, Highly monologic

At the bottom of the interface, there is a footer that reads: "Please contact the [English Language Institute](#) with questions or comments."

**Figure 4.** A screenshot of the MICASE user interface

The transcribers of MICASE have prepared detailed transcripts that are accompanied by a user interface that is intuitive but focuses more on parameters that may be of interest to sociolinguists, such as gender and age. As seen in Figure 4, the attributes have been divided into two groups, those relevant to speakers and those about the transcripts. The search item can be typed into the box on the left. For my study, I only defined native speaker status as ‘Native speaker, American English’ and set interactivity rating to ‘Highly interactive’, as dialogic settings offer more interpersonal communication. The latter is justified by Quirk et al. (1985: 839–840) who state that irregular *wh*-questions, in which *how* often features, tend to occur in conversations.

I next opened the tab-delimited file that had been downloaded from MICASE with Notepad++ which allows one to export a .txt (plain text) file. Then, to automatically determine the utterance type and the word following *how*, which is the focus of this preliminary investigation, a Python script was run (see Appendix 1). At first, I thought that the data must be POS-tagged before the utterances can be divided into types – question, declarative, fragment – but in the process, it occurred that starting from utterance types might be a less complex operation, not to mention cleaner. It is *cleaner* because while the user interface of MICASE is not annotated for standard punctuation (and not for capital letters in utterance-initial position), it is not particularly difficult to tell Python how to differentiate between different types of utterances once the researcher decides what criteria to follow. The script went through several modifications, as I needed to figure out what utterance types are of interest to me, eventually including three: questions, declaratives, and fragments (refer to Table 2).

When determining the utterance types, I relied on the decisions made by transcribers, but went through the script output manually to check for inconsistencies. For example, in the case of declaratives, I interpreted the annotations of transcribers. Periods, according to

Kauhanen (2011: para. 3) who provides the transcription standard for MICASE transcription conventions, are actually used for pauses of certain length, alongside with commas and ellipses, but it is not clear what length the transcribers have meant. I decided to use periods as markers of one intonation unit ending, given that they are likely meant to represent pauses longer than those indicated with commas. So, when the post-hit context included a period, I considered it as a completed utterance. Notwithstanding the lack of punctuation as used in written language, the authors have used question marks to mark “phrases that function pragmatically as questions” (Kauhanen 2011: para. 3) since the goal of the authors of the corpus has been to provide an orthographically transcribed version.

**Table 2.** Utterance types in my sample from MICASE

Abbreviation	Full term	Definition
Quest.	Question	Utterances ending with a question mark
Decl.	Declarative	Utterances ending with a period
Frag.	Fragment	Utterances without an end-mark within the post-hit context <sup>5</sup>

In the Excel file that the script that I used for the detection of utterance types and post-*how* words created (see Appendix 3 for a sample), one more column was added to clarify some instances where spoken language differs from the normative spelling of words. To give a few examples, *bout* refers to ‘about’, the inflected forms of the lemma ‘be’ are abbreviated as ‘*re*’ and ‘*s*’. The latter also refers to ‘has’ in some instances. I added the capital letter <I> to indicate the first-person singular personal pronoun in nominative case as a way of separating it from other instances of the character <i> in the text.

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<sup>5</sup> The length of the post-hit context varies, ranging from 2-3 to 10+ words. However, at some point, there is some punctuation mark to determine that the utterance is finished, it just might not occur within the downloaded data.

While the data preparation required technical skills, it compensated for the lack of morphological annotation required for my thesis. I decided to use a script for automatic utterance categorization because it facilitated the process of classifying utterances, which made it possible to see how the word *how* appears in different types of utterances, a characteristic needed to later make generalizations about the usage patterns of the *how-x* sequence. The script directly accesses the transcription, without any subjective bias that a researcher might have doing it manually. Both the script and my own annotations are, however, dependent on the transcribers' decisions, and determining what is an utterance can be problematic (see Section 1.3 for the discussion on *sentence vs. utterance*). It should also be kept in mind that the script may be faulty, and errors may occur, especially given that I used several digital tools.

### 2.3 Results of Corpus Study A

Once I had finished preparing the data sample from MICASE that I had downloaded from the corpus website (see Appendix 3), I focused on two parameters that were mentioned above, namely utterance type and the word following *how*. It should be noted that I continued exploring the *how-x* sequence in my sample from MICASE more thoroughly only after seeing the overall frequency of both different utterance types and that of the words that follow *how* in the 1,666 rows.

There were three different utterance types among the 1,666 hits of *how* in my sample from MICASE. Their distribution is provided in Figure 5. The category labeled 'Quest.' (questions) stands out as most frequent. It forms 43% of the all hits with 717 instances, such as the utterance in bold in example (2).

(2) right. so let's look at the, left-hand carbon. **how many options do we have as it's drawn right now?**

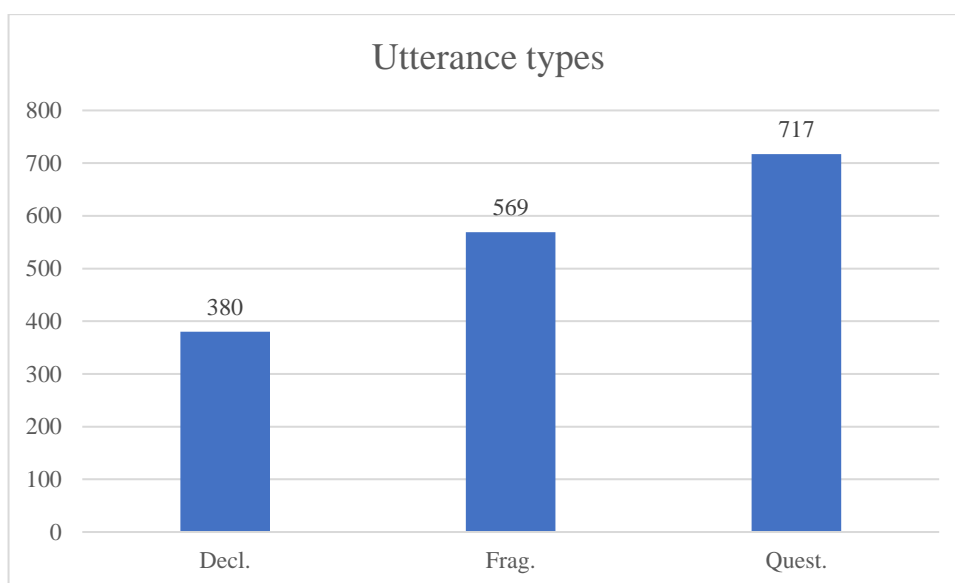
[MICASE\_12]<sup>6</sup>

Questions are followed by 569 ‘Frag.’ (fragments), amounting to 34%, leaving the lowest figure, 380, for cases titled ‘Decl.’ (declaratives). An example of a fragment, the second most frequent category, can be found in (3).

(3) okay so how 'bout, we do something like y [MICASE\_337]

This means that 23% of all cases were declaratives containing *how*; for instance, example (4).

(4) yeah i don't know how i feel about going there. [MICASE\_107]



**Figure 5.** The distribution of utterance types containing *how* in my sample from MICASE

It would be possible to find the more complete version of instances of fragments by going through them one by one via the corpus interface, but this was not the focus of my thesis, as I wanted to see what occurs in the automatically downloaded data. The fourth common utterance type in English syntax, exclamation, did not appear in my data sample. This is likely due to the transcribers’ decision not to use standard punctuation, except for utterances

<sup>6</sup> The number in square brackets here and henceforth refers to the lines in Appendices 3-5, indicated as MICASE\_number or OANC\_number depending on which corpus is being discussed.

functioning as pragmatic questions (Kauhanen 2011: para. 3). It is therefore still possible that exclamations do appear in my data, I just could not identify them automatically.

The next parameter was the word that followed *how*. In total, 194 different words were subsequent to *how* in MICASE. The full list of them in descending order can be seen in Appendix 2. 161 (83%) words following *how* appeared less than 10 instances per word. In Table 3, I provide the 10 most frequent words to give an idea of the overall data. The frequency count shows that there is a mixture of orthographic words present among the 194 that come after *how*. The sequence *how do* forms the majority of most frequent co-occurrences with 8.4% of all instances with 140 occurrences among the 1,666 hits in my dataset.

**Table 3.** TOP 10 orthographic words following *how* in my sample (1,666 hits from MICASE)

<b>Word</b>	<b>Type-frequency count (1,666=100%)</b>
do	140 (8.4%)
many	129 (7.7%)
you	102 (6.1%)
to	100 (6.0%)
it	87 (5.2%)
they	64 (3.8%)
much	62 (3.7%)
does	58 (3.5%)
are	53 (3.2%)
we	52 (3.1%)

## 2.4 Discussion of Corpus Study A

This section analyses the results of Corpus Study A, which serves as a pilot study to Study B. The discussion briefly analyzes some of the findings among the 1,666 hits that contained the sequence *how-x*. The focus will be on the most frequent patterns in the data. Mode-specific terminology is also briefly explained.

In Section 2.3, I reported the results of my initial, large-scale query. It turned out that questions were most frequent among the three utterance types of the 1,666 hits containing *how*

in MICASE. Questions may dominate because *how* is often used as an interrogative adverb. It should be noted that I am using the term *utterance* as opposed to *sentence* considering the dynamicity of spoken discourse and potential grammatical differences between that and written language (see also p. 20 for explicit definitions). That is to say, I consider utterances to be spoken syntactic units that do not conform to prescriptive syntactic rules that are often followed in writing. One of the reasons why fragments are in the second position when it comes to frequency could be that speakers' utterances are longer than the context provided in the downloaded sample. These fragments might actually be parts of complete utterances. Another explanation is that people are likely unable to finish their utterances in interpersonal communicative situations as others interrupt. The third type with the least instances, declaratives, refers to the possibility that sometimes, speakers simply produce short utterances. Spoken discourse is highly dynamic and context-dependent, which leads to different utterance types occurring, as they are affected by the time and place of the speech event. Referring to MICASE, lectures likely include utterances different from study groups as the power relations between the speakers is different. This topic merits further discussion, but with more focus on sociolinguistics.

Regarding the most frequent orthographic words subsequent to *how* within the 1,666 preliminary results (see Table 3), the auxiliary verb *do* occurred most often, but other orthographic words were also represented. The prominence of *do* could be due to *how* being used as an interrogative pronoun that forms a part of the verb phrase and requires the main verb to follow, at least in an elliptical form, if not explicitly uttered by the speaker(s). Among the ten most frequent post-*how* words, *does*, one of the inflected forms of the lemma *do*, occurred too, even though it was in the eighth position. There was one more inflected form of a verb, *are*, in the ninth position. This may be a part of a common expression, *How are you (doing)?* It can also function as an auxiliary verb in a complex verb phrase. As for *many* and *much*, the second

and the seventh most frequent words, these illustrate the amount or quantity, another quite frequent way of combining *how* to form a set expression, either as a separate question or as part of a longer utterance.

This chapter presented the first spoken corpus used in the thesis, MICASE. It highlighted some of the issues raised in Chapter 1, showing that different data preparation procedures are required depending on the specific mode of communication and that spoken data often necessitates combining manual and automatic annotation. The available marking may be of use to some studies, while demanding further preparation in case of another topic. The preliminary investigation of the *how-x* sequence showed some non-canonical patterns. Different parts of speech followed *how* in my sample from MICASE. Questions were followed by fragments and declaratives, which is likely partly due to the context of a particular conversation. Another reason is the length of the output from corpus interface, which differs across corpora, and can influence the utterance types. As *how* often occurs as part of verb phrases, some of the most frequent words following *how* were verbs, but the results display other tendencies as well. Amount or quantity is also expressed with *how*, not to mention other, less frequent combinations.



### **3 HOW COME CONSTRUCTION IN MICASE AND OANC**

This chapter investigates the *how come* construction in American English as represented in two spoken corpora. Both sources of data, MICASE and OANC, include interactive conversations as their transcripts are mostly from dialogues. The discussion draws on Chapter 1, supporting the claims made in the theoretical framework with examples from the data gathered from the two corpora. To date, it is not very common to analyze spoken data through a constructional perspective, but the following analysis will add to the field by focusing on one construction, *how come*. Before I delve into the syntax and semantics of specific utterances, I will explain how the data was collected and what it includes. The results of the second corpus study are discussed afterwards, leading to a constructional representation of the said construction.

#### **3.1 Introducing the OANC Corpus**

The second corpus that I am using in this thesis, OANC, contains both written and spoken data, though separately, and it is an ongoing project, unlike MICASE. For an introduction to MICASE, see Section 2.1. The spoken subcomponent of OANC that I am using represents the first type of spoken corpora mentioned by Timmis (2015: 82), *spoken components of large general corpora*. Both MICASE and OANC are available online and searches can be conducted using the interface. The word ‘open’ in the full name, *The Open American National Corpus* (Ide and Suderman 2016), denotes the open-access aspect of the corpus – both the data and annotations are available for all users.

Linguists, including people working in natural language processing, in addition to the public, have contributed to OANC since 1990 (Ide and Suderman 2016: para. 1, 4). The project officially started in 1998 (Reppen and Ide 2004: 106) so a year later than MICASE which was

collected 1997–2002 (cf. Simpson et al. 2019) and considering that the data is still being collected for OANC, it likely has an influence on the usage patterns and meaning of the *how come* construction as well – spoken language tends to undergo change faster than written language. The corpus is referred to as a “collaborative development resource” (Ide and Suderman 2016: para. 4). On the contents section of OANC, it is explained that the spoken component consists of 3,217,772 words, whereas the written part has significantly more data, 11,406,155 words in total, amounting to 14,623,927 words in the whole corpus (Ide and Suderman 2016). Thus, overall, it is far bigger than MICASE, the size of which is around 1.8 million words (Simpson et al. 2019).

The spoken component of OANC consists of two datasets, Charlotte Narratives and Switchboard. The former includes 93 face-to-face conversations, narratives, and interviews collected from Mecklenburg County, North Carolina, and its surroundings, totaling 198,295 words. Switchboard has more data, 2307 spontaneous conversations over the phone with 6 minutes as the average length, amounting to 3,019,477 words produced by more than 500 speakers. What is typical of a large general corpus is that there is no preference regarding the gender of the speakers or their dialect, showing that the corpus can be considered representative. The version of OANC that I am using is available through SketchEngine (2021), and it has been merged with *The Manually Annotated Sub-Corpus*. Contrary to MICASE, the annotations available through SketchEngine (2021) do not focus on sociolinguistic parameters. Instead, information about sentence boundaries, POS-tagging, etc. is provided, and the data has been tokenized (e.g., *going*) and lemmatized (e.g., *go*) (SketchEngine 2021). This facilitates studying collocations automatically (for further information, see Section 1.5). Not all metadata is available for every hit, though, and question marks are not annotated in OANC either, possibly

for the reason that question marks are part of the transcription and do not exist in spoken language.

### 3.2 Preparing the Data

The second corpus used in the thesis, OANC, did not require data preparation of the same length as was described in Section 2.2. Thanks to the already existing morphological annotation, including POS-tags, word forms, and lemmas, there was no need to write a script to get that information. OANC called for a different strategy. I conducted a simple search for *how come* after selecting ‘Concordance’ on the user interface of SketchEngine (2021). The next step included dividing the utterances that contain *how come* into different types. Determining the utterance type was not always possible as some of the lines in my dataset, those from recorded telephone conversations more specifically, only had contracted forms marked with an apostrophe and none of the other standard punctuation marks, so I did not attempt to categorize these utterances based on their type using a script. The first person singular ‘I’ was not capitalized either. What they did have marked in some cases was turn-taking, with a `</s><s>` tag, which I replaced with double backslashes (`\\`), as it is clearer and takes up less space in the transcription. Turn-taking itself plays an important role in interpersonal communication and helps in marking utterances.

The issue of limited annotations did not apply to lines that were taken from face-to-face conversations as these were annotated using standard punctuation. This included capital letters at the beginning of an utterance, question marks and periods to mark the end of an utterance, and commas that seem to mark pauses within utterances. Therefore, the utterance types could be studied based on the transcribers’ annotations in case of face-to-face conversations in OANC and easily divided into the three types seen in Table 2 in Section 2.2. With regard to telephone

conversations, I tagged utterances manually (see also footnote 14 in Appendix 5 for more details).

Preparing the data within MICASE and OANC showed that the kind of user interface one can access determines how many steps are needed before the results of the corpus analysis can be obtained. The level of annotation within the corpus often plays a key role in choosing a suitable data preparation strategy. SketchEngine (2021) has more tools and settings that can be used after conducting the initial search for words, such as different view options, randomizing the sample, filtering, or sorting the lines. Under ‘frequency’, for example, it is possible to see what words precede and follow the key word in context.

### **3.3 *how come* as a Construction**

In Section 2.3, I listed the most common collocates of *how* in my data. It is true that *how come* did not belong to that category, but looking through the words following *how*, I assessed their compositionality and the chances of them being constructions, deciding on *how come* as it is a characteristic phrase of colloquial American English. At first glance, *how come* might not seem to be a construction but simply a collocation (see Section 1.5 for the differences between *collocations* and *free combinations*). Below, I will explain why this is likely not true, mostly relying on the definitions and usage notes for *how come* from Merriam-Webster.

As explained in Section 1.1, constructions can either have non-compositional meaning and/or form or they can be conventionalized. *How come*, I argue, is non-compositional, as combining the meaning of *how* plus the meaning of *come* does not result in the meaning of *how come* (see p. 11 for further discussion). It could be argued that *how come* is also conventionalized, which is likely how *how come* gained its non-compositional meaning. Additionally, it is true that based on orthography, they would count as collocates, as *how*

immediately precedes *come*; in fact, together they form a single semantic unit. *How*, according to Merriam-Webster (2021), can function as an adverb, conjunction, and noun. *Come* can be either an intransitive or transitive verb with numerous phrasal verbs formulated from it, and a noun that is commented on as “often vulgar” (*ibid.*). *How* is likely never followed by any other infinitive verb except for *come*, and in that case, *how come* always has special semantics. Therefore, it can already be deduced that different parts of speech lead to different types of phrases and *how* and *come* have different functions, not appearing in the same kinds of sentences. For example, *how* can figure as an adverb in questions, and appear as a conjunction in relative clauses. *Come* is a part of verb phrases or predicates more broadly. It could also be argued that *how come* is a conventionalized way of using *why* in informal contexts, though they are not equivalents.

*How come* is featured in Merriam-Webster as a subentry of *how*. Under *how* as an adverb, Entry 1, there are two phrases: *how about*, meaning ‘what do you say to or think of’ and *how come*, ‘how does it happen that’, with a cross-reference to *why* as a separate entry after the latter (Merriam-Webster, Inc. 2021). In the online version of the third edition of the Oxford English Dictionary (2021), it is added that *how come* is an abbreviation of a longer expression that was, it seems, the original form, *how did (or does) it come about (that)?* The first use according to the online dictionary by Oxford (2021) dates back to 1848, to a dictionary entry claiming that *how come* was “[d]oubtless an English phrase, brought over by the original settlers” (Bartlett 1848: 182–183). In a similar vein, Merriam-Webster’s *Usage Notes* (2020) mention the British author Shakespeare as the first writer to use the term in 1597, in his play *Love Labour’s Lost*: “/.../ KING. Will you not dance? How come you thus estranged?”. Despite this claim, the phrase is deemed to originate from the United States in the Oxford entry (Oxford English Dictionary Online 2021). Therefore, the exact origin of *how come* is not clear.

There is some differentiation between the examples and comments about the usage of *how come*. The Oxford English Dictionary (2021) lists altogether 11 examples from 1848–1973, from works of fiction and newspapers, while Merriam-Webster (2021) provides one example only, *How come you can't go?*. The last one seems to be constructed, possibly to show that *come* is not meant to represent movement, as no source is given, whereas under *how* as a conjunction entry, the authors of some of the citations are provided. Quirk et al. (1985: 840) and Merriam-Webster's *Usage Notes* (2020) both claim that *how come* is considered informal. Quirk et al. (1985: 840) state that *how come* is predominately American, and used in reason questions, such as *How come you're so late?*; the clause that follows having 'the normal subject-verb order'.

Quirk et al. (1985: 840) do not touch upon the more specific contexts where *how come* could be used. Merriam-Webster's (2020: para. 3) article, meanwhile, provides some examples, such as headlines where the near equivalent *why* would set the wrong tone for readers, "make the reader think they're about to get a stuffy lecture rather than a conversational explanation". Merriam-Webster (*ibid.*: para. 4) highlights that even Barack Obama has used *how come* in his speech in 2017, exemplifying that the phrase can be used in both written and spoken modes.

### **3.4 Results of Corpus Study B**

Having studied the overall results of the corpus query in Section 2.3, I focused on the *how come* construction in my data, starting with MICASE. The *how come* construction was written both as two separate words and as fragmentary versions of the said construction, in addition to some borderline cases. When in doubt, I decided what word follows on a case by case basis, to clean the results and remove noisy data. In other words, at first, all the hits that seemed to have a form of *come* following *how* were taken a look at. Those irrelevant to the

thesis, [MICASE\_1463]<sup>7</sup>, [MICASE\_1215], and [MICASE\_246] were excluded as a result (see my reasoning for excluding them below). As the thesis has to do with spoken language, pronunciation differences between different people can make the analysis more complex, and I am relying on the transcriptions compiled by other people which increases the subjectiveness.

The results of Corpus Study B can be seen in Appendix 4. In 13 hits, *how come* was written as two separate words and in 2 cases as *how co-*, marked in bold. I decided that these were elliptical forms of *how come* because in example (5), the sequence is followed by the full form of the construction (underlined), so I assume that this is what the speaker wanted to utter the first time too.

(5) **how co-** how come here they say, it goes through there. doesn't it go out through this little [MICASE\_631]  
In (6), meanwhile, the elliptical form seems to function as a self-addressed ‘why’ because it is followed by an exclamation, ‘oh’, plus affirmative ‘yes’.

(6) **how co-** oh. yes... ch [MICASE\_704]

The three borderline cases mentioned above required analyzing the clause elements of the said utterances and/or evaluating the logical sequence of ideas. Assuming that the transcribers did not make any spelling mistakes, it was quite clear in (7) that the elliptical form *ca-* stands for ‘can’ as ‘c’ is followed by an ‘a’, not an ‘o’ as would appear in the case of ‘come’. Later in the utterance, the speaker also repeats the beginning of a word, ‘ma- maybe’.

(7) **how ca-** i don't know ma- maybe it's a new term they have. [MICASE\_1463]

The next instance, example (8), can likewise be taken as the ‘how can’ sequence because in the post-hit context, it is spelled out.

(8) **how c-** how can you compare the two numbers you get for the fitness with the cost functional, if it's not [MICASE\_1215]

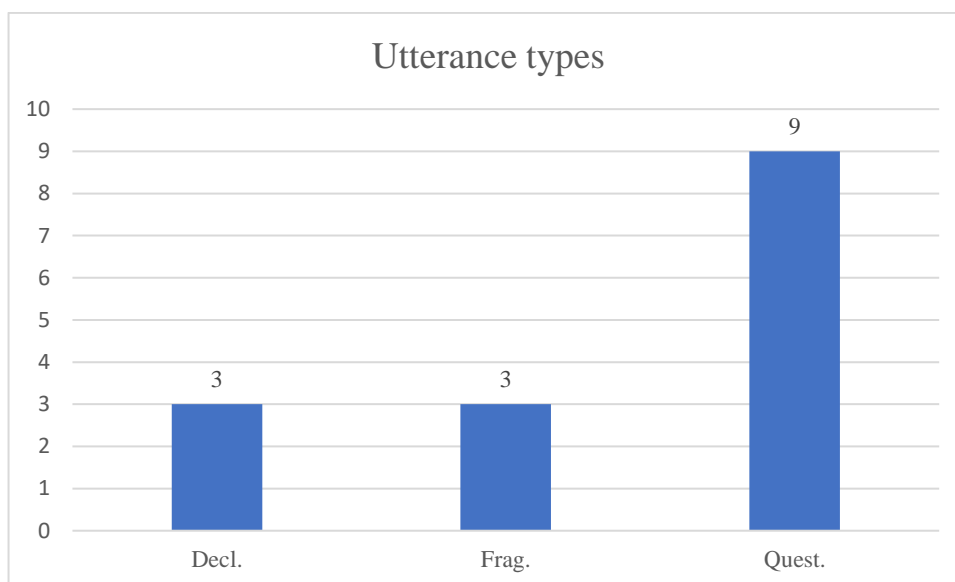
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<sup>7</sup> Like in Chapter 2 and as was explained in footnote 6, the marking in square brackets refers to lines in Appendices 3-5, indicated as MICASE\_number or OANC\_number depending on which corpus is being discussed.

The third case, example (9), is not as transparent. It is probably either followed by ‘can’ or ‘could’ and an elliptical subject ‘you’, ‘s/he’, or ‘they’, but the following word can technically be ‘how’ too. This utterance, therefore, would require further investigation, but it should be kept in mind that sometimes, even if the audio file were available, it may not help with retrieving what the speaker was thinking at that point in time.

(9) **how c-** (defer me from [MICASE\_246])

As for the utterance types in which the construction under analysis appears, all three that are possible can be found: questions, fragments, and declaratives. See Figure 6 for the distribution of *how come* on the example of utterance types.



**Figure 6.** The distribution of utterance types containing *how come* in my sample from MICASE. The utterance types are marked in bold in Appendix 4. In 9 cases, such as in (10), *how come* was present in ‘Quest.’, thus comprising the majority.

(10) **how come** that’s not a shuttle? [MICASE\_81]

It was followed by 3 instances of ‘Frag.’, such as example (11).

(11) **how come** i never see these classes when i’m looking through the [MICASE\_1047]



This left an equal number of ‘Decl.’ utterances, 3, like in (12), which serves as an example of the last category, even though it could also be argued that it is a reported question.

(12) how co- how come here they say, it goes through there. [MICASE\_631]

I will now also report the results from the other corpus that I am using in this thesis, the spoken subcomponent of OANC. From there, I retrieved 28 instances of utterances that include *how come*, marked in bold in Appendix 5. OANC is used as a complementary source to MICASE to have more data and a comparable sample with that of Pöldvere and Paradis (2019) both in terms of size and, to some extent, speech event. Namely, both OANC and the sample used by Pöldvere and Paradis (2019: 9) contain face-to-face conversations, even though in OANC, telephone conversations predominate. Other words following *how* and their POS tags were not investigated in the spoken subcomponent of OANC as a construction was already chosen.

Like in MICASE, my sample from the spoken subcomponent of OANC contains questions, fragments, and declaratives (see Figure 7 for the graphical division). Again, questions, or ‘Quest.’, predominate with 19 instances. One of the examples of the largest category is (13).

(13)and as the product of the academy , i can tell you , you know , if it were that good , how come they haven't been able to mass merchandise it , and deliver it to everybody ? [OANC\_5]

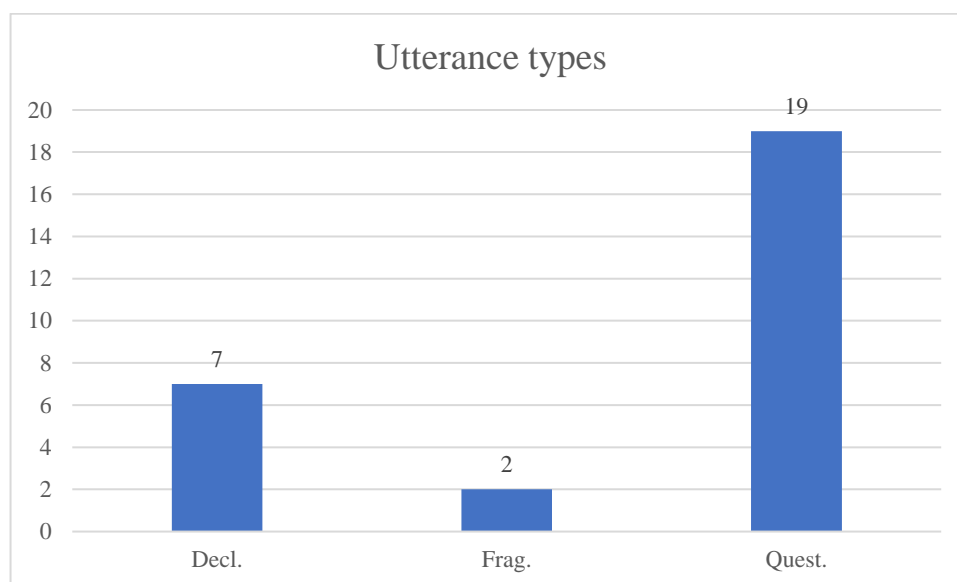
There are 7 cases of utterances containing *how come* that fall into the category of declaratives (marked in the appendix as ‘Decl.’, see example (14) below) and 2 fragments (Frag.), (15) and (16) respectively.

(14)you know , they wanna find out how come butterflies do fly and all other kinds and i think that’s kind of stupid. [OANC\_24]

(15)how come everybody is not the beneficiary of a Harvard , MIT , or Stanford education , if it's that good , and you really— [OANC\_6]

(16)my husband does and it’s how come he usually calls me sometimes and says , oh , i just heard on the news that such and such happened , you know , if it's something [OANC\_15]

It could be argued that (15) contains a question, but the utterance as a whole is unfinished.



**Figure 7.** The distribution of utterance types containing *how come* in my sample from OANC

Apart from the quantitative aspect of reporting the results from the two corpora, some qualitative corpus analytic features can be observed in Appendices 4 and 5. I treat these two tables as results of a “computer-aided retrieval of authentic examples” (Hasko 2013: 4758) of the *how come* construction. It is evident that in Appendix 5, the left and right context of utterances containing *how come* is longer than in Appendix 4. It is also annotated differently. While in Appendix 4, the mark-up is similar in all lines, Appendix 5 features annotations of varying specificity (see Section 2.2 for further details on tags and the style of annotations).

In Appendix 3, a sample from the full results of annotating the MICASE sample are provided. It can be observed that scripts are useful when dealing with a large number of utterances, but “accuracy and consistency” play a role of great importance in corpus annotation, a “largely interpretive process” (Hanko 2013: 4760). For that reason, the last four columns demonstrate the original and manually modified versions of both utterance types and the word following *how*. In the first case, the script did not recognize some of the symbols and in the

second, both the orthographic and the authentic versions of the post-hit word are present. All the other automatically downloaded parameters are also there, including those that deal with sociolinguistics, such as speakers' gender and role. Future research with a different focus can therefore be conducted, e.g., a study related to discourse structures.

### **3.5 Constructional Representation of the *how come* Construction**

The research question of the present thesis had to do with the form-meaning properties leading to the *how come* construction as attested in spoken American English. The discussion below touches upon the form and meaning of the *how come* construction in my dataset as well as that of the utterances it occurs in as these form a part of the conversations. Grammar and semantics will not be strictly separated as I am studying naturalistic data and it essentially means analyzing language in use. The construction grammar approach taken also requires researching both form and meaning, which separates this approach from many other, but not all theories of syntax (Imo 2005: 71). Where appropriate, I will also include the discourse functions of the utterances containing *how come*. Based on the discussion, a constructional representation of *how come* will be provided.

In this thesis, I have adopted a *bottom-up* approach. Despite doing a more detailed analysis after determining the general tendencies, I will build the constructional representation of *how come* from individual examples. Quantitative tools and combinations of various methods enable researchers to spend less time on studying “hypothetical constructs” (Glynn 2010: 9). This would also in a way solve the ever-present difference between theoretical approaches in linguistics, as “[l]inguists would compare results gleaned from various methods, and only then, equipped with tested hypotheses, would they advance theoretical debate” (*ibid.*). Additionally, quantification does not exclude a close analysis of the dataset; instead, it helps to see usage

patterns, statistical significance, and shows the (in)accuracy of a proposed model (Glynn 2010: 11). Therefore, qualitative, and quantitative analysis are complementary.

This section brings together the two datasets, 28 utterances from OANC and 15 from MICASE, and builds a constructional representation of the *how come* construction based on my observations in terms of its form-meaning properties, meaning potential, and dialogic functions. The data comes from two sources as it needed to contain a sufficient number of utterances for the scope of an MA thesis while remaining appropriate for a qualitative study. MICASE was analyzed first, then another source of interactive spoken data, the spoken subcomponent of OANC, was used to gather additional examples. No two corpora can be fully comparable, but their size is similar, and I added annotations to OANC that have the same structure as utterances in MICASE. MICASE is also supposedly a corpus of academic speech, as opposed to OANC which constitutes generic language use, but the categorization of MICASE was challenged in Section 2.1 as some of the speech events, such as study groups, do not necessarily imply that they belong to the academic domain. As I am building my arguments for each component in the constructional representation provided by Põldvere and Paradis (2019: 21), which is a generalization of 45 utterances from LLC-2, the size of datasets should preferably be bigger than was available through MICASE, namely 15.

Figure 8 is a starting point for this section, and it is followed by a discussion of each component in separate section, headings marked in bold. It is based on a model from the study that inspired the present thesis, Põldvere and Paradis (2019: 21). The discussion below makes comparisons with it as appropriate. Imo's (2005: 30) representation was also consulted (see Section 1.2 for further information on the study) as it offers a more detailed take on what parameters can be considered in assessing a construction. Due to the lack of access to audio recordings, prosody was left out. Likewise, turns taken were analyzed only to an extent that was

allowed based on the context provided in my data. The analysis of turn-taking is therefore subjective, reflecting the logical sequence of ideas and discourse context.

The structure of this section follows that of the schema itself: a section about the internal form of the *how come* construction precedes that on its external form. These constitute the form component. The second part of the construction, meaning, is divided into three parts: meaning potential, dialogic function as appropriate, and finally, the register the construction belongs to.

Form	Internal	# (phrase or clause) <i>how come</i> (phrase or clause)#
	External	Obligatory turns before and after, either by the same or another speaker
Meaning	Meaning potential	Reaction to something in the preceding turn, asking for its reasons, conveying disbelief
	Register	Informal spoken (and written) dialogue
	Dialogic function	Inquiry for reason Explanation of previous topic

**Figure 8.** Constructional Representation of the *how come* Construction in my samples from MICASE and OANC

### Internal form

As was said in Section 3.3, the *how come* construction was originally a part of a longer question. Today, it has two components and tends to precede a canonical clause with SV order. Namely, the *how come* construction is followed by a phrase or clause that forms a turn when combined in the majority of utterances, 32 out of 43, while in 10 instances, it is a stand-alone turn. The turns were determined either by accessing the whole transcript or, in case of OANC, following the overall logic of the conversation to the extent possible. It can at times also occur after a phrase or clause, being phrase- or clause-medial in 16 utterances. The exact position likely depends on the goal of the speakers, which will be further discussed under other components of the construction. If the speakers' first aim is to react to the preceding turn, a stand-alone turn is preferred; if more information is required, a longer turn is uttered, *how come* therefore being preceded and/or followed by a phrase or clause. For instance, in utterance (17),

the person asking the question is likely concerned with the reasoning in the statement made by another speaker and may not feel the need to elaborate so no phrase or clause follows. Yet, it should be kept in mind that I do not know who these people are, and these assumptions are made based on a fragmentary data.

(17) that's our best. \ \ **how come?** \ \ um, becau- well basicall [MICASE\_481]

In (18), however, a noun phrase is followed by *how come* and a clause that likely illustrates that the question addresses the preceding answer to the same person's question, as more details are desired.

(18) what kind of car did you buy Ralph ? \ \ uh , Mazda . \ \ **a Mazda , how come you got a Mazda ?** [OANC\_2]<sup>8</sup>

Pöldvere and Paradis (2019: 11) focused on a more schematic construction in their study, the reactive *what-x* construction. Whereas I am looking into what precedes and/or follows the construction, they also analyzed the components of the construction itself. This is also the reason why the construction studied in this thesis is not written as *x-how come-x*. The *x* that comes after *what* in their construction is called a “schematic component” but they add that knowing that two-part structure only is not enough to show that it is a novel construction (*ibid.*). Pöldvere and Paradis (2019: 12) mention two characteristics that are important for the current thesis as well. First, the complement always comes after *what* and second, the phrasal/clausal complement is syntactically non-canonical (*ibid.*). In my samples, too, the phrase or clause was preceded by *how come* in the 32 utterances. There are some exceptions where one or two words are uttered before *how come* as well, but without adding much information, such as (19). In (20), meanwhile, the sentence would not be semantically complete without the preceding element.

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<sup>8</sup> It could also be argued that *a Mazda* is a separate utterance. As the available context was not marked for utterance borders in telephone conversations, the transcription allows for different interpretations (see Section 3.2 for how the data was prepared and what decisions were made). Recordings should be listened to in order to eliminate ambiguities.

(19) mhm how come we converted it into N-A-D-H ? [MICASE\_789]

(20) you know , they wanna find out how come butterflies do fly and all other kinds and i think that's kind of stupid . [OANC\_24]

Utterance (20) also shows why *how come* can be attributed to informal register (Quirk et al. 1985: 840) as its linguistic environment utilizes abbreviated forms *wanna* and *that's*. There is also a repetition of *and* connecting different clauses in this utterance, perhaps as a way of adjusting to the temporal dimension. The first *and* seems to coordinate two complement clauses, while the second *and* coordinates two matrix clauses. According to Carter and McCarthy (2006: 173), repetition in conversations is used to “buy more time for thought,” and it is mostly a clause- or utterance-initial phenomenon. The speakers are likely unsure themselves of what course to follow in their turns, “under the pressure of real time” (Carter and McCarthy 2006: 173). Auer’s (2009: 2–4) focus on the three-fold nature of spoken discourse – it is transitory, irreversible, and synchronized (cf. Section 1.3) – shows that time plays a key role in conversations. Irreversibility in particular explains why certain words are repeated over the course of one utterance as it is not possible to delete anything that has already been said, only edit.

Similarly to Põldvere and Paradis’s *what* (2019: 12), if *how come* is followed by a clause, it encompasses the whole proposition. Moving the elements around in (21), as was tested with the reactive *what-x* (Põldvere and Paradis 2019: 12), it can be seen why the utterance-initial position is required syntactically. *How come* is followed by a canonical declarative clause *you came up to the BioStation*. The utterance as a whole would not make sense with *how come* appearing clause-medially. *How come* could occur in the end of the utterance as well, but this does not follow the pattern established by other utterances among the 43 in the sample.

(21) how come you came up to the BioStation? [MICASE\_317]

The types of phrasal and clausal complements and their boundedness to the head differ across the two studies. While Põldvere and Paradis (2019: 12) exclude finite verb phrases as

possible phrasal complements to *what* in the reactive *what-x* construction, example (21) shows that this is not the case with *how come*. Likewise, contrary to declarative or interrogative clauses following *what*, *how come* normally only takes a complement whose constituent ordering is similar to that of a declarative clause, which can be affirmative or negative. Elliptical utterances, however, can pose a challenge, such as (22), which does not seem grammatical, even in spoken mode. Prosodic cues would be helpful, but the data is not annotated for them. Utterances like (22) might therefore simply be lacking sufficient contextual information of various sorts to really be able to explain them.

(22) how come is turned back into N-A-D-plus remember? [MICASE\_1146]

As both the subject between *is* and *turned* as well as the beginning of a clause before *remember* whose constituent ordering is the same as in a prototypical polar interrogative clause are missing, it is syntactically with a declarative constituent ordering (SV, or subject-verb order) in that particular conversation, but normative grammar would likely divide the post-*how come* part of the utterance into two. Namely, the potential interrogative clause *do you remember* could be a separate question. I would also argue that unlike the reactive *what-x* construction, the complement is interdependent on *how come* in most cases as the utterances could potentially lose their question function. Omitting *do you remember* would have “major structural consequences for the utterance” (Pöldvere and Paradis 2019: 12). In case of *what*, however, there would also be semantic consequences so it shows that form and meaning are interrelated in construction grammar.

The internal structure of the *how come* construction is related to the types of utterances wherein it figures. Quirk et al. (1985: 840) claim that *how come* is used in reason questions and the clause following *how come*, if any, is canonical as subject precedes the verb. I was also interested in the utterances as a whole as the linguistic environment of a construction can play a



role in both its meaning component and the overall discourse. The results in Section 3.4 showed that the construction often occurs in questions, but it is not always the case.

In more detail, the utterances containing *how come* featured questions as the most frequent utterance type in both MICASE and the spoken subcomponent of OANC. This result is similar to the one reflecting utterance types in Appendix 3 where only *how* was part of the query. To give reasons for such patterns, the frequent use of the *how come* construction in questions is likely related to its pragmatic function as it is used to enquire about a reason in informal contexts (Quirk et al. 1985: 840). As explained by Merriam-Webster (2020: para. 3–5), the construction is not limited to one mode only, so while this thesis is concerned with spoken data, it is likely that *how come* appears in informal letters, minor sentences such as headlines (Crystal 2019: 228), and other types of the written mode.

When it comes to utterances that contain *how come*, Crystal's (2019: 228) classification into major and minor sentences (cf. Section 1.3) provides a viewpoint different from the three-fold division into questions, declaratives, and fragments mentioned above. Crystal does not use the term 'utterance' either, neither in the context of written nor spoken mode. The datasets from two corpora amount to 43 utterances, out of which the majority would count as major sentences, as their clause elements are separable and they contain inflected forms, allowing negation as well. Additionally, the clause after *how come* follows SV order (cf. Quirk et al. 1985: 840). Some borderline cases include ellipsis, while retaining compositionality, such as (22), wherein the subject is missing, just like in (23). It is also worth bearing in mind that even with more contextualization provided in Appendix 5, example (23) is difficult to classify as grammatical.

(23) how come get your money back? [OANC\_12]

Minor sentences are also present, containing interjections, a type of minor sentences (Crystal 2019: 228), e.g., (24). *Oh* is possibly a complement to this instance of *how come*.

(24) how co- oh [MICASE\_704]

I would also argue that *you know*, a potential discourse marker that occurs in multiple utterances featuring *how come*<sup>9</sup> mainly functions as a back-reference marker and is a minor sentence so in some cases, a major sentence can include a minor one as well. For example, while clause elements S and V are recognizable in (25), it cannot be negated nor used in the past tense without altering its meaning.

(25) but how come we weren't doing this say , twenty years ago , you know? [OANC\_8]

*You know* is in a way similar to *how come* as it is also conventionalized and grammaticalized and could potentially be treated as a separate construction although their meaning and function is different so they should be studied separately.

### **External form**

The speaker turns in the immediate surroundings of the construction in both Põldvere and Paradis (2019) and this thesis are similar in the sense that (other) turns are often required before the construction. Põldvere and Paradis (2019: 15) (see Section 1.2 for further information on the study) go as far as to say that “the reactive *what-x* construction never occurs in the first position of a conversational episode but always as a response to something said by another speaker in the immediately preceding turn”. They also equate meaning and function of the construction in their article (Põldvere and Paradis 2019: 14). Their claim about the obligatory preceding turn is supported by the name of the construction itself, ‘reactive’ conveying the dialogic nature of it. The turn following the construction, however, is not as closely related to the “formal and sequential properties“ as it is to the specific speech event (*ibid.*: 15–16). With regard to *how come*, my dataset also shows instances where the following reason questions are used to react to something said immediately before.

---

<sup>9</sup> in [OANC\_3], [OANC\_5], [OANC\_8], [OANC\_15], [OANC\_17], [OANC\_24], and in [OANC\_25]

Below, some examples are given to introduce the external form on the example of the *how come* construction. It should be kept in mind, however, that the automatic download provided lines of different length so that it was sometimes difficult to predict what was said before and for time constraints, no further context was sought out. It would, however, be interesting to extend the context in further studies. In (26), the preceding turn is directly related to the topic expressed by *how come*, so the construction on its own would have a different meaning. In fact, it would not make much sense without the preceding claim that this is their best.

(26) that's our best. \\ **how come?** \\ um, beca- well basicall [MICASE\_481]

A similar deduction can be made based on all the 43 utterances. By extension, example (27) shows that sometimes, *how come* can be used to explain the person's previous turn's content.

(27) i guess you work for TI , too . \\ i did until December . \\ oh . \\ **and uh , that's how come i don't read T News anymore .** \\ yeah . [OANC\_13]

It can be argued that in this case, too, the previous speaker has reacted to the person's elaboration on how the workplace is not the same anymore, which led to the utterance containing *how come*. It is also possible that there are more than two speakers involved in this and other conversations discussed in OANC data, just like it cannot really be determined who says what as the metadata and context do not show that.

### **Meaning potential and register**

The previous two sections, which focused on internal and external form, together lead to the meaning potential of the *how come* construction. The internal form showed what components the construction consists of and what clauses it tends to occur in. The external form made it possible to draw parallels with the study by Pöldvere and Paradis (2019) on the reactive *what-x* construction. Both constructions often require a turn to occur first before the meaning potential can be realized. The *how come* construction is often used to ask for reasons of

something that was said before. It is grammaticalized by now and used in both spoken and written informal register (cf. Quirk et al. 1985: 840; Merriam-Webster 2020: para. 3–4). In the schema in Figure 8, written register is in brackets as the figure is supposed to represent my dataset.

I would also argue that the *how come* construction is used to express disbelief as the speakers opt for that instead of *why*, its near-equivalent, sometimes alongside other linguistic tools. Using *how come* is a marked choice. In utterance (28), for example, the person asking the question first uses the construction and repeats the noun phrase *a Mazda*, increasing the level of disbelief.

(28) what kind of car did you buy Ralph ? \ \ uh , Mazda . \ \ a Mazda , **how come you got a Mazda ?**  
[OANC\_2]

Word order can also be altered in a way that affects the information structure of utterances by emphasizing a particular linguistic unit, combining the form and meaning component of constructions. The noun phrase *a Mazda* that starts the utterance is syntactically redundant, as the following phrase is complete on its own. The other speaker, probably Ralph himself, has just replied to the question about what car he bought in the previous turn and his conversation partner is expressing disbelief at Ralph's selection of a car, wanting to know more about the reasons.

Therefore, the object of the second phrase in (28) is fronted, i.e., the word order is changed in such a way that it starts the utterance (Carter and McCarthy 2006: 192). Auer's (2009: 3) term *synchronization* (see p. 22) likely refers to the same phenomenon, surprise and reaction being almost simultaneous. It could also be the case that this word order simply corresponds to the speaker's train of thought. What makes this case interesting is that normally, the fronted element is not repeated in the same wording later in the utterance – word order is often either simply changed without repeating any of the elements, or the same information is

referred to, but rephrased (Carter and McCarthy 2006: 192–193). A pro-form is frequently used to paraphrase what was said: personal pronoun, another noun phrase, or subject pro-form, e.g., *there*, as in “Now Rio de Janeiro, there’s a fabulous city” (*ibid.*: 193–194). The car brand Ralph chose in (28) must have really surprised the speaker to use such a non-canonical pattern.

### **Dialogic functions**

Another parameter under the meaning component of the *how come* construction are its dialogic functions. These will be discussed based on the amount of turns that were available through the data download and annotations.

The identifiable dialogic function that was also highlighted by Quirk et al. (1985: 840) is using *how come* to ask for reasons for something or to explain something. No other dialogic functions were detected based on the two samples. An example of such dialogic function is (29). It shows how a question is followed by an answer that is interrupted by the first speaker, as no in-depth answer was required. The question containing *how come* was rhetorical, and likely meant “to invite a response” (Swan 2009: 47), as is signaled by *you know* at the end. The following turn is fragmentary as overlapping speech does not fulfill any function, unless someone is trying to interrupt or disrupt, so one of them needs to stop talking. This pattern shows why *how come* is said to precede reason questions and that sometimes, the people asking the question want to answer it themselves.

(29) **but how come we weren’t doing this say , twenty years ago , you know?** \ \ yeah , i , i , think really-- \ \ probably what hit people’s , you know-- \ \ i know that [OANC\_8]

Enfield’s (2017: 15) argumentation in Section 1.3, especially the term *norms of conversation* and focus on attentiveness for other speakers that also likely caused one person’s silence after a fragmentary turn, is more relevant regarding the sample from OANC than MICASE. In the

second case, the turns are not marked in such detail as the context provided by downloading the hits is shorter. However, examples can be given from both sources.

Continuing with the topic of feedback in spoken discourse, feedback is frequently related to its dialogic nature and, by extension, the dialogic function of the *how come* construction. Swan (2009: 40) says that in speech, dialogue often predominates over monologue. In the above-discussed example (29), it may seem that the other person's contribution is of minor importance, but this is probably not the case. As is marked by *you know*, the other person is asked to engage in the discussion as well. I would also argue that while at the beginning of Section 1.3, lectures were classified as monologized spoken discourse, they could also be analyzed as dialogues when considering paralinguistic means. Even lecturing involves using body language, e.g., seeking feedback from the listeners with eye-contact. Yet, spoken language does not have to be as clear as written because it is based on feedback (Swan 2009: 40). In terms of the *how come* construction, feedback can be received by asking questions and/or leading the topic where the speakers themselves desire. If the speaker in (30), for example, had not been interested in the reasons why the other speaker does not have any pets anymore, it would have been possible to change the topic, thus not giving feedback to the previous topic.

(30) do you have any pets ? \ no , used to , used to , but none , none right now . \ **how come , uh, you don't have any now ?** you get tired of them ? \ [OANC\_9]

Discourse functions identified through close analysis add to the meaning potential of the construction (Pöldvere and Paradis 2019: 21). The schema in Figure 8 shows that strictly listing the form and meaning properties of a particular construction is not enough. Spoken discourse in particular has to account for its *dialogic embedding* (*ibid.*). The interplay between grammar and interaction, however, is a recent focus in linguistic research (Fischer 2015: 563). Even though the 43 utterances did not show non-canonical discourse functions that would deviate from the

definition of *how come* in reference grammars and dictionaries, studying the construction showed that it would not be possible to create its representation without considering the role *how come* has in the whole conversation, the utterances before and after in particular.

This constructional representation is a result of the corpus study that analyzed *how come* in MICASE and OANC. In this chapter, the second source of data was first introduced, highlighting its more syntax-oriented annotations that were still limited in terms of punctuation. As the ultimate goal of this thesis was to produce a constructional representation of *how come*, a critically informed explanation was provided regarding its constructional characteristics, origin, and usage patterns. The occurrence of *how come* in the 43 utterances in my dataset was analyzed thereafter. Questions predominated under utterance types. In lieu of discussion proper, Section 3.5 then explored the form and meaning properties of the construction based on a schema in Põldvere and Paradis (2019) study, which led to creating a schema for this study as well.

## CONCLUSION

The goal of this MA thesis was to analyze the *how come* construction in two spoken (sub)corpora of American English, the Michigan Corpus of Academic Spoken English (Simpson et al. 2019) and the Open American National Corpus (Ide and Suderman 2016). By focusing on spoken constructions, or form-meaning pairs, the thesis aims at contributing to the development of a construction grammar network, an approach in contemporary linguistics that is still somewhat resistant to analyzing spoken data. Constructions refer to linguistic units of varying complexity. They either form a unit that cannot be divided into separate components and/or has a specific meaning that does not result from the sum of its components. The third option is an analytic, compositional construction that has come to mean something specific. The fundamental differences between written and spoken modes of communication, such as the existence of time constraints in the latter mode, can be considered a partial culprit in disregarding spoken language in construction grammar. Technological developments aid in more effectively analyzing speech, including the work done within corpus linguistics, which is reliant on a multi-step process of recording, transcribing, and annotating before the analysis proper can even begin.

The present study followed the example of another study on spoken constructions, namely the reactive *what-x* construction (cf. Pöldvere and Paradis 2019). Some of their methodology was also used for developing my own. The research question of this MA thesis was as follows: What are the form-meaning properties of the *how come* construction and how are they attested in spoken American English? Given that this study was about spoken data, I expected instances of non-canonical utterance types due to the co-operative and dynamic nature of spoken language. Based on the results of a qualitative corpus-linguistic analysis and using



Pöldvere and Paradis's (2019: 21) scheme as a model, a constructional representation of the *how come* construction was built. *How come* and its syntactic and functional properties became the focus of the study after conducting a preliminary investigation of what follows *how* in a sample from MICASE. This strategy adheres to a bottom-up approach to linguistic research, as it starts from a qualitative analysis and is only then generalized in the form of the constructional representation (cf. Figure 8).

Spoken corpora, traditionally in the form of collections of transcripts, can be helpful in studying constructions, even though the detail of annotation plays a crucial role and sometimes, there are only extracts available. MICASE, for example, focused more on sociolinguistic parameters, e.g., speakers' gender and academic role, whereas OANC provided plenty of morphological annotation. It should be kept in mind, however, that spoken data is complex and it is difficult for computers to recognize all its nuances. Some argue that different types of spoken corpora, be it then a part of a larger corpus such as the spoken subcomponent of OANC or a stand-alone spoken corpus like MICASE, are the best way of accessing large amount of naturalistic spoken data. Others argue at the same time that utterances in the data will only ever be just fragments and we cannot be sure that some utterances are not constructed for the purposes of a specific corpus. Scholars have different foci when it comes to corpus linguistic research, those relevant to this MA thesis are frequency and collocations. While technically a collocation could be any two words that follow each other, it turned out that there are specific criteria that the sequence needs to meet.

The empirical part of the thesis consisted of Study A and Study B. The first, Study A, focused on the *how-x* sequence in MICASE to establish what the general patterns in the data in terms of utterance types are. I expected to see non-canonical patterns, while considering that *how* is often a part of questions. Questions did predominate, followed by fragments and

declaratives, and many different words appeared after *how* in the sample. Study B was concerned with one particular word pair, *how come*, which was chosen as a result of skimming through the list of words following *how* in Study A and considering potential constructions in MICASE data. Even though far from being the most frequent combination, it follows the criteria applicable to constructions and is common in spoken American English.

The number of occurrences, however, was too small for my study, so I chose to add a second set of data from another corpus. For that reason, the spoken subcomponent of OANC was also consulted, and relevant examples analyzed. In both samples questions again predominated, followed by declaratives and a smaller number of fragments in OANC and an equal number of declaratives and fragments in MICASE. The constructional representation of the *how come* construction was a result of close analysis of said utterances, showing that *how come* can be a stand-alone utterance but at times, it may appear in the beginning, middle, or end of a clause or phrase. It is not used as a starter of a new topic; instead, by means of *how come*, speakers react to something said previously, inquire reasons for it having been said, or even use it as a way of conveying surprise. It occurs both in spoken and written discourse, but clearly informally; however, I do not have evidence that it does not show up in formal speech.

The extent of subject matter was limited to one construction only based on a small dataset. Therefore further research can be done on the matter. Based on the observations made about the data used in this thesis and Hilpert's (2019) textbook on construction grammar as applied to the English language, more attention should be paid to the interactional aspect of spoken constructions. For instance, some constructions extend over several turns, being syntactically dependent but pragmatically independent – this phenomenon is called collaborative subordination (Hilpert 2019: 228). Focus on interactional construction grammar would, however, require using data where audio can be accessed. The two datasets used in this

thesis, meanwhile, could also be studied with a different research question in mind. Some possibilities include taking a more sociolinguistic approach or focusing on collocations.

As the two corpora used in the thesis did not have access to audio recordings, the analysis also imposed constraints on the analysis of the role of prosody. Intonation contours, if applicable, would show the speakers' intentions in relation to turn-taking and theme-rheme, where falling intonation implies new information and completion, in addition to disambiguation (Swan 2009: 46–47). A more precise constructional representation would require researching intonation by using a corpus that is suitable for such purpose. It would also be interesting to compare spoken and written data and to determine the possible differences between utterance types. The same question pertains from the constructionalist viewpoint, i.e., in what ways the form-meaning properties of the *how come* construction are distinct from each other across different modes of communication. Construction grammar is to date primarily concerned with written data, comparative studies on the subject are even rarer according to the sources that were available at the time of writing this thesis. With the help of advancing technology, however, this is likely to change. This thesis gave a small-scale contribution to spoken constructions research, while highlighting the difficulties that arose during the process.

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## Appendix 1: Script for Determining Utterance Type and the Word Following *how*<sup>10</sup>

```

import csv
import re

# Functions that are used by the main thread

def read_file(filename):
    """
    Read in data from file.

    Input: File name
    Output: List of rows as lists
    """

    data_from_file = []
    with open(filename) as csv:
        reader = csv.readlines()
        for row in reader:
            data_from_file.append(row.strip().split(";"))
    return data_from_file

def write_new(data: list):
    """
    Write a new .csv file.

    Input: Data as a list
    Output: None
    """

    with open("new_data.csv", "w") as csv:
        for row in data:
            csv.write(";".join(row) + "\n")

def parse_data(data):
    """
    Parse the data.

    Add two new columns with the utterance type and the next word if
    applicable.

    Input: List of rows
    Output: List of rows
    """
    for i, row in enumerate(data):
        if i == 0:
            row += ["Utterance type", "Next word"]
        else:

```

---

<sup>10</sup> To explain in greater detail what the code includes, two marking systems have been used. First, those in italics preceded by a single hashtag, and then those in between triple quotation marks. Hashtag is sufficient when there is a comment that does not exceed one line, whereas triple question marks indicate multi-line comments.



```

#Determine utterance type and add it to the list
if "?" in row[2]:
    row.append("Quest.")
elif "." in row[2]:
    row.append("Decl.")
else:
    row.append("Frag.")

#Find next word
next_word = re.search(r"(\w+)", row[2])
if next_word != None:
    next_word = next_word[1]
else:
    next_word = "NA"
#Add next word to the list
row.append(next_word)

return data

#Main thread. It starts running from here.
if __name__ == '__main__':
    data = read_file("data.csv")
    #print(*data, sep="\n")
    data = parse_data(data)
    write_new(data)

```

## Appendix 2: Frequency List of Words Following *how* in the Sample from MICASE

do	140
many	129
you	102
to	100
it	87
they	64
much	62
does	58
are	53
we	52
the	50
can	48
about	40
i	38
is	36
would	33
that	28
s	25
did	25
long	24
how	24
bout	21
um	21
could	18
like	18
he	15
this	15
far	14
come	13
she	13
big	12
people	10
when	6
if	6
d	6
were	5

exactly	5
a	5
else	5
was	5
close	4
things	4
re	4
your	4
men	4
important	3
women	3
there	3
but	3
plausible	3
often	3
what	3
uh	3
where	3
strong	3
these	3
tall	3
malls	3
old	3
many_ <sup>11</sup>	3
with	2
so	2
our	2
good	2
weird	2
hard	2
y	2
c	2
retroviruses	2
he_	2
to_	2
high	2

<sup>11</sup> It was not clear from the transcription standard what exactly the underscore stands for. However, for the purposes of this frequency list, it does not change the word following *how* itself.

wide	2
and	2
fast	2
in	2
okay	2
integrated	2
rehabilitation	2
class	2
sex	2
late	2
their	2
co	2
water	2
cold	2
well	2
m	2
will	2
MacKinnon	2
am	2
Michelangelo	2
would_	2
mu	2
Offred	2
refined	2
thick	1
feminists	1
it_	1
computers	1
beautiful	1
media_	1
easy	1
confident	1
here	1
ca	1
sort	1
Moira	1
intermarriage	1
mothers	1
though	1
movies	1
alive	1
Howell	1

F	1
art	1
ho	1
my	1
complicated	1
NA	1
determine	1
new	1
different	1
nice	1
because	1
of	1
Down	1
happy	1
great	1
could_	1
variable	1
can_	1
embarrassing	1
crossing	1
all	1
Christianity	1
just	1
P	1
h	1
parallel	1
after	1
crucial	1
full	1
planet	1
some	1
culture	1
species	1
pop	1
students	1
pornography	1
th	1
pyruvate	1
difficult	1
quantitative	1
discipline	1
rap	1

do_	1
cuz	1
best	1
gender	1
those	1
God	1
each	1
relevant	1
easily	1
restoration	1
valued	1
Indians	1
w	1
right	1
is_	1
at	1
anyth	1
sense	1
every	1
serious	1
experiences	1
inexplicable	1
why	1
shape	1
heavy	1
detailed	1
within	1
silvery	1
wonderful	1
single	1
hot	1
skilled	1
ya	1
smoothly	1
young	1
go	1
socializing	1
society	1
<b>Grand Total</b>	<b>1,666</b>

## Appendix 3: Extract from *how-x* Sequence in the Sample from MICASE<sup>12</sup>

Pre-hit context	Hit string	Post-hit context	File name	Transcript ID	Speaker ID	Speaker gender	Speaker role	Speaker native speaker status	Utterance type_final	Utterance type_original	Next word_original	Next word_modified
1	by and the courses that you would take from psychology, are all gonna be about organizations.	how	Academic Advising	ADV700IU047 S2	S2	F	ST	NS	Frag.		people	
2	I'll forget in five minutes, ( their people is what we observe and what we communicate with them and the inferences we draw. and	how	Biology of Birds Field	LAB175SU026 SU-m	SU-m	M	SU	NS	Frag.		to	
3	if you hadn't written it yourself. right? approach it as you would approach a foreign text. and see	how	Linguistics Independent Study Advising	OFC355SU094 S1	S1	M	SF	NS	Decl.		well	
4	i don't get like this whole thing he's talking about	how	English Composition Seminar	SEM300MU104S1	S1	M	JF	NS	Quest.		it	
5	it says that the frequency of all three of the different genotypes equal one. so	how	Intro Biology Study Group	SGR175MU126S4	S4	F	SU	NS	Frag.		you	
6	yourself i was like i was li-	how	Intro Biology Exam Review	OFC175IU145 S2	S2	F	JU	NS	Quest.		could	
7	know. (xx) i just don't know	how	Astronomy Peer Tutorial	OFC150MU043S7	S7	M	SU	NS	Quest.		the	
8	okay (xx) what?	how	Chemistry Discussion Section Student	OFC150MU042S6	S6	F	SU	NS	Decl.		to	
9	yeah	how	English Composition Seminar	SEM300MU104S1	S1	M	JF	NS	Frag.		can	
10	that really tells me right. so let's look at the, left-hand carbon.	how	Math Study Organic Chemistry	SGR385SU057 S2	S2	F	SU	NS	Quest.		so	
11	now this isn't. this is not bronze, this is plaster, and we're gon- i'll let me, explain that, that,	how	Visual Sources Lecture	SGR200IU125 S1	S1	F	JU	NS	Decl.		to	
12	i guess that means that i get out of it but i get credit,	how	Chemistry	LES320SU085 S1	S1	F	SF	NS	Quest.		many	
13	right? and	how	Honors Advising	ADV700IU023 S2	S2	F	JU	NS	Decl.		that	
14	that, that,	how	Math Study Organic Chemistry	SGR385SU057 S2	S2	F	SU	NS	Quest.		many	
15	yeah the double bonds lead you toward it. yeah	how	Chemistry	SGR200IU125 S2	S2	M	JU	NS	Quest.		do	
16	you guys really really want to know. but i will call at the end if we have time.	how	Intro Biology Study Group	SGR175MU126S1	S1	F	SU	NS	Quest.		would	
17	aight let's look at what they wrote about	how	Math Study Group	SGR385SU057 S1	S1	M	SU	NS	Quest.		bout	about
18	right the Ku Klux Klan march. right i remember that yeah.	how	English Composition Tutorial	OFC301MU021 S1	S1	F	JF	NS	Quest.		bout	about
19	right i remember that yeah.	how	Biology of Fishes Field	LAB175SU032 S1	S1	M	SF	NSO	Quest.		did	
20	.	how	Biology of Fishes Field	LAB175SU032 S1	S1	M	SF	NSO	Quest.		are	

<sup>12</sup> These are the first 20 lines from the Excel file with all 1,666 hits of the *how-x* sequence in my sample from MICASE. The rest will be available in a .pdf format alongside the thesis itself in DSpace, University of Tartu's repository for all electronic materials.

#### Appendix 4: *how come* as Represented in the Sample from MICASE<sup>13</sup>

	Pre-hit context	Hit string	Post-hit context	File name	Speaker native speaker status	Utterance type	Next word	Next word_modified
81	yes \\ yeah.	how	come that's not a shuttle? it takes it. \\	Biochemistry Study Group	NS	Quest.	come	
162	how co-	how	come here they say, it goes through there. doesn't it go out through this little hole here? and that	Biochemistry Study Group	NS	Decl.	come	
317	oh excellent. \\	how	come you came up to the BioStation? like wh- \\	Biology of Birds Field Lab	NS	Quest.	come	
414	ave a chair. oops, i'm sorry.	how	come \\ looks like no \\	Biochemistry Study Group	NS	Frag.	come	
433	mkay \\	how	come they transferred you up here?	Media Union Service Encounters	NS	Quest.	come	
481	that's our best. \\	how	come? \\ um, beca- well basicall	First Year Philosophy Seminar	NS	Quest.	come	
517	okay so cooling tank... \\	how	come that's the only one capitalized Tighe? \\	Chemical Engineering Group Project Meeting	NS	Quest.	come	
789	mhm	how	come we converted it into N-A-D-H? \\	Biochemistry Study Group	NS	Quest.	come	
854	's not able to see the light. \\	how	come? \\ cuz he's not converted	Visual Sources Lecture	NS	Quest.	come	

<sup>13</sup> Turns taken are marked with double backslashes (\\) as per the full transcript accessed through the Transcript ID on the corpus website.

1047	really \\ \\	how	come i never see these classes when i'm looking through the \\ \\	English Composition Seminar	NS	Frag.	come	
1146	#NAME?	how	come is turned back into N-A-D-plus remember?	Biochemistry Study Group	NS	Quest.	come	
1446	mm \\ so	how	come that \\ \\	Organic Chemistry Study Group	NS	Frag.	come	
1474	hm? \\ \\	how	come you came up to the BioStation (with us?) \\ \\	Biology of Birds Field Lab	NS	Quest.	come	
631	there. \\ \\	how	co- how come here they say, it goes through there. doesn't it go out through this little	Biochemistry Study Group	NS	Decl.	co	come
704	ro. having a good day? why am i bugging you?	how	co- oh. yes... ch	Economics Office Hours	NS	Decl.	co	come

### Appendix 5: *how come* as Represented in OANC (spoken)<sup>14</sup>

	Reference	Left	Kwic	Right	Utterance Type
1	spoken,telephone	always sort of liked General Motors a little bit better than some of the others but , uh-- \\ um-hum \\ oh , i guess i really don't know . \\	<b>how come</b>	? \\ i've been kind of , um-- i guess the commercials are getting to me , the Toyota commercials , and i know that a lot of people i've , i	Quest.
2	spoken,telephone	so-- \\ well . that should be interesting . \\ okay . you ready ? \\ yeah , guess so . \\ here we go . \\ what kind of car did you buy Ralph ? \\ uh , Mazda . \\ <b>a Mazda ,</b>	<b>how come</b>	<b>you got a Mazda ?</b> \\ uh , price basically. \\ oh , price . \\ and uh , what it- - all the things it came with for the price . i couldn't beat it , you	Quest.
3	spoken,telephone	<b>needs that we need today in science and biology and uh , you know the , the problems we have with AIDS and cancer and , and that</b>	<b>how come</b>	<b>everybody is a lawyer you know , you know .</b> \\ \\ um-hum , that's right . \\ and not enough people want to do that to for-- \\ um-hum . \\ uh , because	Decl.
4	spoken,telephone	to pump up , i said uh-huh , body build , huh ? \\ yeah . \\ because i'm always looking at those guys . i love them-- \\ um-hum . \\ <b>but i always ask him</b>	<b>how come</b>	<b>they don't ever have no hair , because i've never-- i think they shave it .</b> \\ yeah they do . \\ and i told him-- i said , well if you do it , you ca--	Decl.
5	spoken,telephone	not create a good education , okay ? \\ right . \\ well . <b>and as the product of the academy , i can tell you , you know , if it were that good ,</b>	<b>how come</b>	<b>they haven't been able to mass merchandise it , and deliver it to everybody ?</b> how come everybody is not the beneficiary of a	Quest.
6	spoken,telephone	tell you , you know if it were that good , how come they haven't been able to mass merchandise it , and deliver it to everybody ?	<b>how come</b>	<b>everybody is not the beneficiary of a Harvard , MIT , or Stanford education , if it's that good , and you really--</b> \\ yeah , yeah , but i'm	Frag.
7	spoken,telephone	focus two of the best funded institutions in the country , right ? premier universities in the world . \\ \\ hey , wait a minute .	<b>how come</b>	<b>they can't produce something like MTV , which kids want ?</b> \\ okay , so what now ? what are your opinions on recycling ? \\ well , i	Quest.

<sup>14</sup> Hits 3–25, 27–28 have been annotated manually for: 1) utterance types, marked with periods, exclamation marks, question marks, or double hyphens (unfinished utterances); 2) turns taken, marked with double backslashes (\\). Manual annotation was required in instances where utterance boundaries could not be determined according to the downloaded transcription. Hits 1–2, 26 were already annotated, but I modified the annotations to match them with the rest of the hits.



8	spoken,telephone	hey , you know we're ruining the earth , you know , and now everybody is doing something about-- which is good-- \\ um-hum , um-hum . \\ <b>but</b>	<b>how come</b>	<b>we weren't doing this say , twenty years ago , you know ?</b> \\ yeah , i , i think really-- probably what hit people's , you know-- \\ i know that	Quest.
9	spoken,telephone	wow , this is quite a quite a long distance . \\ ah , certainly is . \\ do you have any pets ? \\ no , used to , used to , but none , none right now . \\	<b>how come</b>	<b>, uh , you don't have any now ?</b> you get tired of them ? \\ well i , i live in an apartment building and , and uh , and , and it , it's just , just not	Quest.
10	spoken,telephone	yes , my family . well , well , we're we're kind of renowned for being big magazine subscribers. \\ do you really? \\ really. \\ <b>so</b>	<b>how come</b>	<b>you like subscribing to them?</b> \\ well , because i , i , i have a lot of interests and , and the magazines have a lot of interesting	Quest.
11	spoken,telephone	read in Dallas. \\ uh , we have the Dallas , Times Herald , and the Dallas Morning News , but i don't , i don't read newspapers. \\ don't you?	<b>how come</b>	? \\ huh-uh. i have find it hard to , uh , follow from one page to another , it's just something i've never developed , uh , an interest in	Quest.
12	spoken,telephone	know , you can leave it there and then just have your Visa charged back . \\ oh . \\ what's your favorite credit card ? do you use Visa ?	<b>how come</b>	<b>get your money back ?</b> Visa ? \\ well , that's the kind we offer . \\ oh , that's a good reason , that's a good reason . and uh , we're just	Quest.
13	spoken,telephone	building i was in . \\ well , it-- \\ guess you work for TI , too . \\ pardon me ? \\ i guess you work for TI , too . \\ i did until December . \\ oh . \\ <b>and uh , that's</b>	<b>how come</b>	<b>i don't read T<sup>15</sup> News anymore .</b> \\ yeah . \\ you got surplused ? i got , i got surplused last year myself . \\ yeah , did you ? \\ that's , that's great	Decl.
14	spoken,telephone	like it ? \\ um-hum , you too . bye-bye ! \\ hey Dick ! who's your favorite team ? \\ i think i 'm going to have to go with the Chicago Bears . \\ <b>oh ,</b>	<b>how come</b>	? \\ well , i like Mike Ditka . \\ oh yeah . \\ and , um , of course i used to like Jim McMahon and you know , uh , Walter Payton . \\ yeah . \\ but they got rid	Quest.
15	spoken,telephone	of listening to the radio from any kind of , even music , and um , well , when i go to work , i listen-- \\ yeah . \\ <b>my husband does and it's</b>	<b>how come</b>	<b>he usually calls me sometimes and says , oh , i just heard on the news that such and such happened , you know , if it's something</b>	Frag.

<sup>15</sup> Ambiguous reference – it is not clear what the speakers uttered, as T News does not seem to be known in the U.S. Perhaps the transcribers mistook ‘the news’ for ‘T News’ which would make sense in this context.

16	spoken,telephone	home and there's nobody here . he's always here and-- \\ yeah , uh-huh . \\ so it's nice , nice to have him there . \\ um-hum . \\ what about you ?	<b>how come</b>	<b>you don't have a pet ?</b> \\ well , mainly because it's just-- uh , at this point in life , i've had to be available to travel , and we live in	Quest.
17	spoken,telephone	you know ? tag , so i just picked it up . i said , i'll buy that one . \\ yeah . \\ i'm trying to be more conscientious about that . \\ yeah . \\ <b>that's</b>	<b>how come</b>	<b>i like Wal-Mart , you know .</b> they try and buy usually all-- \\ yeah , yeah , yeah . \\ that's where i bought it as a matter of fact . \\ yeah , that's	Decl.
18	spoken,telephone	with education and other things that you hear about and it's just-- \\ wait a minute . you know my kids aren't getting that ?	<b>how come</b>	<b>their kids , kids are getting ?</b> \\ exactly . i don't , i don't uh-- and , and i know that it's only in a few cases , and i don't want them to , to	Quest.
19	spoken,telephone	on clothing . \\ uh , you sound like some guy i talked to yesterday . \\ what ? \\ you sound like the same person i talked to yesterday . \\ i am-- \\	<b>how come</b>	<b>we got the same conversation subject ?</b> \\ i don't know . \\ okay . I was amazed that they had the same subject on clothing , too . i never	Quest.
20	spoken,telephone	and we went to , um , some humane societies and that sort of thing , and they would not allow us to adopt a dog . \\ uh-huh , uh-huh .	<b>how come</b>	? \\ because we both work and they required someone to be home all the time , and quite honestly , i think probably some dogs got	Quest.
21	spoken,telephone	be a death penalty and they get less than than people that have-- are murdered . \\ yeah , i don't understand that . <b>i , i just can't see</b>	<b>how come</b>	<b>a person that has kills<sup>16</sup> a little child , can get away with two or three years , or five years .</b> \\ five to fifteen , yeah . \\ and it because	Decl.
22	spoken,telephone	wouldn't take a child to a day care , you know . i mean i'd , i'd wind up , um just a babysitter in a home . \\ right . \\ probably find someone . \\	<b>how come</b>	<b>you wouldn't take them to a day care ?</b> \\ just because of the um , um , well , too many kids and , and i think too many infections , and	Quest.
23	spoken,telephone	NC double A tournament's going on right now and , uh , i haven't watched it this year , because Louisville's out of it this year . \\	<b>how come</b>	? \\ oh , they just , uh , they had three tall guys who had-- uh , didn't meet the requirements , you know , uh , the , uh , academic requirements	Quest.

<sup>16</sup> Problematic transcription – it would make more sense if the word in this utterance were ‘killed’ instead of ‘kills’ as the utterance contains a reference to a past event. Conversely, it might be an elliptical utterance and the object X is missing, as in ‘a person that has X kills a little child’.

24	spoken,telephone	either , uh , yeah and , and they like-- they use taxes to , to make grants to people that they're going-- <b>you know , they wanna find out</b>	<b>how come</b>	<b>butterflies do fly and all other kinds and i think that's kind of stupid .</b> \ \ yeah . \ \ and then this National Endowment for the	Decl.
25	spoken,telephone	<b>can't afford dental insurance and i had to , have to have a tooth extracted , and i had to pay cash for it , and i asked the dentist</b>	<b>how come</b>	<b>, you know , the price is so high .</b> i said , i said i , i thought because you know , the prices of medication , you know . like it costs them	Decl.
26	spoken,face-to-face	city , the west side of Charlotte , and I went to West Meck , and that was a , um , culture experience , i guess . \ \ <b>how ,</b>	<b>how come</b>	? \ \ because it was more diverse . like in most schools in Charlotte , if you go on other sides , it's like everybody's just	Quest.
27	spoken,face-to-face	the Charlotte , um , UNC Charlotte because i wanted to be a , a nurse . \ \ do you still want to be a nurse or-- ? \ \ not anymore , no . \ \	<b>how come</b>	? \ \ just-- it's just not me . i've , i've decided and it's very hard . the , um , curriculum here is very hard . \ \ right . that 's	Quest.
28	spoken,face-to-face	a job in education , possibly teaching elementary school , um , hopefully up north . i would rather do that up north , so-- \ \	<b>how come</b>	? for any particular reason ? \ \ i mean , just mostly because my family lives up there and i enjoy being up there . it won't	Quest.

## RESÜMEE

TARTU ÜLIKOOL  
ANGLISTIKA OSAKOND

**Kärt Roomäe**

**How Come That's A Construction? A Construction Grammar Approach to the *how come* Construction in Spoken American English**

**Miks seda konstruktsiooniks peetakse? Konstruktsioonigrammatiline lähenemine *how come* konstruktsioonile suulises ameerika inglise keeles**

Magistritöö

2021

Lehekülgede arv: 72

Magistritöö seob suulise keele uurimise ja konstruktsioonigrammatilise lähenemise, keskendudes ameerika inglise keelele iseloomulikule *how come* konstruktsioonile kahes korpuses, Michigan Corpus of Academic Spoken English (MICASE) ja Open American National Corpus'e (OANC) suulise keele alakorpus. Töö eesmärgiks on ühest küljest anda panus suulise keele konstruktsioonide uurimisse, teisest küljest näidata suulise keele korpuste väärtust kasutuspõhises keeleteaduses. Arvestades inimeste vabamat eneseväljendust ja vestluskaaslastest sõltumist suulises keeles on hüpoteesiks mittekanoonilised lausungitüübid. Uurimisküsimus on järgmine: Missugused on *how come* konstruktsiooni vormilised ja tähenduslikud omadused ja kuidas on need tõendatud suulises ameerika inglise keeles? Keskendudes põhiliselt *how come* konstruktsiooni süntaktilistele ja funktsionaalsetele omadustele, valmib töö lõppeesmärgina konstruktsiooni skemaatiline kujutis.

Töö on üles ehitatud vastavalt ühe teoreetilise ja kahe empiirilise peatükina. Magistritöö sissejuhatuses selgitatakse, miks on seni ilmunud vähe suulise keele konstruktsioonide alaseid uurimusi ning mis suulisele keelele ainuomased tunnused on uurimistööd raskendanud. Esimene peatükk kujutab endast teoreetilist raamistikku, mis tutvustab konstruktsioonigrammatika olemust, suulise keele konstruktsioone ja ka suulise keele korpuseid. Teine ja kolmas peatükk annavad ülevaate töös kasutatud korpustest, andmekogumise ja -analüüsi põhimõtetest ning peamistest tulemustest. Töös järgitakse kvalitatiivse uurimuse põhitõdesid ning olgugi et esimene kahest korpusuuringust hõlmab endas suure andmehulga analüüsi, on töö kokkuvõttes siiski üksikjuhtumite põhjal tehtud järeldustele tuginev. Konstruktsiooni skemaatiline kujutis näitas, et *how come* võib esineda nii eraldi lausungina kui osana muust lausungist, asudes nii osalause või fraasi alguses, keskel, kui ka lõpus. Ühtlasi selgus, et vajalik on eelnev teemaarendus ja voorud, kuna konstruktsiooni kasutatakse varasemalt öeldule reageerimiseks, põhjuste väljaselgitamiseks ja mõnel juhul ka üllatuse väljendamiseks. *How come* on osa nii suulisest kui kirjalikust vestlusest, ent alati informaalises kontekstis.

Märksõnad:

Inglise keel, suuline keel, korpuslingvistika, konstruktsioonigrammatika, süntaks, semantika

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mille juhendajad on Jane Klavan ja Joshua Wilbur,

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Jane Klavan ja Joshua Wilbur

Tartus, 18.05.2021