



UNIVERSITETET I AGDER

# English vs. Esperanto

A comparative study of clausal word order in a Minimalist framework

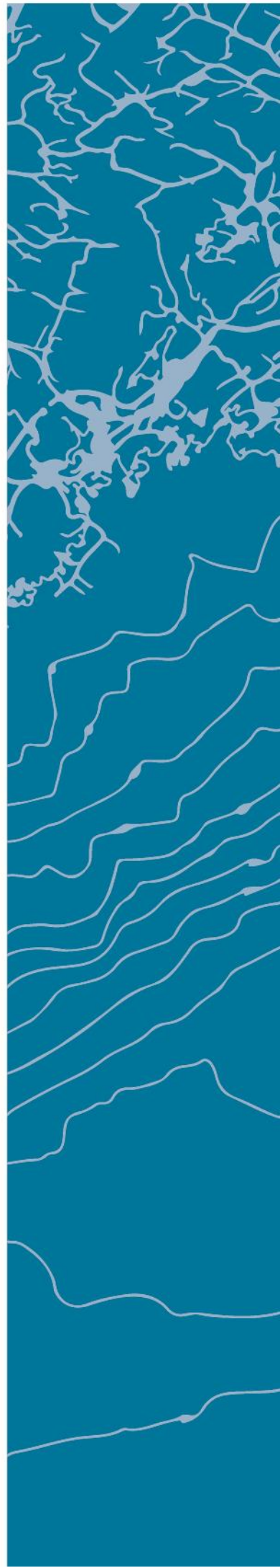
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## Abstract

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Both English and Esperanto are international auxiliary languages, but English is deemed as an SVO language with rigid word order, while Esperanto, although considered predominantly SVO, allows for relatively free constituent order according to some scholars. The goal of this thesis is to determine if this is the case and identify whether this difference in constituency leniency can be attributed to parametric differences between English and Esperanto. To answer this, the thesis seeks to uncover the underlying syntactic structure of Esperanto in transitive constructions and compare it to the syntactic structure of English.

This thesis studies the order of the subject, object, and verb in both main and embedded clause types to identify potential parametric differences and analyse the patterns through the Minimalist framework, and the Principles and Parameters model.

To identify which transitive word order patterns are common in English and Esperanto corpora studies were conducted for both languages to identify the word order patterns used and how often they occurred. The English data were retrieved from the Georgetown University Multilayer corpus, while Arbobanko were used form the Esperanto data. In addition to the corpus study, a survey was conducted for the Esperanto data to test the acceptability of each word order.

My data reflect less word order variety in Esperanto than a previous study conducted by Gledhill (2000). My data does, however, reflect a greater word order variety in Esperanto than English as stated by other scholars. These differences found in word order patterns between the two languages could, however, not be accounted for by significant parametric differences. Instead, a greater variation in non-obligatory constituent movements.

## Acknowledgements

Ever since I was a little girl, I have been interested in language. I used to spend hours reading the Norwegian thesaurus, and when we finally bought a computer, even more time was spent studying different languages online: creating folders of words, clauses, and songs. Therefore, I am forever grateful for being able to write a thesis on something I am truly interested in.

Despite my interest, the process has been a long and, at times, a tiresome one. I would never have managed it alone. Luckily, I have had excellent help and guidance from my supervisors. First of all, I would like to thank my supervisor, Espen Klævik-Pettersen, who has guided me throughout most of the process. I know it has been a long ride, thank you so much for all the feedback and time you have spent helping me with this thesis. I would also like to thank you for all that you have taught me: it has truly helped a lot, but also inspired me and furthered my interest in linguistics. I would also like to thank Heidi Elizabeth Klockmann, my first supervisor, for all the help and time that you gave me, and for suggesting Esperanto. I thank you both immensely for believing in me and helping me as much as you have, without you this thesis would not have been what it is today.

I also want to thank the Esperanto community on *Reddit* for the warm welcome and great feedback on my post regarding the Esperanto survey, and a special thanks to all who participated in the survey, your participation improved my thesis greatly.

I would like to thank my family for always being there for me and fuelling my interest in language. Last but certainly not least, I would like to thank my partner, Daniel, for all the support and help you have given me during this period. Thank you for all the dinners you've cooked while I've been knees deep in corpora data, for listening to me when the pressure got too high and believing in me.

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Marte Djupvik Kråkmo

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## Chapter 1:

### Introduction

*In 500 years' time, will it be the case that everyone will automatically be introduced to English as soon as they are born...[i]f this is part of a rich multilingual experience for our future newborns, this can only be a good thing. If it is by then the only language left to be learned, it will have been the greatest intellectual disaster that the planet has ever known (Crystal 2003: 191)*

Language is an important part of being human, and as the world becomes smaller due to globalisation a need for a common language has emerged. Throughout history, several languages have dominated the global stage, learnt, and spoken by people with different first languages (L1) and to some degree satisfying the need for a global language. The global status of a language has often been due to a nation's political, military, or economic power, such as what was observed with the rise of Greek and Latin.

A common language used between people with different L1s where the language used is neither of participants' L1 can be called an international auxiliary language (IAL); (Smith 2015: 159). In recent history, in line with the world's increasing globalisation, English has become the IAL for many. Some have criticised and deemed this phenomenon 'linguistic imperialism' (Phillipson 1992). Motivating some to create a constructed language that can function as an IAL and thus be more neutral, such constructed languages include Esperanto (Zamenhof 1887), Ido (derived from Esperanto 1907), and Interlingua (International Auxiliary Language Association 1951). None of these have managed to accomplish the goal of becoming a widely used IAL in the way English has. However, Esperanto is one of the most widely spoken constructed languages (Phillipson 2003: 172).

It can be difficult to determine the exact number of speakers for a certain language, especially when taking second language (L2) learners into account. This is due to both uncertainty in the actual numbers of L2 learners, but also the difficulty in defining when a person has learnt a language. Consequently, it is difficult to quantify the number of English speakers in the world, and the numbers might vary greatly depending on who is included. According to Crystal (2003: 67 – 68), in the early 2000s, there were approximately 400 million who spoke English as their L1, and 430 million who spoke English as their L2. In the last 20 years, the number of English speakers has grown from approximately 830 million



speakers to approximately 1.5 billion speakers (Szmigiera, 2022). Considering both the increase of English L2 speakers and the heavy use of English across different platforms, English can be considered an IAL.

Esperanto was constructed to be an easy language to learn without any rules with regard to word order. English, in contrast, is regarded as a language with rigid word order and is thus significantly different from Esperanto. This thesis compares the syntactic differences between the clausal structures in English and Esperanto word order, and aims at identifying potential parametric differences between the languages on the basis of their status as IALs.

## 1.1 Esperanto

Constructed languages have existed for a long time. One of the earliest recorded languages was the incomplete *Lingua Ignota*, which was constructed by Hildegard of Bingen in the twelfth century (Merriam Webster 2017). A plethora of different languages has been created thus far, some of which have been for creative purposes, such as Klingon (Okrand, Doohan and Povill 1984). Others have sought to create languages used as a means of common understanding between people. According to Bianco (2004: 9) many constructed languages are created in ‘...the search for a system of universal signs that would mark ideas common to all people in all cultures.’, such as Francis Lodwick’s (1647) *Common writing*, Bishop John Wilkins’ (1668) *Real character*, Unish (1996), and L.L. Zamenhof’s (1887) Esperanto.

Today, constructed languages seem to have gained increased traction in the media due to series and movies showcasing languages such as Na’vi (*Avatar*, Paul Frommer) and Dothraki (*Game of Thrones*, David J. Peterson). Books are published and videos made explaining how a language should be constructed and what should be focused on, from phonetics to syntax. Many have proposed using language creation as a pedagogical tool to teach students linguistic concepts (Sanders 2016, Moe 2021). This was, however, not the primary objective in 1887, when Ludwik Lejzer Zamenhof created Esperanto, one of the most widely used constructed languages to date.

Bianco (2004: 8–9) identifies three types of constructed languages: *a priori languages*, which are created completely from scratch; *a posteriori languages*, which are inspired by already existing languages; *modified languages*, whose purpose is to help or revive already existing natural languages.

Zamenhof was born in Bialystok, Poland, which, at the time, was home to people speaking a large variety of different languages. He therefore sought a language to unify these

people, ultimately leading to the creation of Esperanto (Janton 1993: 23–25). Esperanto was originally created under the name *Internacia Lingvo*, meaning international language in Esperanto, and was created to function as a common language between people from different language backgrounds, making it by definition, an IAL (Gledhill 2000: 4). Esperanto is an *a posteriori* language influenced mostly by European languages (Li 2003: 33). According to Gledhill, (2000: 5), Esperanto became an even greater success than earlier constructed languages due to its few grammatical rules and simple morphology. It was originally governed by 16 rules alone, making it far more simplistic than many of the constructed languages created today. This does, however, not prevent a language from developing unofficial rules as time goes by. Gledhill (2000: 15) divided the rules into two sections: rules related to speech and rules related to general principles. The rules related to speech, introduced different markers signifying whether a word is pluralised (-j), a noun (-o), an accusative (-n), etc. The general principles were related to pronunciation and how new words should be adapted, amongst other things. None of the original rules specifies for word order structure, which means that any potential rules might have evolved through the influence of its speakers over time.

It is difficult to pinpoint precisely how many speakers of Esperanto exist since there are no population dedicated to learning the language; therefore, it might be difficult to assess both how many learners there are, and their proficiency of the language. A variety of estimates have been proposed regarding how many people speak Esperanto, ranging from 40,000 during the late 1980s to 1996 (Gledhill 2000: 10) to between 30,000 and 180,000 speakers in 2017 (Liberafolio 2017). Duolingo estimates that there are approximately 813,000 active Esperanto learners from different language backgrounds using their platform to learn Esperanto (Duolingo 2022). It is difficult to pinpoint which parts of the world Esperantists are from, Piron (1989: 169) states that there are Esperantist all around the globe, but that most of the speakers are Europeans.

Like any language, Esperanto has changed through time. Gledhill (2000: 17) identifies two types of changes which a language can undergo namely, *systematic* change, which refers to modernising the existing rules, and *instantial* change, which refers to changes that have emerged through the use of the language. Because Esperanto has speakers from a wide variety of language backgrounds as well as few rules, it is not impossible that over time *instantial* changes have emerged.

Overall, it has been acknowledged that a speaker's L1 influences the L2 in the acquisition process (MacWhinney 2005: 2). A study conducted by Abbas, Degani and Prior

(2021) also found that both a learner's L1 and L2 were active when a third language (L3) was processed. This suggests that both a learner's L1 and L2 might cause interference when learning an L3. In addition to this, the study found the influence to be prevalent also when the languages differed typologically. Many researchers have agreed that all languages learnt after L1 are influenced by previously learnt languages (Ringbom 1987, Gollan, Montoya and Werner 2002, MacWhinney 2005, Abbas, Degani and Prior 2021). Researchers do, however, disagree on how much previously learnt languages influence the learning process for new ones. On one hand, according to Gollan et al. (2002), L3 learners are mostly influenced by L1. Ringbom (1987), on the other hand, believes L3 to be mostly influenced by L2. In line with previous studies, Esperanto might be subject to cross-linguistic interference from its learners' L1s, L2s or both. Considering there are no official rules governing the constituent order of Esperanto, one might expect Esperanto to be more prone to cross-linguistic interference in this particular domain of grammar.

Bianco (2004) identifies normative and technical criteria as the reasonings behind the creation of IALs. Languages created with normative criteria in mind are languages that aim to be either ideologically or religiously neutral. Languages created with technical criteria in mind, in contrast, are languages created to be easy to learn. These languages are often created with few irregularities to make them accessible to people from different language backgrounds. Esperanto seemingly fits both of Bianco's criteria for an IAL. Arguments about why Esperanto should be used as an international auxiliary language instead of English have been made. Hou and Zhou (1999) raise three important arguments against English as an IAL: the rise of English due to colonialism; the acceptance of English as an IAL furthers the former hegemonic control; the variation between how English is spoken around the globe. In addition to arguments against English as an IAL, arguments in support of Esperanto have been proposed. According to Li (2003: 36–37), Esperanto stands in contrast with English since, as a constructed language, it is no one's L1 by design. Li also indicates that speakers of Esperanto are at less of a disadvantage when conversing with other Esperantists with a different L1, as it is likely a second language for both speakers. Third, Esperanto is designed to be a simplistic language, making it easier to learn. Finally, Esperanto is often learnt for ideological reasons, leading to a strong sense of community among Esperantists (Forster 1982, Piron 1989, Edwards 1993). In addition to their status as IALs and their differences in origin (natural vs. constructed), English and Esperanto are deemed widely different with regard to rules concerning word order. English is regarded as a language with rigid word order. Esperanto, however, has no rules calling for a specific clausal word order, meaning that

it can allow for free word order, although it still predominantly follows an SVO order according to Gledhill (2000: 87–88) and Parkvall (2010: 65).

Versteegh (1993: 539–540) reports that not all linguists feel that constructed languages belong within the field of linguistics, as they are not natural languages. Consequently, I am well aware that my thesis topic might be seen as controversial by some as I apply the same theoretical framework to describe both a natural and a constructed language. With the growing interest around constructed languages, I do, however, think that the dismissive attitude towards constructed languages as a research field within linguistics has been changing. Despite the growing interest in the field, I do believe conlanging to be an underused resource within linguistics. This was a contributing factor when choosing a language to compare English to. Sanders (2016) uses constructed languages as a tool to help his students learn linguistics. A similar approach is used by professors Nettet and Janda at the Arctic University of Norway, which let their students create their own constructed language as a means to learning different concepts within linguistics (Moe 2021). Park (2005:5) states that ‘...linguists believe that investigating the nature of human languages will ultimately help explain how the human mind is reflected in languages.’. Then constructed languages should also be regarded as an important piece of that puzzle, since constructed languages can be seen as an illustration of our relation to language. If our language is indeed governed by innate rules as I assume in this thesis, then these should, to some degree, apply in the creation of a language. Similarly, to already known languages interfering with new languages we learn. Due to the dismissive attitude towards constructed languages by many scholars, little work has been done with regard to the syntactic structure of Esperanto. I found no studies, at the current time, which describe the parameters that govern Esperanto or gives a precise rendition of the underlying clausal syntax of Esperanto.

## **1.2 Hypothesis**

As mentioned in Section 1.1, it has been stated that Esperanto is predominantly SVO although it is regarded as a language with relatively free word order (Gledhill 2000: 87–88, Parkvall, 2010: 65). This is especially apparent when compared to English, which is considered a language with rigid word order. Thus, I expect to find a greater variation of word order patterns in Esperanto. In addition to SVO, English has alternative word order patterns which occur within specific clause types. This is likely also true for Esperanto. Nevertheless, English is still regarded as a rigid language, likely due to the lack for variation within each given

clause type. With this in mind I therefore expect a more even distribution within the word order patterns in Esperanto to account for this difference from English. If this is the case, I expect there to be parametric differences between English and Esperanto to account for this difference and that these parametric differences become apparent when analysing the different word order patterns.

The goal of this thesis is to gather data about transitive clauses in English and Esperanto and describe the data found within the Minimalist framework to give an official account of clausal word order in Esperanto and compare it to English clausal structure. In order to do this, I seek to answer four questions through the course of this thesis:

1. Which word orders are acceptable in Esperanto and English?
2. Which parameters govern Esperanto? And how do they compare to parameters in English?
3. Which movement rules, both obligatory and optional, apply in English and Esperanto?
4. What creates the surface differences, i.e., the differences in linear word order of major constituents like the subject, verb, and the object, seen between English and Esperanto?

### **1.3 Framework**

There are different approaches to examining word order; in this thesis, I use a Minimalist framework (Chomsky, 1993) as the basis for analysing the data. Since this is a comparative study aimed at identifying parametric variations between two languages to identify existing movement rules, I have adopted the Principles and Parameters framework (P&P)<sup>1</sup> as the basis for parametric differences between languages. Most of the parameters highlighted in this thesis are from Adger (2003). This thesis examines the word order of transitive clauses, more precisely the structural placement of the subject, verb, and object. The information regarding word order typology used in this thesis is taken from the World Atlas of Language Structures (WALS)<sup>2</sup> Online.

### **1.4 Methods**

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<sup>1</sup> Although some linguists have abandoned P & P (Newmeyer 2005, Boeckx 2014: 155–179)

<sup>2</sup> <https://wals.info/>

To identify which word orders are acceptable and how frequently they occur, a corpus study was conducted for both of the languages. Arbobanko<sup>3</sup> was the corpus used for the Esperanto data. For the English data, the Georgetown University Multilayer (GUM)<sup>4</sup> corpus was utilised. Both the Esperanto and the English corpora were manually parsed and displayed as dependency trees, so as to limit any error I might have read into the data. Only the transitive clauses were examined in this thesis. Clauses that included additional verbal arguments to the subject and object, such as indirect objects have been excluded since they might have affected the placement of the constituents considered in this thesis. Since word order might differ within different clause types, the data reflects a variety of different clause types both main clauses and embedded clauses. As mentioned in Section 1.1, Esperanto exhibits a large variety of word orders. To evaluate the acceptability of the different word orders found within the Esperanto data, a small survey was conducted on L2 Esperantists.

## 1.5 Overview

This thesis is structured as follows: This initial chapter has introduced the theme, hypothesis, and goal of the thesis. Chapter 2 is dedicated to the theoretical framework (and assumptions) underpinning this thesis. It presents the Minimalist framework as well as exemplifies how the theory is used to analyse the data later presented. The methodology used in both of the corpora studies as well as the Esperanto survey are presented in Chapter 3. Chapter 4 is dedicated to the analysis of the data obtained in the corpora search as well as the data from the conducted survey. A summary and overall conclusion are found in chapter 5, where the questions proposed in Section 1.2 are answered and concluding remarks made.

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<sup>3</sup> <https://catalog.elra.info/en-us/repository/browse/ELRA-W0129/> (Listed under ELRA in the bibliography)

<sup>4</sup> <https://corpling.uis.georgetown.edu/annis/>

## **Chapter 2:**

### **Theory**

This chapter explains the theory used to describe different word order structures found in this thesis. The theory is mostly based on Adger (2003) and Chomsky (2015). In general, the Minimalist framework is used as the theoretical background for this thesis. A general overview of Minimalism is provided in Section 2.1. As this thesis compares different word order constructions found in English and Esperanto, Section 2.2 is dedicated to exploring the different possible word orders and their frequency of occurrence from a typological standpoint. Section 2.3 delves deeper into the theoretical framework used in this thesis, presenting the structure of syntactic trees as well as movement rules and motivations. Finally, in Section 2.4, the theory explored in 2.3 is applied to the different word order patterns explained in 2.2 to illustrate and better explain the theory. This also reveals how two languages that might share a similar surface structure on paper can look quite different in a syntactic tree.

#### **2.1 What is Minimalism?**

The theoretical framework for this thesis is based on the Minimalist program (Minimalist framework), which is a modern branch within Generative grammar based on the central notion of Universal Grammar (UG) proposed by Chomsky. At its core, UG presumes that language is innate (Chomsky, 1981). One of the arguments for language being innate is the speed at which children acquire language given the data they are presented with (Chomsky, 1965). According to Chomsky (1965), the data children are presented with might be error-prone, as well as too limited for them to be able to acquire a language as fast and accurately as they do. Another argument is that the languages of the world share too many of the same elements to simply be learnt without any innate knowledge about language. According to the innateness hypothesis, humans are born with the ability to learn language namely, the human language faculty which is not a controversial statement. What might be controversial to some, however, is the notion that humans are born with a pre-existing language UG. UG can be imagined as a shell of a language, not bound by any syntactic rules and without a lexicon, but with the possibility of becoming any language.

An influential model based on the UG hypothesis is the Principles and Parameter framework (P&P)<sup>5</sup>. It assumes that humans are born with an innate notion of different linguistic principles. The principles are said to be the universal properties of a language, while parameters are variations of these principles that develop through the linguistic context present over the course of learning a language. This can be seen as an explanation as to why languages differ from each other. For instance, all languages share the notion of a verb (principle), but where a verb is placed in the syntactic tree is determined by parametric variation. Not all parameters apply to all languages; only a subset of parameters can apply to one language. Which parameters apply to a particular language is decided through the influence of an external language. The selection of one feature can also cascade into other features being implemented. This can be seen in Norwegian, which is a verb-second (V2) language, meaning that according to this framework, children learning Norwegian as their first language will adjust their parameters for V2. Consequently, an adverbial cannot be placed in between the subject and the verb of a clause, as seen in (2), which is ungrammatical:

- (1) Han gikk fort til butikken.  
 (2) \*Han fort gikk til butikken.<sup>6</sup>

Sentences in English must have an overt subject, thus requiring the insertion of expletives, such as *it*, in clauses without a natural subject to make the clause grammatically correct. This leads us to believe that English has a parameter setting which specifies that a subject or a noun-like constituent must be present in initial position in most clauses. Some languages, such as Esperanto, do not require an overt subject. These are called *pro-drop-languages*. (3) illustrates a clause which in Esperanto does not require an overt subject, while its English counterpart clearly does, as the expletive *it* is inserted in the initial position:

- (3) Pluvas.  
*it.is.raining*  
 it is raining.

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<sup>5</sup> The principles and parameters framework has been abandoned by some scholars (Boeckx, 2014, Newmeyer 2005), but will be used in this thesis.

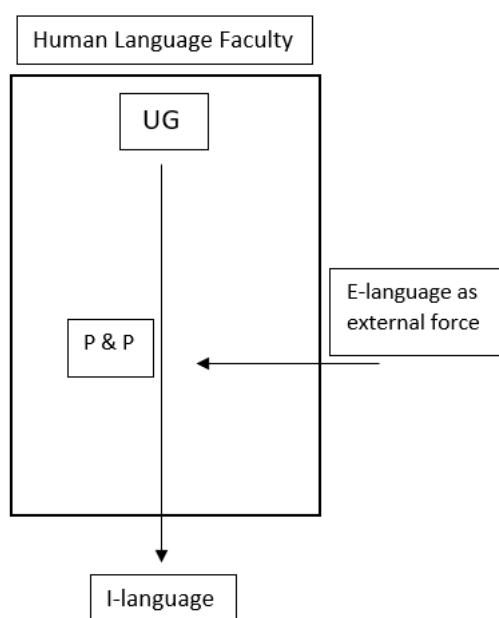
<sup>6</sup> \* is commonly used before a sentence or clause to signify that it is ungrammatical, must not be confused with [\*], which signifies that a feature is strong.



Figure 2.1 illustrates that the external influence of the languages people hear as children decides which parameters they have and turns UG into their internal language (I-language). I-language is the relatively stable state of the grammar attained once all parameters have been set. Interestingly, individuals' I-language might differ from each other even if their mother tongue is the same, as their external input might differ slightly. This can be illustrated by different syntactic structures found across different dialects of Norwegian. Rice and Svenonius (1998: 3–4) showed that the verb in *wh*-interrogatives did not have to move in a northern Norwegian dialect compared to standard Norwegian, recreated here in (4). The constituent order presented in (4) would be ungrammatical in standard Norwegian, where the verb *sa*, would be moved between the *wh*-interrogative and the subject *du*.

- (4) Ka du sa?  
*What you said*  
 'What did you say?'

The human language faculty, depicted in Figure 2.1, refers to people's capability for language acquisition. It is depicted as containing both UG and P&P, as these are the innate concepts present when developing one's I-language.



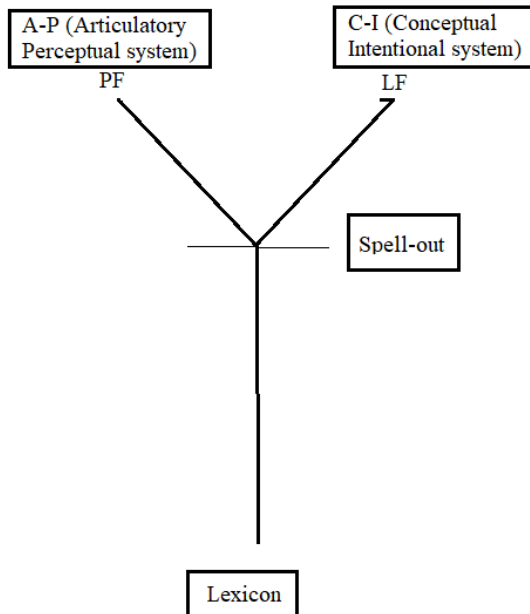
**Figure 2. 1:** Human language faculty structure

Within the Minimalist framework, it is believed that constituents within a clause and clauses themselves carry features. Features are 'any typical or noticeable property of spoken or

written language' (Crystal 2008: 186–187). According to Adger (2003), features range from properties words can have, such as number and case to features related to different clause types, such as *wh*-interrogatives clauses needing a *wh*-constituent. This constituent does not always appear in initial position in the clause as it does in English. In Japanese, the constituent does not move from its original place in the clause, as Adger (2003: 367) illustrates in (5), which also shows a parametric variation between English and Japanese.

- (5) John-wa nani-o kaimasita ka?  
*John-TOP what-ACC bought Q?*  
 'what did John buy?'

There are several branches within linguistic theory dedicated to describing internal differences in language. The Minimalist framework is one of them. It is based on the UG hypothesis and on the general architecture illustrated in Figure 2.1, but it implements a principle of economy, which states that the simplest explanation or the results which require the lowest effort to obtain are the preferred solution. Consequently, some of the previous theories found in Generative grammar are excluded. Minimalism identifies three key operations when building a clause namely, Merge, Move, and Agree, explained in Section 2.3. Additionally, I also include Adjoin as a central operation in this thesis. Within the Minimalist framework, it is assumed that the information carried by the different words themselves, which cannot be specified by the principles of UG nor the parametric variations of the language, is stored in the lexicon (Chomsky 2015: 9). In contrast to earlier proposed theories related to UG, however, Minimalism excludes the distinction between deep structure and surface structure. Deep structure was assumed in previous theories to be the structure of a clause before it is produced and any movement rules have been applied, while surface structure is the structure of a clause after it is produced, and movement rules have been applied. Movement within clauses is instead believed to be happening simultaneously as the clause is being built. The creation of an utterance can be thought to follow a structure, as depicted in Figure 2.2 and based on Chomsky (2015):



*Figure 2. 2: Y-model based on descriptions from Chomsky (2015)*








Information about the constituents needed for an utterance are selected from the lexicon. Most of the principles and parameters that govern a language are implemented before the junction (spell-out). According to this model, an utterance is built according to the principles and parameters present in a given language with the information sent from its lexicon. Past the junction, the utterance is sent to be produced by our articulatory system through the use of its phonetic form (PF). PF refers to the sounds which make up each of the constituents in an utterance. Simultaneously, the brain interprets the logical form (LF) of an utterance by the use of a conceptual intentional system, thereby giving the utterance its meaning. According to Chomsky (2015), LF and PF demand three requirements of the utterances produced, in order to make them possible:

*It must be universal, in the sense that an expression of any actual or potential human language is representable within it. It must be an interface, in that its elements have an interpretation in terms of the sensorimotor systems. And it must be uniform, in that this interpretation is uniform for all languages, so as to capture all and only the properties of the system of language as such. The same three conditions hold for LF. (Chomsky 2015: 18)*

It is important to note that the subject in a pro-drop-language such as Esperanto (see (3)) is believed to be present before it reaches the PF level, but the subject does not have a phonetic form and is therefore silent at PF. This difference in overt and covert subjects is likely due to parametric variations.

## 2.2 Typology

Typology is classification of different elements and is relevant in many fields of study. When addressing typology in relation to word order, we consider how different linear patterns are identified based on the constituents present in a clause. The elements commonly considered as determining the word order are the subject (S), object (O), and verb (V), making a total of six different possible word orders: SVO, SOV, OVS, OSV, VSO, and VOS. If there are auxiliary verbs present in the clause, the auxiliary is counted as the verb of the clause, not the lexical verb. According to Dryer (2013), SOV and SVO are the most common word orders, while OSV is the least common (see Table 2.1). Dryer's (2013) data suggest that there are more languages without any dominant word order than there are languages with VSO, VOS, OVS and OSV word orders. It is important to note that the data in WALS are based on declarative clauses, and that the subjects and objects are strictly realised as noun phrases (NPs<sup>7</sup>). This is not the case for the data presented in Chapter 4 as I also consider pronominals and clausal constituents.

Value	Representation
 Subject-object-verb (SOV)	564
 Subject-verb-object (SVO)	488
 Verb-subject-object (VSO)	95
 Verb-object-subject (VOS)	25
 Object-verb-subject (OVS)	11
 Object-subject-verb (OSV)	4
 Lacking a dominant word order	189
<b>Total:</b>	<b>1376</b>

*Table 2.1: Distribution of word order around the world from Dryer (2013)<sup>8</sup>*

<sup>7</sup> Also called DP (determiner phrase). Though DP might be more modern/common, I have opted for using NP. The distinction is of no consequence in this thesis.

<sup>8</sup> <https://wals.info/chapter/81>

According to Tomlin (1986: 213–214), there are three principles which determine the distribution of commonality in word orders around the globe, namely the *theme-first*<sup>9</sup>, *animate-first*, and *verb-object bonding* principles. The subject of a clause usually coincides with the topic of the clause in accordance with the topic first principle. This is true for both SVO and SOV structures. These word orders also correspond with the animate-first principle, which states that whichever element in the clause is alive, usually the subject, should come first. This principle might also apply to the object of the clause, meaning that the principle might also encompass OSV and OVS structures. Finally, the verb-object bonding principle asserts that the verb and the object in a clause need to be connected, meaning there should be no constituents in between them. This is true for SVO, SOV, OVS, and VOS. Ultimately, SVO and SOV abide by all of these principles, as long as the subject of the clause is animate. OSV, in contrast, only partially corresponds with one of the principles.

Parkvall (2010: 65) reports that Esperanto is a language with a relatively flexible word order, especially compared to English. Languages with flexible word orders allow for more variation in constituent order, while languages with rigid word order have fixed or semi-fixed constituent order. Structures deviating from the set orders are usually considered ungrammatical (Dryer 2013). This can be seen with Norwegian, which is an SVO language with a V2 rule. Norwegian does not usually allow for clauses to deviate from the V2 pattern illustrated in (6). (7) exemplifies an ungrammatical clause due to an adverb, *som regel*, being placed between the subject and the verb, making the verb the third constituent. An adverbial disruption would, however, be possible in English (9), as it is not a V2 language.

- (6) Jeg spiller fotball.
- (7) \*Jeg som regel spiller fotball
- (8) Jeg spiller som regel fotball
- (9) I usually play football.

Flexible word orders can also have preferred word orders according to Dryer (2013). These languages are listed according to their preferred word orders in WALS. For some languages, it is difficult to pinpoint which of the word orders is preferred due to two word orders being equally used. These word orders are catalogued in WALS after the two word orders most commonly used. For the survey conducted in this thesis, the word order of a participant's language is based on what it is catalogued as in WALS.<sup>10</sup>

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<sup>9</sup> Tomlin's (1986) theme is not the same as the theme within theta roles (see Section 2.3.1). I will therefore refer to Tomlin's (1986) theme as topic to avoid any confusion.

<sup>10</sup> <https://wals.info/feature/81A#2/18.0/153.1>

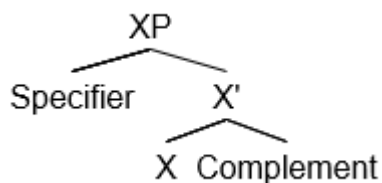
There are different theories surrounding a language's base word order. According to Kayne (1994), the base word order for every language is SVO, and every other word order is based on constituents moving to a higher level within the syntactic tree. In line with Kayne (1994), the framework I have adopted also assumes that constituents only can move up the syntactic tree, but I will not adopt the assumption that all languages stem from the same base word order. Instead, I assume that a language's basic word order is the order present when all movement deemed obligatory has occurred. It is important to note that base word order might not coincide with the dominant word order of a language. This can be seen in German which at its base has an SOV structure. This structure is, however, not present in German declarative clauses since German is a V2 language and the verb is therefore moved higher up the syntactic tree, creating an SVO structure. The underlying SOV structure can be found within some embedded clauses since the verb cannot move as far up the syntactic tree. This point is discussed in greater detail in Section 2.4.2, and illustrates that when identifying a language's word order, it is not possible only to look at the declarative main clauses of a language, but also its embedded clauses.

## **2.3 Theoretical perspective**

The following section establishes the underlying theory needed for examining syntactic tree structures within the Minimalist framework. I utilise the notion of Move, Merge, Agree, and Adjoin as the basis for the construction of the syntactic trees. Section 2.3.1 is dedicated to exploring these operations and their function. Then, I explore features and how they are used to determine both the basic structure of a language as well as clausal word order in main clauses (2.3.2). However, some word order constructions cannot be explained through obligatory features or by clause-specific features; these non-obligatory movements are treated in Section 2.3.3. Since embedded clauses are included in the dataset, their structure and function are presented in 2.3.4.

### **2.3.1 Move, Merge, Agree, and Adjoin**

According to Minimalist theory, the lexical elements chosen from the lexicon are merged together. Merge refers to when two elements are combined into a branch, such as  $X^\circ$  (X) and its complement merging to create  $X'$ , which further merges with the specifier to create XP (Figure 2.3).



*Figure 2. 3: From Carnie (2013: 176-177)*

Figure 2.3 illustrates the internal structure of an XP, where the  $X^\circ$  is a stand-in for main element of the phrase, such as the verb in a VP or the noun in an NP. The XP level is also deemed as the maximal projection of a given constituent. The  $X^\circ$  is also called the head of the phrase. Not all languages follow the same linearisation as depicted in Figure 2.3, however. There is a distinction between left- and right-branching languages. The figure above is modelled after a right-branching language, such as English. In some languages, the complement precedes the head of the phrase, such as in Japanese, an OV-language.

Sisterhood and C-command are important notions which explain the relationship between the elements situated in a syntactic tree. A node is in sisterhood relation with another node if and only if they are daughters of the same node, such as the specifier and  $X'$  seen in Figure 2.3. A node is being c-commanded by another node if and only if it is that node's sister or if it is contained within that node's sister. Since the aforementioned elements are sisters, by definition they also C-command each other. The specifier also C-commands both the  $X^\circ$  and the complement situated within  $X'$ , but this is an asymmetrical C-command since  $X^\circ$  and the complement do not C-command the specifier. They are both C-commanded by the specifier since the specifier is in a sisterhood relationship with  $X'$  (Carnie 2013: 176–177).

In this thesis, I assume that elements merge into a binary branch construction. This means that only two elements can merge and form a branch at a time, such as  $X^\circ$  and its complement (see Figure 2.3). Merge is one out of three overarching operations that happen within a syntactic tree; the other two are Agree and Move. The latter relates to elements moving within a syntactic structure to satisfy different features by Agree. Agreement describes a specific relationship found between constituents in a clause (Crystal 2008: 18). An example of this is verbs changing to match the number of the subject of the clause, as seen in (10):

- (10) They were nice.

Since the subject of the clause is a plural pronoun and therefore carries the plural feature [plural], it would be ungrammatical to not pluralise the verb, as seen in (11).

(11) \*They was nice.

The action of searching through the syntactic tree to find a constituent to Agree with is called probing. A constituent can only probe from its own position and down the syntactic tree (its C-command chain). Probing constituents do not necessarily require the matching constituent to move. Some features on probing constituents can be fulfilled without the matching constituent needing to move in order for the features to Agree with each other, this is called *Long Distance Agree*. In contrast, some constituents need for the constituent with the matching features to move into a local configuration within the same projection in order for the features to be checked. I argue that the difference in which features requires Agree and which requires both Agree and Move is a difference in the strength of the feature (see Section 2.3.2). Agree and Move must happen in successive order that is elements Agree first and potentially Move second (Landau 2003). If a constituent has been checked by Long Distance Agree it will therefore not need to move. Move can therefore be seen as the last option out of the Merge, Move, and Agree. The last operation is Adjoin. Crystal (2008: 75) explains Adjoin accordingly: ‘...a CONSTITUENT A is adjoined to B by creating a new B NODE which immediately DOMINATES A and B.’ In this thesis, Adjoin is used to explain the placement of an adverbial, which I assume can adjoin atop of any projection XP, but never at bar or head level in the projection. Different theories regarding the placement of adverbials within a clause, such as the cartographic approach (Cinque 1999, Cinque & Rizzi 2009), have been proposed. According to the cartography, all adverbials have an assigned place in the syntactic tree, with a projection dedicated to each adverbial type. Since this thesis examines word order, adverbial placement might be a helpful tool for deciding the placement of constituents, but it is not a thesis about adverbial placement per se.

There are three important levels always present in a syntactic tree: the VP (encompasses both ‘little’ v (vP) and VP, at present), tense phrase (TP),<sup>11</sup> and complementizer phrase (CP). Figures 2.4 and 2.5 illustrate a base structure of a syntactic tree in both a VO and an OV language.<sup>12 13</sup> In a construction with a transitive verb, the verb of the clause, originating in V<sup>o</sup>, takes an NP as a complement, and the verb assigns its theme theta role to the NP.<sup>14</sup> To account for the rich argument structure observed in different languages and still

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<sup>11</sup> Also known as Inflectional phrase (IP)

<sup>12</sup> All syntactic trees presented in this paper have been created by the use of <http://mshang.ca/syntree/>

<sup>13</sup> All syntactic trees presented in this thesis are simplified to some degree.

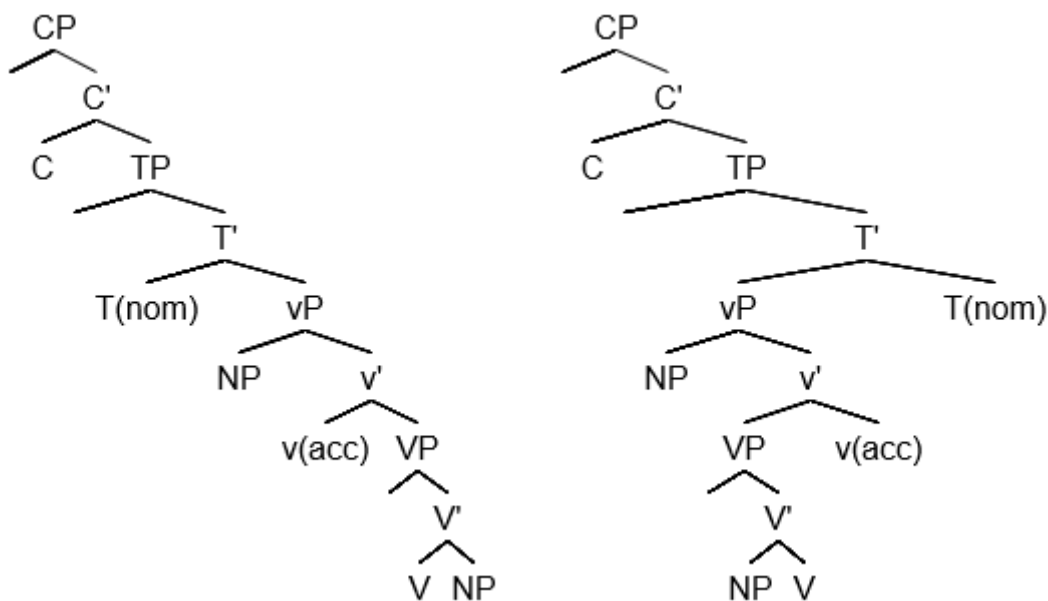
<sup>14</sup> The NP complement obtains its accusative case from v<sup>o</sup>.



keep binary branching, syntacticians have proposed including vP, which acts as an extension of the VP and surrounds the VP as a shell (Larson 1988: 335–391). ‘Little’ v° then takes VP as its complement. The agent of the clause is merged into the specifier of vP (specvP) and obtains its nominative case from T°. The structure then merges with the TP, which carries the tense of the verb and places the clause in time. It is important to note that potential auxiliaries have been left out of both of the figures, but they are situated between the TP and vP in the syntactic tree, and is according to Adger (2003: 333) ordered as follows:

(12) ‘C> T (Neg> (Perf> (Prog> (Pass> v> V’

Since I examine transitive clauses in this thesis, the verb in the figures below (Figures 2.4 and 2.5 respectively) is presented in a transitive configuration, thus explaining the complement NP, the object. Verbs might, however, take both fewer and more than two arguments. Their argument structure depends on which argumentative roles each given verb assigns; these roles are called theta roles (or  $\theta$ -roles).



*Figure 2. 4: VO-language*

*Figure 2. 5: OV-language<sup>15</sup>*

Theta roles can be described as the argument roles required by the verb for the verb to function as intended; for example, the verb *to run* only needs one argument namely, someone

<sup>15</sup> The placement of the NPs symbolising the subject and object in figures 2.4 and 2.5 are in their base positions, that is they have not yet undergone any word order movement.

to do the running, the agent of the clause. A verb such as *to give*, however, assigns three theta roles since someone needs to give something to someone, as seen in (13). Each given verb assigns x number of theta roles. A clause becomes ungrammatical if there are fewer or more theta roles than that verb requires. The same is true if the theta role of the argument does not match the theta role needed by the verb. Linguists use a theta grid to visualise which theta roles a given verb assigns, as can be seen for *give* below.

(13) She<sub>k</sub> gives a book<sub>l</sub> to him<sub>m</sub>.

*give*

<u>Agent</u>	<u>Theme</u>	<u>Recipient</u>
NP	NP	PP
k	l	m

The clause would, however, become ungrammatical if the recipient theta role was switched with another prepositional phrase such as, *on the table*, seen in (14), which has a locative theta role.

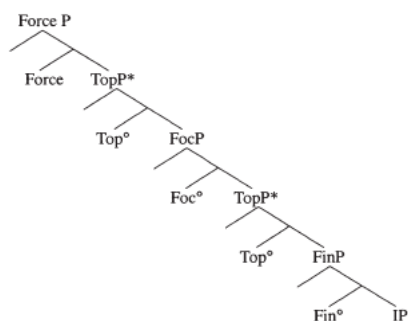
(14) \*She gives a book on the table.

Baker (1988) proposed the uniformity of theta assignment hypothesis (UTAH), which states that each unique theta role has its given place within the syntactic tree. According to UTAH, a subject assigned the agent theta role would have its base position in specvP.

Lastly, the TP merges with the CP. The features which decide what type of clause or clause the syntactic tree is, are situated in the CP. If there is a [Q] feature in the CP domain, the constituent required to fulfil [Q] will be moved from its base position into C°, if needed, which is the case for English interrogatives where the verb is moved to satisfy the [Q] feature. The [Q] feature can also be satisfied by an interrogative marker. According to Adger (2003: 329–332) if C° identifies a strong declarative feature [decl] on T°, it forces any potential constituent in T to move up to C° in a declarative clause.

Some scholars believe the CP to be a collective term representing a string of different projections in an invariable order. Such an approach is called cartography. Constituents such as a wh-interrogative or a topicalised constituent can be found in this CP string, or potentially several constituents as it consists of several projections. Figure 2.6 illustrates the CP string

according to Rizzi (1997: 297):



**Figure 2. 6:** internal structure of C domain according to Rizzi (1997:297)

### 2.3.2 Features

As stated earlier, features are properties that words carry and that need to be checked for the utterance to be grammatical; this needs to happen before spell-out. They can also be connected to heads of specific projections in the syntactic tree, such as the interrogative [wh] feature being connected to the CP domain. There are also features – namely phi features (or  $\phi$ -features) – specifically related to the nouns or pronouns of a clause. These features specify the gender, case, or number of the noun or pronoun in question, such as *I* being in first person, singular, and nominative and *me* being in first person, singular, and accusative (Adger 2003: 42). Both gender and number are categorised as interpretable features, which means that they carry semantic meaning. Case, however, is an uninterpretable feature, meaning that it does not carry semantic meaning. The phi features attached to the noun forces the verb to change if it does not match the phi features, meaning that if the noun in a clause is pluralised, the clause can only be grammatical if the verb is pluralised as well. This checking of features is called subject-verb agreement. The features carried by the verb are called C- and S-selectional features. C-selectional features determine which elements the verb needs, such as a noun. S-selectional features, on the other hand, determine whether or not the semantic meaning between the verb and its complement, for instance, matches:

(15) George is reading a book.

(16) \*George is reading a table.

According to the C-selectional feature on the main verb *to read*, a noun is required to satisfy the argument structure of the verb. In both (15) and (16), a noun is selected as a complement and the clause should be grammatically correct, but the S-selectional feature is not satisfied

making (16) ungrammatical. The features carried by the verb and the noun govern the grammatical acceptability of the clause but do not trigger word order movement; the features are only checked under Agree. According to Adger (2003), the features found in the CP and TP domain mainly trigger word order movement. All features present in the utterance need to be checked in order for the clause to be grammatical. This process must occur before the clause reaches the LF and PF stage of the computation.

Adger (2003) distinguishes between strong and weak features working on the different levels of the syntactic tree. The strong features, usually marked with [\*], such as [\*wh], require an element to be in its local configuration to be checked. This means that the constituent with the necessary features needs to be in a sisterhood relationship with the strong feature in order for it to be checked (Adger 2003: 194–195). Weak features, in contrast, need not be close to their required elements and can be satisfied by Agree without needing to move to check the given feature (Adger 2003: 195), as mentioned with Long Distance Agree in Section 2.3.1. Adger (2003) further distinguishes between six different features that can cause word order movement:

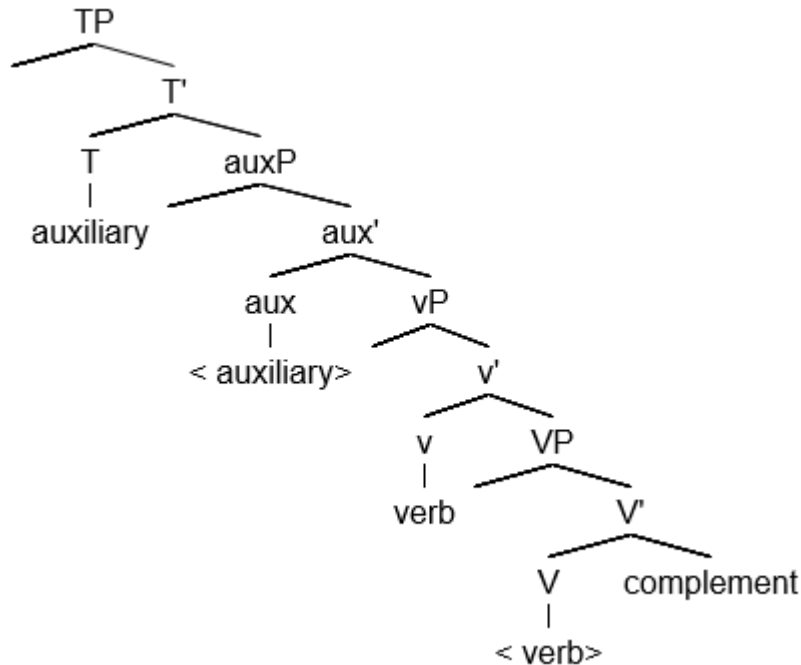
	<b>Tense on Aux</b>	<b>Tense on v</b>	<b>EPP on T</b>	<b>Decl on T</b>	<b>[top] on C</b>	<b>wh on C</b>
<b>English</b>	Strong	Weak	Strong	Weak	Optional	Strong
<b>French</b>	Strong	Strong	Strong	Weak	?	Optional
<b>Swedish</b>	Weak	Weak	Strong	Strong	Strong	Strong
<b>Scottish Gaelic</b>	Strong	Strong	Weak	Weak	Weak	Strong
<b>German</b>	Strong	Strong	Strong	Strong	Strong	Strong
<b>Japanese</b>	Strong	Strong	Strong	Weak	Weak	Weak

*Table 2. 2: A visualisation of parametric variation (Adger 2003: 368)*

The features described as strong in Table 2.2 require constituents to check them in a local configuration; this might require constituents to move. The weak features, however, only need to Agree with a constituent that matches its feature further down the C-command line in the clause. Movement is therefore not required in such circumstances. It is important to note that topicalisation [top] is never an obligatory feature in a language, but a feature that is optional due to a semantic decision from the speaker.

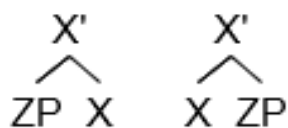
I assume that the verb needs to move from its base position in the head of VP to the head of vP as seen in Figure 2.7 and that this holds true for all languages. As proposed by Roberts (1985) and Larson (1988). The verb might also move further up the syntactic tree to fulfil a strong, declarative feature on T°. For many Germanic languages, the verb moves as

high as  $C^\circ$  in some clause types. If a language has a strong tense feature on  $T^\circ$  probing the auxiliary, such as English, the auxiliary is forced to move from its original position in its respective auxiliary phrase (auxP) <sup>16</sup> into  $T^\circ$  as seen in Figure 2.7:



*Figure 2. 7: Auxiliary and verb movement in English*

Adger (2003) states that there is an extended projection principles (EPP) on  $T^\circ$  in the TP. EPP requires a noun-like construction, such as the agent or the theme of a verb, to be checked. If the EPP feature of  $T^\circ$  is strong, it searches through the syntactic tree and moves the first constituent phrase which satisfies its condition into specTP. When searching through the syntactic tree, a feature is said to be probing, while the element it selects is called the goal. The direction of the probing is top-down in all languages. Furthermore, the head of a projection always probes. I assume that the reading direction, likely introduced at PF, of the language is top-down and left whenever possible. In a VO-language, such as English, the head of the XP,  $X^\circ$ , would be read or probed before the complement of the XP, while in an OV-language, such as Japanese, the complement would be read before the head of the phrase (see Figure 2.8):



<sup>16</sup> AuxP is a stand-in for any auxiliary phrase present.

*Figure 2. 8: OV-language (left) and VO-language (right)*

Similar to the previous feature, the declarative [decl] feature can also be found on  $T^\circ$ . The feature is present in declarative clauses, and the uninterpretable clause type feature [uC], which it wants to match with, can be found on the verb in the clause. If the feature is strong, it forces the verb to move into  $T^\circ$ .

One of the last main clause features is [wh]. The feature is used to create wh-interrogative questions by probing the tree for a wh-word, such as the English wh-interrogatives: *what*, *who*, *which*, *where*, *why*, *when*, *whose*, and *how*. In Esperanto, however, the interrogative words begin with *ki-*: *kio*, *kia*, and *kion* (what), *kiu* (who), *kiu* (which), *kie* (where), *kial* (why), *kiel* (how), *kiam* (when), and *kies* (whose). A strong [wh] feature would force the fitting element into specCP so that when asking what Sophie likes, the construction in (18) is the result, instead of the construction in (19):

- (17) Sophie likes oranges.
- (18) What does Sophie like?
- (19) ?Sophie likes what?<sup>17</sup>
- (20) Does Sophie like oranges?

Though (19) is not strictly ungrammatical, it is an echo-question, which according to Adger (2003: 352), does not involve the [wh] feature or any other interrogative feature but is instead used to provide clarity. Though it does not have an entry in the grid seen above, Adger also mentions the [Q] feature, which is used in polar interrogatives, such as (20). The structure found within polar interrogative clauses in English is obtained through subject auxiliary inversion (SAI). SAI happens when the auxiliary in the clause moves from its base position into  $C^\circ$ , which is referred to as V-to-C movement. This inversion only applies to auxiliaries. In English, if there are no auxiliaries in a clause, the auxiliary *do* is inserted into  $C^\circ$ .

All elements that move within a syntactic tree leave a copy of themselves (formerly known as trace *t*) in the positions in which they have been placed, marked with the element in  $\langle \rangle$ . The place within the syntactic tree that is already filled with a copy of one element cannot be filled with another, which is ungrammatical, as illustrated in (23):

- (21) Tommy gave Lisa a hug.
- (22) What did Tommy give Lisa  $\langle$  what  $\rangle$ ?

---

<sup>17</sup> Examples marked with ‘?’ are not ungrammatical but marked constructions.

(23) \*What did Tommy give Lisa a ball?

If (21) is phrased as a *wh*-question, the direct object in (21), *a hug*, moves from its position to satisfy the [wh] that is demanded of the interrogative clause, resulting in (22). The <*what*> seen in (22) represents the trace that is left behind after the direct object. (23) exemplifies that the clause would become ungrammatical if it were possible to insert a new element where the trace ought to be. It is important to note that when moving up the syntactic tree, the element in question moves no longer than required at a time, which can lead one element to leave more than one copy of itself (Chomsky 2015: 285).

### 2.3.3 Non-obligatory constituent movements

Thus far, most of the movement rules I have presented have been obligatory, to obtain the base structure of a language or a specific clause type. There are, however, other constituent movements that are not obligatory in any construction which might be applied differently across languages. These movements might help explain potentially unusual word orders found in a language. The following section is separated into movement which is visible in the syntactic tree (2.3.3.1) and movement that happens during the PF phase (2.3.3.2). It is important to note that it is possible for clauses to be subject to more than one of the non-obligatory constituent movements at a time. Meyer (2009) states that uncommon structures in languages are deemed marked. Although the constructions showcased in the following sections are acceptable in many languages, they might be perceived as marked, as the construction still deviates from the norm.

#### 2.3.3.1 Non-obligatory constituent movement before PF: Topic v. Focus

If the initial element of the clause does not match the expected initial element in a given language, this might be explained by topicalisation or focalisation. The [top] feature is short for topicalisation, which applies when the speaker fronts a constituent in order to provide a comment about the constituent. The [top] feature almost always targets noun-like constructions, although it can target verb-like constructions, although the verb alone cannot be topicalised. It is unique in that the feature it matches with is optional and a strictly semantic choice. A strong topical feature therefore probes the tree for a constituent with a similar topic feature and moves it into specCP. Though it is most likely possible for all languages to emphasise different constituents in the clause through the use of intonation, not all languages

have a strong topical feature. This means that not all languages move the topicalised element to the front of the sentence or clause.

Focalisation, in contrast, does not provide the listener with an emphasised element and a comment, but instead makes a distinction between information that the listener knows and does not know (Crystal 2008: 192–193). The focalised element in the clause is the new information, while the rest is already known information. Focalised constituents do not necessarily need to be fronted, as Crystal (2008: 193) illustrates:

(24) Mary, I liked.

(25) It was MARY who came to tea.

The two are not always easily distinguishable in written text, as Mary in (24) could have been a focalised element if the context had been appropriate. Such as, if a listener already knew that the speaker liked someone and believed it to be someone other than Mary, so that the speaker needed to clarify that it was Mary they liked.

### 2.3.3.2 Non-obligatory constituent movement during PF

It has been proposed that some non-obligatory constituent movements happen after spell-out. This section presents the optional movements most frequently associated with constituent movement during the PF stage. The following sections explore movement due to heavy NP shift as well as clitisation. Although not all movements which fall within these categories are necessarily deemed as movement after spell-out, the terms are discussed as a whole.

#### 2.3.3.2.1 Heavy NP shift

Clauses where a longer constituent is moved out of its usual position to the end of the clause can be explained as undergoing heavy-NP shift (HNPS), as illustrated by Ross (1986: 52) repeated here as (26), (27), and (28):

(26) He threw *the letter* into the wastebasket.

(27) \*He threw into the wastebasket *the letter*.

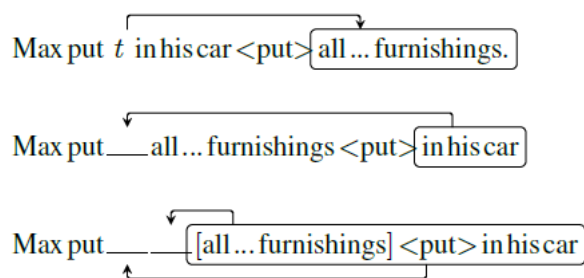
(28) He threw into the wastebasket *the letter which he had not decoded*.

HNPS is likely only a phonetical movement that happens after spell-out (see Section 2.1). Arnold, Losongco, Wasow and Ginstrom (2000) differentiates between two reasons for such



constituent movement: *heaviness* and *newness*. The term heaviness is used when the constituent is longer and potentially more complex than the other constituents in the clause (Arnold et al. 2000). Newness, in contrast, concerns information already known to the listener, with given information preferably being placed earlier in the utterance than new information (Arnold et al. 2000). According to Arnold et al. (2000: 51), both heaviness and newness are key factors in constituent movement. Liu (2018) tests the parsing processability of different clauses with HNPS by using Minimalist Grammar. The goal of the study is to evaluate three theories related to the topic to see which one holds up best. The three theories tested are: Ross' (1986) Rightward Movement of NP; Kayne's (1994) PP Movement analysis; Rochemont and Culicover's (1997) Remnant Movement analysis. Liu (2018: 404) illustrates these as follows:

(29)



The results of the study favoured the rightward movement of the NP, as proposed by Ross (1986), over the others. According to Rögnvaldsson (1982) and Thráinsson (2007), in English, it is only possible for direct objects to move due to HNPS. This is, however, not the case in Icelandic, which allows for subjects and, to some degree, indirect objects to move due to HNPS according to Rögnvaldsson (1982) and Thráinsson (2007). This illustrates that HNPS, as well as the length of the moved constituents, may vary across languages. This can be seen in Faroese, where, according to Indriðadóttir (2017), some speakers allow for direct objects shorter than the prepositional phrase to move past it.

### 2.3.3.2.2 Clitics

If object-medial constructions, such as SOV or VOS, are found in certain clauses where this is not expected, clitisation might be the cause of the object's movement. According to Crystal (2008: 80), a clitic is a small element that cannot stand on its own but is instead attached to another element in the clause, referred to as the host. Clitics can thus be claimed to be similar to HNPS in that movement happens due to the weight of the constituent in question. Klavans

(1985: 97) differentiated between clitics which either make a phonological or a syntactic attachment to the host. The cliticised element and the host do not necessarily have to inhabit the same projection if the clitic has a phonological attachment to the host. This is, however, not the case if the clitic is attached syntactically to the host, as illustrated by Klavans (1985: 97) in Figure 2.9:



**Figure 2. 9:** Clitisation with syntactic attachment v. phonological attachment from Klavans (1985: 97)

Cliticised elements can either attach themselves before or after the host. If the clitic is attached in front of the host, it is called a *proclitic*, while if it is attached after the host, it is called an *enclitic* according to Dixon (2007: 574). (30) is an illustration on a PF-enclitic according to Dixon (2007: 589):

(30) ‘The horse’s wild’

Clitisation is not the only movement operation which causes constituents to move up the syntactic tree. Thráinsson (2001: 149–154) studies the difference between object shifting in Icelandic and mainland Scandinavian and scrambling found in German. Thráinsson argues that the difference between these operations relates to what type of noun-like constituents can be moved out of their base position. Icelandic object shifting can move stressed, modified, and conjoined pronouns, as well as full NPs, but the verb in the clause must have an argument. In contrast, mainland Scandinavian only moves simple, unstressed, definite pronouns. Unlike either of these, it is possible to shift arguments of prepositions in German scrambling. Thráinsson (2001: 158) summarises the differences between the two movement actions, seen in Table 2.3:

	Scandinavian OS		GD Scrambling	
	<i>Icelandic</i>	<i>Other Scand. lgs</i>	<i>German</i>	<i>Dutch</i>
Moves full NPs	yes	no	yes	yes
Moves pronominal NPs	yes	yes	yes	yes
Moves PPs	no	no	yes	yes
Moves (secondary) predic. APs	no	no	no	no
Dependent main verb pos.	yes	yes	no	no
Moves to a low (VP-adj.?) pos.	yes	yes	yes	yes

**Table 2. 3:** *The difference between object shift and scrambling from Thráinsson (2001: 158).*

Thráinsson's (2001: 195) concluding remarks, based on observations by Alexiadou and Anagnostopoulou (1997), are that if the processes involved check the same elements, then they may not be different processes.

### 2.3.4 Embedded clauses

As illustrated in the previous section, different clause types carry different features which might result in different word orders. As a result, the data in Chapter 4 identifies which word orders are most dominant in different clause types. The data are separated into two main categories: main clauses and embedded clauses. For the main clause type, I distinguish between declarative, wh-interrogatives, and polar interrogatives. Considering that the main clause types, as well as the involved features, were discussed earlier in Section 2.3, these clause types are excluded from the following section. This section is dedicated to embedded clauses as these have yet to be discussed.

Hasselgård, Lysvåg, and Johansson (2013: 319) distinguishes between three types of finite embedded clauses: adjectival, adverbial, and nominal clauses. The clause types reflected in my data are relative clauses (adjectival), adverbial clauses, and nominal clauses in the form of that-clauses and indirect interrogatives.

That-clauses are a part of the nominal clause branch according to Hasselgård et al. (2013: 319). The clauses might function as the subject or object of a clause, but instead of being realised as a noun phrase, they are realised as embedded clauses. These clauses are headed either by the conjunction *that* (31) or a zero conjunction (32). Hasselgård et al. (2013: 329) states that the conjunction might be optional if the embedded clause functions as an object but is needed if the clause is situated in initial position of the sentence.

(31) He knew *that* tomatoes weren't a vegetable.

- (32) He knew [ ] tomatoes weren't a vegetable.  
 (33) *That* tomatoes weren't a vegetable were obvious to him.  
 (34) \*[ ] Tomatoes weren't a vegetable were obvious to him.

Indirect interrogatives are rephrased direct interrogatives realised as embedded clauses. This is illustrated in (35), where the clause, *what you ate yesterday*, is the indirect interrogative clause, headed by the interrogative pronoun *what*. (36) illustrates the direct interrogative version of (35).

- (35) I am asking *what you ate yesterday*?  
 (36) What did you eat yesterday?

Indirect interrogative clauses can be headed by the same interrogative pronouns as the *wh*-interrogatives as seen above. It is therefore not surprising to find object-initial clauses within this type of complement clause, as they should reflect the same type of pattern as *wh*-interrogatives. Indirect interrogatives might also be headed by *if* or *whether* according to Hasselgård et al. (2013: 331). Unlike the indirect interrogatives headed by a *wh*-pronoun, the indirect interrogatives headed by *if* or *whether* can be similar to polar interrogatives headed by an interrogative marker since they are unlikely to be object-initial due to it already being a constituent in the C domain.

According to Hasselgård et al. (2013), adverbial clauses usually function as adverbials in their respective matrix clause and are headed by a subordinating conjunction, such as *before*, *unless*, or *because*, as seen in (37)

- (37) *Because you couldn't disclose that information*, this will take some more time.

There are a wide variety of different types of adverbial clauses. It is worth noting that according to Haegman (2010: 628–629), both temporal and conditional adverbial clauses in English do not allow for object fronting. This means that both temporal and conditional clauses in English follow a subject initial structure.

Relative clauses are embedded clauses that give additional information about a previously mentioned noun phrase, such as (38):

- (38) The old man that lived in the green house.

Relative clauses are often headed by the relative pronoun *that*, as seen in (38), or by relative pronouns beginning with *wh*, such as *who* or *which*. Relative clauses might also be headed by null pronouns, such as (40) where the relative pronoun, *that*, seen in (39) has been omitted.

(39) The house that she bought is purple.

(40) The house she bought is purple.

Relative clauses similar to interrogative clauses and *that*-clauses are more restricted in their word order, but, as mentioned earlier, it is possible for a language's base word order to deviate from its surface structure. Relative clauses have therefore been included in the corpora searches to confirm the base structure of the languages in question.

## 2.4 Theory applied

Adger (2003) explains the variation between languages as differences in feature strength. Even though languages can share the same surface structure, their syntactic structure can vary due to the constituents placed on different nodes in the tree. This can be illustrated by studying English, Norwegian, and French, which are all SVO languages. However, the verb is placed in different domains in all of them. As a V2 language, the verb in Norwegian is presumably placed in  $C^\circ$ , while in French, it raises into  $T^\circ$ . In English, in contrast, it does not move at all besides the obligatory  $V^\circ$  to  $v^\circ$  movement. This section further illustrates this by showing how a difference in parameters can create a difference within the syntactic tree even through the surface structure of the different languages look similar. This section also highlights how parametric variation can create languages which are very distinct from each other.

### 2.4.1 SOV word order

SOV is the most common word order, with Japanese as the most frequently mentioned example. According to Eifring and Theil (2005), each specific set of word orders generally share similarities in how they are built up. According to them, SOV languages can often be identified by these criteria (Eifring and Theil 2005: 10–11)<sup>18</sup>:

(41) Noun + Preposition

Genitive + Noun

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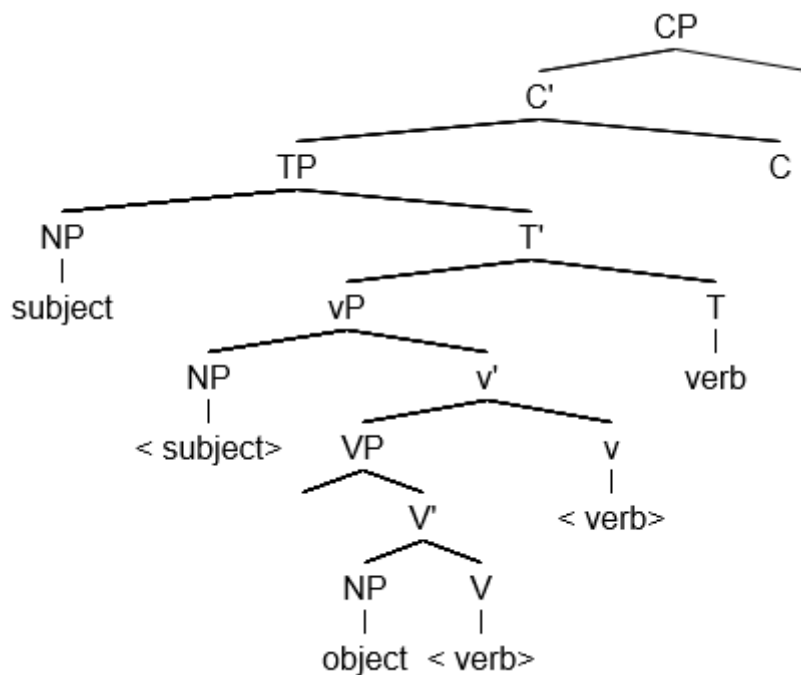
<sup>18</sup> This is not and cannot be used as a definite pattern for each word order, but it might be an indicator.

Verb + Auxiliary

Relative clause + Noun

Standard of comparison + Adjective

Figure 2.10 illustrates a left-branching syntactic tree, where the word order movements have taken place according to the parametric variations of Japanese as stated in Table 2.2. Auxiliaries have been left out of the structure, but the TP in Japanese carries a strong feature which forces auxiliaries to move if present. As there is no auxiliary in the derivation at this time, the strong tense feature that Japanese carries on  $T^{\circ}$  forces the verb to move from  $v^{\circ}$  into  $T^{\circ}$ .



*Figure 2. 10: Japanese word order structure*

As the figure illustrates, the subject moves from its base position in specvP into specTP to satisfy the strong EPP feature on T. Japanese, however, does not have strong declarative or [wh] feature. This means that the verb does not move any further up than  $T^{\circ}$ , nor does the wh-interrogative move out of its position into the CP domain in wh-interrogatives. It instead follows the following structure, as illustrated by Adger (2003: 367):

- (42) John-wa nani-o kaimasita ka?  
*John-TOP what-ACC bought Q*  
 What did John buy?

The object stays in its base position as the complement of the verb in *wh*-interrogatives in Japanese, unlike English, where it moves into the CP domain. In Japanese, there is seemingly an interrogative marker in the CP domain, *ka*. The topic feature is also weak in Japanese, meaning that even though a constituent is topicalised it does not move. As the figure clearly shows, a language can have an SOV structure without sharing the same parametric variations as Japanese, since left-branching structures, by default, follow an SOV order. Japanese would clearly still be an SOV language without the strong features forcing constituents to move upward the syntactic tree.

### 2.4.2 SVO word order

With regard to SVO languages, Eifring and Theil (2005: 11) illustrated the common composition of such languages by using English as an example, as seen in (43):

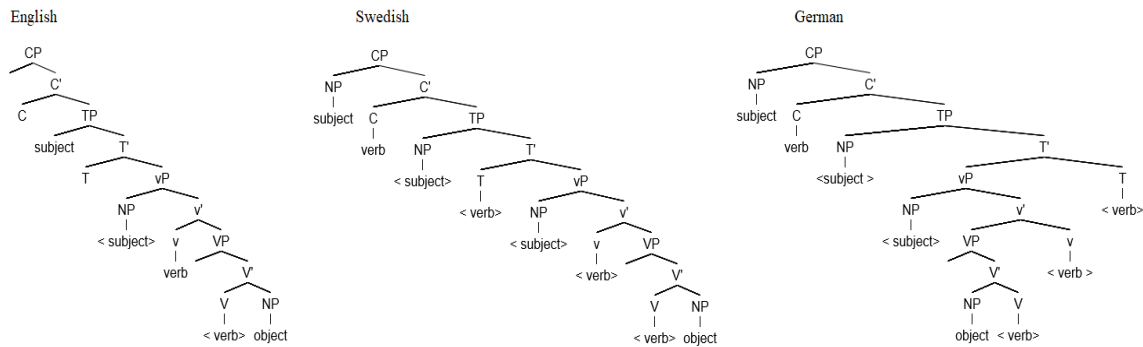
(43) Preposition + Noun (in the house)

Genitive + Noun (Tom's house) or noun + genitive (The house of Tom)

Noun + Relative clause (the cat that ate the rat)

Adjective + Standard comparison (better than Tom)

Declarative clauses in English, Swedish, and German can all follow SVO word order, but are structurally different. As in Section 2.4.1, none of the trees depict an auxiliary phrase, but in both English and German, the feature on T is strong, and the auxiliary would therefore move. This is not the case with Swedish. As seen in Figure 2.11, all the languages depicted have a strong EPP feature on  $T^{\circ}$  which makes the subject move. In English, the subject stops at  $\text{specTP}$  level, while in both Swedish and German the subject raises to the specifier of CP. This is assumed to be due to an EPP in the CP domain. Swedish, similar to many other Germanic languages, is a V2 language, which means that the verb raises into  $C^{\circ}$ . This becomes apparent as no other constituent can intervene between the subject and the verb. Adger (2003: 368) explains the verb raising to  $C^{\circ}$  due to a strong declarative clause type feature forcing  $T^{\circ}$  to move into  $C^{\circ}$ .



**Figure 2. 11:** English, Swedish and German syntactic trees with movement

As can be seen in Figure 2.11, German has a left-branching syntactic tree from  $T^{\circ}$ . This structure is apparent in embedded clauses but is not visible in the surface structure of declarative clauses. Unlike both English and Swedish, German carries a strong feature on  $T^{\circ}$ , forcing the verb to move from  $v^{\circ}$  into  $T^{\circ}$ . Like Swedish, the verb moves into the CP domain in declarative clauses to satisfy the strong [decl] feature. German's underlying SOV structure is apparent in complement clauses due to the placement of a conjunction in  $C^{\circ}$ . All of the three languages share strong [wh] features on  $C^{\circ}$ ; unlike Japanese, as seen in 2.4.1, these constituents are moved to initial position. It is important to note that German is not categorised as an SVO language nor an SOV language in WALS but is registered as having no particular word order. This illustrates that languages with one word order pattern within a specific clause type does not necessarily have to be categorised as having said word order.

### 2.4.3 VSO word order

Lastly, Eifring, and Theil (2005: 11) identified the word order structure of VSO languages as follows:

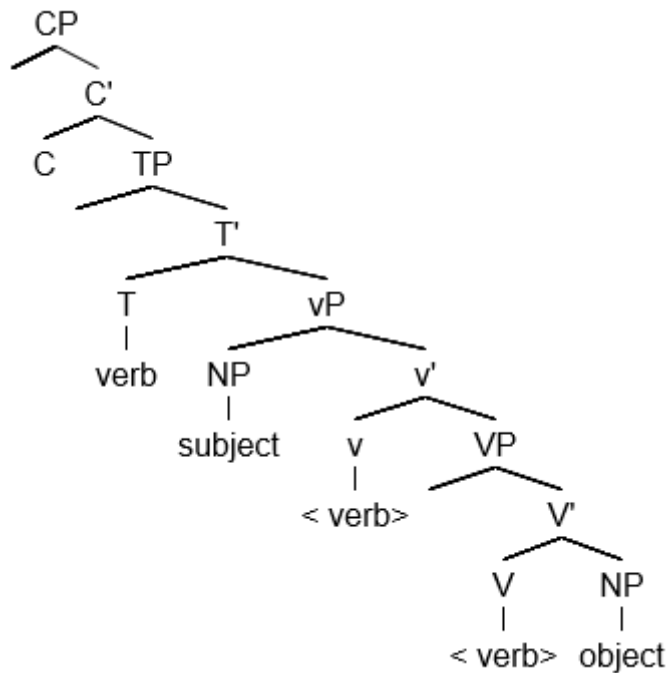
- (44) Preposition + Noun
- Noun+ Genitive
- Auxiliary + Verb
- Noun + Relative clause
- Adjective + Standard of comparison

Figure 2.12 illustrates that it is possible for a language to have a VSO word order when there is a weak EPP feature on  $T^{\circ}$ ,<sup>19</sup> but a strong tense feature on 'little'  $v^{\circ}$ , forcing the verb to move into  $T^{\circ}$ , as in Scottish Gaelic. If an auxiliary was to be present, it would be raised to  $T^{\circ}$

<sup>19</sup> Or alternatively no EPP at all. Since I operate with feature strength, I believe it to be more fitting in accordance with the Minimalist framework to deem it as either a strong or weak feature. Not as an optional feature.



instead of the verb, and the construction would have been as follows: Auxiliary + Subject + Verb + Object.



*Figure 2. 12: Scottish Gaelic syntactic tree*

However, Wh-interrogatives are not verb-initial since the [wh] feature is strong in Scottish Gaelic, as illustrated by Adger and Ramchand (2005: 6):

- (45) Dè a thuirt sibh a sgrìobh i?  
*What C-REL say we C-REL wrote she?*  
 ‘What did you say that she wrote?’

## 2.5 Summary

This chapter was dedicated to exploring the theoretical aspect used in this thesis. Initially, the Minimalist framework was introduced along with the Principles and Parameters framework which functions as the basis for identifying the parameters that govern the word order and movement rules governing English and Esperanto. As this thesis looks at the order of the subject, verb, and object in a transitive clause, the second section of the chapter was dedicated to word order typology by illustrating which word orders are most common according to WALS and how one can identify a language’s base word order. An in-depth explanation of the theory and important concepts used in this thesis was explored in Section 2.3. Section 2.4,

brings together the previous sections, by exemplifying the theory on word order patterns presented in Section 2.2

## Chapter 3:

### Methodology

This chapter provides information on the methodology behind the retrieval of the data used in this thesis. Two corpora searches were conducted, one for each language. Because word order is the subject of research in this thesis, corpora that envisioned the data as dependency trees were of utmost interest, as dependency trees show the relationship between the constituents in a clause. The English data are taken from the Georgetown University Multilayer (GUM) corpus. Both GUM and how the data were obtained is presented in 3.1. Section 3.2 is dedicated to the Esperanto data. The corpus used to obtain the data, Arbobanko, is presented in Section 3.2.1, as well as the methodology behind the data retrieval. Considering the lack of rules for word order in Esperanto, a survey was conducted to evaluate the acceptability of the different word orders found. Information regarding the survey can be found in Section 3.2.2.

#### 3.1 English data

The word order of English clauses has been widely studied. Therefore, this thesis does not aim to uncover new information with regard to word order patterns within the English data, but instead aims to illustrate tendencies in the distribution of word order patterns in English clauses. To determine these tendencies, a corpus search was conducted. This section is dedicated to the presentation of GUM, which is the database used to retrieve the English clause data. An overview of how the search strings were put together is also included at the end of this section.

GUM is used to retrieve the English data due to the nature of its data collection, its size, and range of possibilities when creating a search string. The data found in GUM are collected and parsed by students attending Georgetown University as a part of one of their courses.<sup>20</sup> GUM is comprised of 152,308 tokens from 168 different texts.<sup>21</sup>

I used the visualisation platform ANNIS to navigate and visualise the data from GUM as dependency trees. ANNIS allows users to build their own search strings based on pre-existing tag-sets within the “word sequence and meta information”-tab in the query builder.

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<sup>20</sup> <https://corpling.uis.georgetown.edu/gum/>

<sup>21</sup> The size of GUM was last checked on 30.09.21, this might change as the corpus is still in use.

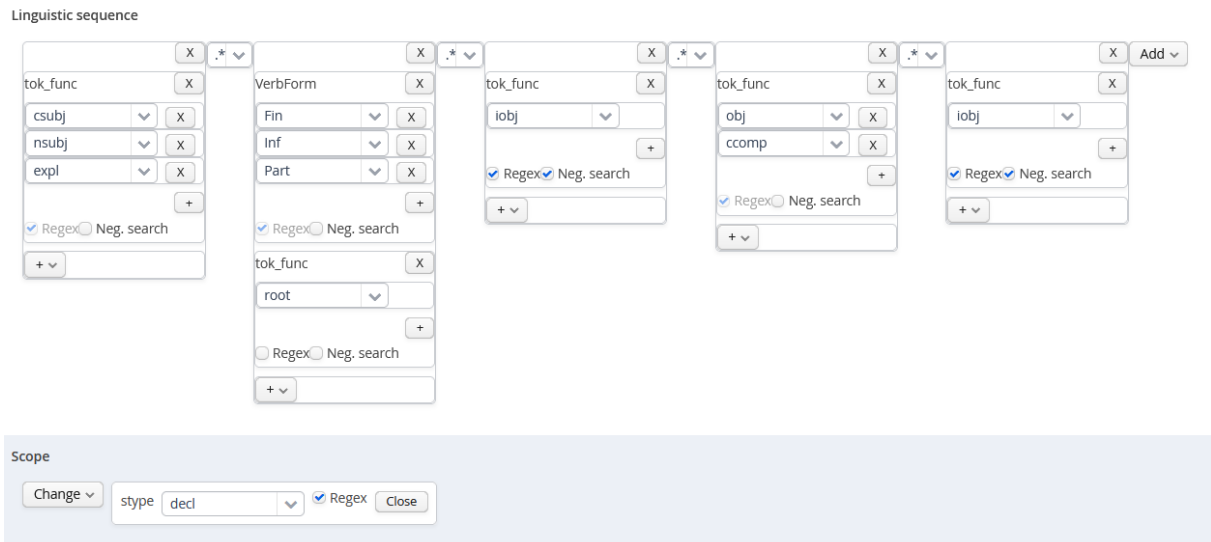
Within the query builder, it is also possible to specify the data for clause type. It is important to note that ANNIS allows the user to specify from when and where the data should be. This allows me to tailor the data to correspond better to the data found within Esperanto.

Unfortunately, the data strings where publication time and source were specified yielded significantly fewer hits. Consequently, neither the publication time nor source were included in the search strings to increase the possibility of obtaining a larger variety of word orders within the English dataset.

Word order	Search string				
<b>SVO</b>	Subject: [tok_func: nsubj, Csubj, expl]	Verb: [Verbform: Fin, Inf, Part], [tok_func: root]	IO: *[tok_func: iobj]	Object: [tok_func: obj, ccomp]	IO: *[tok_func: iobj]
<b>SOV</b>	Subject: [tok_func: nsubj, Csubj, expl]	Object: [tok_func: obj, ccomp]	Verb: [Verbform: Fin, Inf, Part], [tok_func: root]		
<b>OSV</b>	Object: [tok_func: obj, ccomp]	Subject: [tok_func: nsubj, Csubj, expl]	Verb: [Verbform: Fin, Inf, Part], [tok_func: root]		
<b>OVS</b>	Object: [tok_func: obj, ccomp]	Verb: [Verbform: Fin, Inf, Part], [tok_func: root]	Subject: [tok_func: nsubj, Csubj, expl]		
<b>VSO</b>	Verb: [Verbform: Fin, Inf, Part], [tok_func: root]	Subject: [tok_func: nsubj, Csubj, expl]	Object: [tok_func: obj, ccomp]		
<b>VOS</b>	Verb: [Verbform: Fin, Inf, Part], [tok_func: root]	Object: [tok_func: obj, ccomp]	Subject: [tok_func: nsubj, Csubj, expl]		

*Table 3. 1: word order search string in ANNIS for declarative clauses*

A search string for each of the six different word order typologies were created (see Table 3.1). Each of the search strings included the necessary elements in a transitive clause: subject, verb, and object. The search entry for SVO order (see Table 3.1) specified for the exclusion of indirect objects both before and after the direct object of the clause. Nevertheless, data with indirect objects were collected; as a result no further negative elements were included in the search strings. The element meant to represent the subject in the clause were specified according to function by the use of [tok\_function] under ‘Linguistic sequence’, as seen in Figure 3.1:



**Figure 3. 1:** SVO search string visualised in ANNIS

The elements representing the subject were further categorised as nominal subject [nsubj], expletive [expl], and clausal subject [csubj] so that a string which included any of the given elements would be included. Nominal subjects are realised as NPs, such as *the table*, *Daniel*, *the woman with the eyepatch*. Expletives coincide with either *there* or a dummy *it*. These are elements present in the subject position when the clause has no natural subject in English. Clausal subjects, however, are realised as clauses, as seen in (1):

- (1) [That she didn't do it] was the problem.

Clausal subjects and objects were included since they were present in the Esperanto data.

The verb in the clause was specified through the use of [VerbForm] under 'linguistic sequence', and further specified for finite verb [Fin], infinitival [Inf], and participle [Part]. It is also possible to specify for gerunds, but these were left out due to their noun-like qualities. Finite verbs are verbs that are in an agreement relationship with the subject of the clause and can be modified by number, as seen in (3). Gerunds are verbal constructions that act like nouns, such as *swimming* in (2). Infinitival verbs are the base form of a verb, such as *go* in (2), accompanied by the infinitive marker *to*. Both gerunds and infinitives are non-finite verbs, similar to participles.

- (2) Suzy wanted to go swimming.  
 (3) Annie is swimming now.

I also specified the verb for the root token function [tok\_func: root], so the search element would coincide with the main verb of the clause. The [tok:func]-filter used, was changed when searching for data from embedded clauses. This is due to the verb's function seemingly coinciding with the function of the clause, as the token function of the lexical verb in a relative clause was [tok\_func: acl:relcl], instead of [root].

Similarly, to the subject, the object was specified through the use of the token function, which was further classified according to object [obj] (4) and clausal complement [ccomp] (5).

(4) Lisa is reading [a letter].

(5) I said [that Lisa should read the letter].

In ANNIS, it is possible to categorise for the proximity of the elements in a search string. There are four different types of intervals to choose between: directly preceding [.] ; indirectly preceding [.\*] ; directly preceding or with one token in between [.1,2] ; preceding with one token in between [.2]. I decided to use indirectly preceding [.\*] as the interval for proximity of elements since there might be intervening adverbials in English or longer clauses which might be excluded if the intervals between the elements were too short.

Considering the data entries in ANNIS are often larger bodies of text, instead of single sentences, I also filtered each search string for clause type [stype]. This also prevents the search string from picking out constituents belonging to the previous or the following clause due to the length of the interval between search elements. There are eleven different clausal categories in ANNIS: declarative sentences [decl] ; fragments [frag] ; gerunds [ger] ; imperatives [imp] ; infinitives [inf] ; interjections [intj] ; multiple [multiple] ; other [other] ; questions [q] ; subordinate clauses [sub] ; wh-interrogatives [wh]. Some of the clause types were excluded since the data found within these clause types did not meet the criteria set by the thesis. These included fragments [frag], gerunds [ger], imperatives [imp], infinitival [inf], other, and interjections [intj]. The clauses found under the fragment clause type were mostly larger NPs or other larger phrase constructs without the necessary constituents. The same applied to gerunds [ger], interjections [intj], and other [other]. The constructions that fell within the multiple clause category were mostly conjoined clauses or clauses where one of the elements was realised as a clausal constituent and was therefore included. Ultimately, five different clause types were included in the corpora search. The [decl] clause type was used for declarative main clauses, while [wh] and [q] were used for the interrogative clauses. The

embedded clauses were checked against the [sub] category. All the search strings were also checked against the [multiple] clause tag.

Some of the search results showed several instances of the same entry. The results from each search string were therefore manually processed both to determine the accurate number of entries and to double-check that the entries found matched the criteria set for the thesis. I did this by examining the dependency trees for each of the clause entries, Figure 3.2 illustrates one such entry:

Displaying Results 1 - 10 of 251														
NNS	-LRB-	CD	-RRB-	,	WDT	MD	VB	DT	NN	IN	JJ	NNS	.	IN
environment	[	4	]	,	which	can	facilitate	the	mentoring	of	young	scientist	.	despite
NOUN	PUNCT	NUM	PUNCT	PUNCT	PRON	AUX	VERB	DET	NOUN	ADP	ADJ	NOUN	PUNCT	ADP
NN2	PUL	CRD	PUR	PUN	DTQ	VM0	VVI	ATO	NN1	PRF	AJO	NN2	PUN	PRP
conj	punct	dep	punct	punct	nsubj	aux	acl:relcl	det	obj	case	amod	nmod	punct	case

TEI markup (grid)  
 dependencies (UD)



**Figure 3. 2:** relative clause with SVO word order.

## 3.2 Esperanto data

The following section explains the methodology behind the retrieval of the Esperanto data used in this thesis. There are few resources in terms of databases for Esperanto. The database used in this thesis, Arbobanko, is introduced in 3.2.1. Subsequently, the conducted survey is described in Section 3.2.2.

### 3.2.1 Arbobanko

Arbobanko was the corpus used to obtain the Esperanto data. Similar to GUM, it is possible to view the data in dependency trees, which might minimise the chances of misinterpreting the data. Arbobanko is also manually parsed, which also might reduce the chances of error-prone data due to computer errors. It is comprised of 53,000 tokens, making it smaller than GUM.

The data is taken from the Esperanto newspaper, the *Monato News Magazine*,<sup>22</sup> gathered between the years 2000 and 2010.

I opted for using MaltEval<sup>23</sup> to visualise the data in dependency trees. MaltEval is a downloadable tree viewer. The data given were separated from each other by a clause ID indicating the beginning of the clause and an element at the end of the utterance symbolising the end. Some of the initial inputs were multiple clauses separated only by spaces in the dataset, without necessarily including the element signalling the beginning or end of a string, such as the clause ID and `</p>` missing in (6) when compared to (7):

(6) `<p. xml=id= "1">`

I [i] N nom

Like [like] V

Cheese [cheese] N acc

She [she] N nom

Likes [likes] V

Tuna [tuna] N acc

`</p>`<sup>24</sup>

(7) `<p. xml=id= "1">`

I [i] N nom

Like [like] V

Cheese [cheese] N acc

`</p>`

`<p. xml=id= "2">`

She [she] N nom

Likes [likes] V

Tuna [tuna] N acc

`</p>`<sup>25</sup>

---

<sup>22</sup> <http://www.monato.be/>

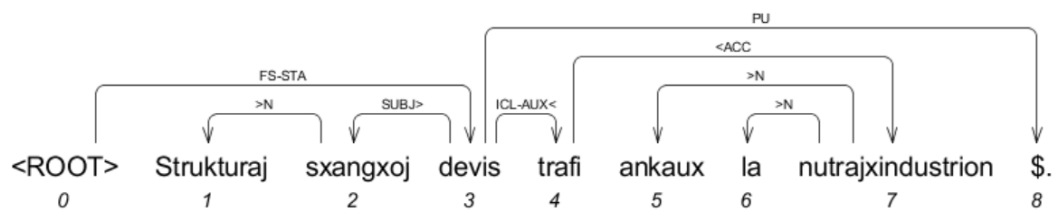
<sup>23</sup> <http://www.maltparser.org/malteval.html>

<sup>24</sup> This is not an accurate representation of the tag-set used in Arbobanko. The tag-set used above is a simplified version. The sentence are examples, not sentences found in Arbobanko.

<sup>25</sup> This is not an accurate representation of the tag-set used in Arbobanko. The tag-set used above is a simplified version. The sentence are examples, not sentences found in Arbobanko.



`<p.xml=id=x>` is the ID of the sentence, used to signal the beginning of an utterance, while `</p>` signals the end of the utterance. The two clauses above are not separated and would have been intertwined if put into MaltEval. *She likes tuna*, would have needed its own clause ID and *I like cheese* would have needed the end tag `</p>` to be parsed as separate clauses. Since the clauses in (6) were not separated, MaltEval were not able to read them as separate strings of text, but instead merged the trees into one tree making them illegible and incorrect. To be able to view the data as separate dependency trees in MaltEval, I first had to manually separate the sentences from each other by implementing start and stop tags. I resolved this problem by adding the clause ID at the beginning of a string of text and the `</p>`-tag at the end of the string, as seen in (7). The strings I separated from each other were already separated by a space in the original data. When running the Esperanto data through MaltEval, I was then able to view the clauses as dependency trees and evaluate them. Figure 3.3 illustrates an entry from the Esperanto data from Arbobanko visualised with its associated dependency relations through the use of MaltEval.



**Figure 3.3:** Data entry from Arbobanko in MaltEval.

Because this thesis evaluates the relationship between specific constituents within a clause, quite a few strings of data were omitted. According to the data, it is possible for Esperanto to have a clause without a subject, whether these are clauses naturally without a subject, as in (8), or the subject has been ellipted; thus, these have been excluded due to uncertainty surrounding the subject's position.

(8) Negxas

*It.is.snowing*

It is snowing

Other constructions without an explicit object were also omitted, such as clauses with a subject-verb-subject complement construction (e.g., *She is nice*) or subject-verb-subject

adverbial constructions. Constructions with more than two objects were omitted as well, as this might influence the place of the direct object.

The Esperanto data presented in this thesis and any other examples are written using the x-system. Some of the letters in Esperanto are written with diacritical marks. These marks are called circumflex and change the pronunciation of these letters. According to Gledhill (2000: 31) they only appear in combination with the letters c, g, h, j, s, and u, such as in *ĵurnalisto*, meaning ‘journalist’. The most common systems to use when leaving out the circumflexes are the h- and the x-system. The h-system leaves out the circumflex and instead inserts an h after the letter with the circumflex making it *jhurnalisto*. The x-system does the same but inserts an x instead, *jsxurnalisto*. Since the data are presented through the use of the x-system in Arbobanko, I use the x-system in this thesis and in the associated survey to keep representations of the data as close as possible to the original.

### 3.2.2 Esperanto survey

Considering the wide variety of speakers and the lack of rules with regard to word order present in Esperanto, a survey was conducted to evaluate learner’s acceptance of the different word order found in the dataset.

The survey was created using SurveyXact through the University of Agder’s webpage.<sup>26</sup> The survey was divided into two parts, a background questionnaire based on the Language Experience and Proficiency Questionnaire (LEAP-Q) by Blumenfeld and Kaushanskaya (2007) and a question section, in which the participants were presented with Esperanto clauses from the dataset and asked to evaluate them. The clauses in the survey were written using the x-system. The participants were informed about this in the introductory segment. If they were to write, they were asked to answer using the system they were most comfortable with, whether they used the x-system, h-system or by use of circumflex. Seven participants took part in the survey. The participants were all bilinguals, with Esperanto as their L2 found through reddit<sup>27</sup>. In the background questionnaire, the participants were asked standardised questions about gender and age. The participants were also asked to list the languages they knew in order of dominance and acquisition. The last section of the questionnaire related to Esperanto. The participants were asked to state at what age they

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<sup>26</sup> <https://www.uia.no/bibliotek/forskning-og-publisering2/surveyxact>

<sup>27</sup> <https://www.reddit.com/>

started to learn Esperanto as well as rate their own proficiency in speaking, understanding, and reading Esperanto. The clauses in the question section were all from Arbobanko and were all declarative clauses, with few instances with punctuation. Clauses with overly political content, medical terms, or unnecessarily difficult language were omitted. The participants were presented with six clauses, representing the different word orders. They were asked three questions per clause: whether or not they would have used the clause as it stood; whether they would have changed anything with the clause to make it more natural for them to use; what they would have changed it into if they answered yes to the second question.

### **3.3 Summary**

This chapter was dedicated to the methodology behind both of the corpus data retrievals, as well as the Esperanto Survey. The corpus used to retrieve the English data, GUM, were introduced in Section 3.1, along with how it is used and some of the data strings. Arbobanko, the corpus used for the retrieval of the Esperanto data were introduced in Section 3.2. Since Arbobanko is not an online corpus, I also explained how I changed some of the data strings to obtain readable clauses. The last part of Section 3.2, explained the methodology behind the survey used to check Esperantists' acceptability of some of the Esperanto data.

## Chapter 4:

### Data Analysis

The results from both of the corpora searches, as well as the Esperanto survey are presented in the following chapter. Section 4.1 is dedicated to the English data obtained from GUM. The data from Arbobanko as well as the data obtained in the survey are presented within Section 4.2. The results from the corpus search are located in Section 4.2.1, while the following Section, 4.2.2, presents the results from the survey.

#### 4.1 English

This section presents the English dataset and explores the different word orders found within it. As previously stated, English is an *SVO* language and does not allow for substantial variation in different constituent orders. This clearly holds true for my data as well though there were clearly instances of clauses which did not follow an *SVO* structure. These deviations are further explored in the following section.

##### 4.1.1 English dataset

An analysis of each of the word order constructions found in my data is presented in this section. As expected, *SVO* is the most frequently occurring word order, accounting for over 90% of the cases in declarative, adverbial, and complement clauses (Table 4.2 and 4.3) and approximately 88% overall (see Table 4.1). This is, however, not true for *wh*-interrogatives, where *OVS* constructions are found most often. It is therefore possible to state that although the majority of the clauses follow an *SVO* construction, this is not exclusively the case. The rest of the section is dedicated to analysing these. As the English data show little variety in terms of word order variations, the data are presented in sections related to their initial element, not according to their specific word order.

Word order	SVO	OSV	OVS	SOV	VOS	VSO	Total
Instances	1826	203	21	-	-	33	2083

Percent occurrences (%)	87.66	9.75	1.00	-	-	1.58	100
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*Table 4. 1: Combined English data independent of clause type*

Word order	Declarative		Polar interrogative		Wh-interrogative		Total
<b>SVO</b>	1076	99.72%	4	14.29%	4	9.52%	1080
<b>OSV</b>	3	0.28%	-	-	2	4.76%	5
<b>OVS</b>	-	-	-	-	21	50%	21
<b>SOV</b>	-	-	-	-	-	-	-
<b>VOS</b>	-	-	-	-	-	-	-
<b>VSO</b>	-	-	24	85.71%	15	3.57%	32
<b>Total</b>	<b>1079</b>	<b>100%</b>	<b>28</b>	<b>100%</b>	<b>42</b>	<b>100%</b>	<b>1146</b>

*Table 4. 2: English main clause data*

Word order	Adverbial clause		Relative clause		Complement clause				Total
					Indirect Interrogative	That-clause			
<b>SVO</b>	330	100%	251	56.53%	13	72.22%	153	100%	746
<b>OSV</b>	-	-	193	43.47%	5	27.78%	-	-	198
<b>OVS</b>	-	-	-	-	-	-	-	-	-
<b>SOV</b>	-	-	-	-	-	-	-	-	-
<b>VOS</b>	-	-	-	-	-	-	-	-	-
<b>VSO</b>	-	-	-	-	-	-	-	-	1
<b>Total</b>	<b>330</b>	<b>100%</b>	<b>444</b>	<b>100%</b>	<b>18</b>	<b>100%</b>	<b>153</b>	<b>100%</b>	<b>945</b>

*Table 4. 3: English embedded clause data*

#### 4.1.1.1 Subject initial word order: SVO

The data shown in Tables 4.2 and 4.3 are consistent with English having an SVO base structure. As previously seen in Tables 2.2 and 2.3, Adger (2003) gives a rendition of some syntactic parameters found in English. Parts of the table are repeated here as Table 4.4:

	Tense on aux	Tense on v	EPP on T	Decl on T	Wh on C
English	Strong	Weak	Strong	Weak	Strong

Table 4. 4: Adger (2003: 368)

As can be seen in Table 4.4, the subject moves into the specifier of TP, while one of the auxiliaries move from its base position in one of the auxiliary phrases into T°. If no other auxiliary is present in the clause, do-insertion is used in English interrogative clauses as well as in clauses with negation. (1) illustrates a declarative clause with two auxiliaries interrupted by the adverbial *probably*. Due to this adjoined adverbial, the auxiliary *be* must be placed in its base position in its auxiliary phrase. According to Dixon (2007: 579), the auxiliary *would* can be cliticised if it follows a consonant or a verb. This is not the case in (1), meaning that it is more likely a phonetic contraction of the subject and the auxiliary. Since the auxiliary is likely placed in T° to fulfil the strong tense feature there. As stated in Section 2.3, adverbials adjoins at the top of each phrasal projection level. An adverbial can therefore not intervene between the subject and the auxiliary in English if the auxiliary raises to T°. Similarly, to (1), it looks as though the auxiliary *wasn't* in (2) might have raised into T°, but it is possible for adverbial disruption between the two constituents, as can be seen in (3) where the adverbial *clearly* is situated between the subject and auxiliary, which suggests that constituents with attached PF-clitics do not necessarily raise into T°.

(1) You'd probably be having the cocktail at dessert time...<sup>28</sup>

(2) She wasn't wearing a mask<sup>29</sup>

(3) She clearly wasn't wearing a mask.

There were instances within the data where the subject of the clause was realised as a longer constituent, as seen in (4). The subject is still placed in initial position and in the specifier of TP in the syntactic tree. This fits with Rögnvaldsson (1982) and Thráinsson's (2007) reports of only direct objects undergoing rightward movement due to HNPS in English.

(4) [The humanitarian crisis in the horn of Africa, ecological disasters such as Fukushima, political development like the Arab spring and terrorist attacks such as the assault on the

<sup>28</sup> <https://corpling.uis.georgetown.edu/annis/?id=b4946e7e-4de2-4122-919e-610a50c80f3e>

<sup>29</sup> <https://corpling.uis.georgetown.edu/annis/?id=d6b8e7ac-3edf-4054-8ed6-fc3a82a1e017>

United Nations building in Abuja last August] require [concerted action by the United Nations and its Member States.]<sup>30</sup>

English has a strong [wh] feature on C<sup>o</sup>, which forces the target wh-constituent to move into the specCP. Though SVO was the second most used word order within wh-interrogatives, it was only used in 9.52% of the cases. The wh-interrogatives had SVO word order when the question was related to the subject of a declarative version of the clause, as can be seen in (5) and (6). Interestingly, cases of polar interrogatives with SVO word order were found in the data, as seen in (7). All of the cases were from oral speech, either from conversations or vlogs. Three out of the four cases lacked do-insertion, as seen in (7). There was only one case where the auxiliary of the clause did not move to C<sup>o</sup> in an interrogative clause, (8); though it is framed as a question, it might be a case of *High Rising Terminal* (HRT). This terminology is used to describe declarative clauses that end on a high pitch similar to interrogatives (Sando, 2009, 1).

(5) Who cut the grass?<sup>31</sup>

(6) Daniel cut the grass.

(7) You have a pencil?<sup>32</sup>

(8) And then you can see this little white line?<sup>33</sup>

SVO was the only word order found within complement that-clauses. As these clauses are initialised with the conjunction *that*, it was not surprising as there were no room for any other element to be moved into specCP (9).<sup>34</sup> As seen in Section 2.3.2, indirect interrogatives can both be headed by a wh-interrogative pronoun, as well as the subjunction *if* and *whether*. All the cases of indirect interrogatives following an SVO word order were headed by *if* (10), thereby explaining the frequency of the word order.

(9) I would agree wholeheartedly *that in certain contexts, this makes sense*.<sup>35</sup>

(10) I wondered *if I should kill it before then*.<sup>36</sup>

<sup>30</sup> <https://corpling.uis.georgetown.edu/annis/?id=31c20c01-2c6e-4a7a-a135-c865af4d3800>

<sup>31</sup> <https://corpling.uis.georgetown.edu/annis/?id=8abdb2f6-d5d4-4666-8b80-5904d781e64f>

<sup>32</sup> <https://corpling.uis.georgetown.edu/annis/?id=54ddae7b-f6a6-4704-a98f-c9a6fc574c8a>

<sup>33</sup> <https://corpling.uis.georgetown.edu/annis/?id=8b1df5b7-8ea7-4fe5-9f55-3f24f7b52be5>

<sup>34</sup> As per the Doubly-Filled-Comp-Filter (Riemsdijk and Williams (1986))

<sup>35</sup> <https://corpling.uis.georgetown.edu/annis/?id=392f7858-63a6-40dd-aa22-3eed227d08cb>

<sup>36</sup> <https://corpling.uis.georgetown.edu/annis/?id=452c4534-7dc1-4343-b669-3838f9002350>

Both of the clauses above are initiated with a conjunction situated in the C domain. It is clear because of the adverbial placed between the conjunction and subject in (11) that they inhabit different phrasal levels. It is therefore safe to say that the subject does not move higher than specTP, as the adverbial *in certain contexts* has adjoined atop the TP projection. Adverbial clauses were exclusively found with SVO word order. As stated in Section 2.3.4, both temporal and conditional adverbial clauses lack the flexibility for complement fronting (Haegman 2010: 628–629). Considering SVO was the only word order found, this suggests that other types of English adverbial clauses might show the same lack of flexibility as these. Since the adverbial in initial position functions as a conjunction and is therefore situated in the C domain and the subject of the clause is raised to specTP, there is no room for an intervening object, and the clause is therefore surprisingly not object-initial (11).

(11) ...whereas a nexus combines two ideas.<sup>37</sup>

#### 4.1.1.2 Object-initial word orders: OSV & OVS

OSV word order is the second most common in English, largely due to its presence in relative and indirect interrogatives. The high occurrence of relative clauses with object-initial word order is not surprising as relative clauses are often initiated with relative pronouns that correspond to the object of the clause, as seen in Section 2.4. The same is true for indirect interrogatives, as their structure can coincide with wh-interrogative clauses (see 2.3.2). This can be seen in (12), where the bracketed clause is an indirect interrogative, and *what* is marked as the object of the clause and is moved to specCP to satisfy the strong [wh] feature.

(12) But I speak to border guards and they tell us [*what* we're getting].<sup>38</sup>

The rest of the clause is structured similarly to a declarative clause, with the subject in specTP, auxiliary in T°, and the verb in v°. The indirect interrogatives do therefore not match in word order structure to either of the main clause interrogative clause types. As stated, wh-interrogatives and indirect interrogatives should be similar in structure, but the most common word order in wh-interrogatives were OVS and VSO, while indirect interrogatives were exclusively found with SVO and OSV. According to Rizzi (1990: 42), the placement of the verb in English wh-interrogatives as residual V2 means that the verb moves into C° similar to

<sup>37</sup> <https://corpling.uis.georgetown.edu/annis/?id=b0070b80-e2ce-4866-85b0-737e7dd84b11>

<sup>38</sup> <https://corpling.uis.georgetown.edu/annis/?id=a411fd6a-7c1d-40c5-a9ab-e8ffde140866>



other Germanic languages (see 2.4.2). With that in mind, it is not surprising to find OVS as the most common structure within wh-interrogatives (13). It is, however, surprising to find instances of OSV, as this suggests an abandonment of residual V2. (14) illustrates one of the wh-interrogative clauses found with OSV structure. The clause is from a conversation, which might explain the lack of do-support, as it is not grammatically correct. As illustrated in (15), do-support is needed for the clause to be grammatically correct.

(13) What did he say?<sup>39</sup>

(14) ?How many cards you have?<sup>40</sup>

(15) How many cards do you have?

Only two instances of declarative clauses were found with OSV word order. As stated in Section 2.3.1, object fronting due to topicalisation, or focalisation is a strictly optional movement. My data reveal nearly no use of either in English, but this might be due to the nature of my data. Both (16) and (17) reflect a fronted object due to topicalisation. Both of the objects are in these cases moved into specCP to satisfy the strong [top] feature.

(16) But, these shoes we never did put on a horse.<sup>41</sup>

(17) Williams, she guessed.<sup>42</sup>

Only the last two examples, as well as the wh-interrogatives with OSV word order, deviate from the pattern usually found within object-initial word orders in English. The deviations can, however, be explained by topicalisation, focalisation, or oral speech.

#### 4.1.1.3 Verb-initial word order: VSO

VSO word order was exclusively seen in interrogative or interrogative-like clauses: polar interrogatives, wh-interrogatives, and indirect interrogatives. This is due to residual V2 in English (see 4.1.1.2). Polar interrogatives are almost exclusively found with VSO word order, as there either occur SAI, as in (18), or do-support (19):

(18) Can you get these things done?<sup>43</sup>

<sup>39</sup> <https://corpling.uis.georgetown.edu/annis/?id=34578295-e6e4-453a-93cb-0fac8cf2491a>

<sup>40</sup> <https://corpling.uis.georgetown.edu/annis/?id=bff8f6e5-c631-4415-8ebd-532f6f1fa3b7>

<sup>41</sup> <https://corpling.uis.georgetown.edu/annis/?id=74cb1447-64c4-4ae7-b12a-6d894855b03f>

<sup>42</sup> <https://corpling.uis.georgetown.edu/annis/?id=0c151845-510c-46ce-bd2c-ed63b48dc1dd>

<sup>43</sup> <https://corpling.uis.georgetown.edu/annis/?id=630205ca-dd2a-4c30-a741-8df19da8e36b>

(19) Do they have a general sense of coolness?<sup>44</sup>

Both the auxiliaries in (18) and (19) are situated in  $C^\circ$ . *Can* moves from its base position into T and further into  $C^\circ$  to satisfy the strong [Q] feature. *Do*, however, is merged into  $T^\circ$  and then moved into  $C^\circ$  to satisfy [\*Q]. This pattern of auxiliary movement is also the reason for VSO's high occurrence in wh-interrogatives. Since I am strictly examining the order of subject, object, and verb, any clause with an initial adverb, such as (20) will be considered as verb initial.

(20) How can you tell whether they will or will not?<sup>45</sup>

The initial wh-interrogative in (20) is not marked as the subject nor the object, but as an adverb and the clause is therefore verb-initial according to the annotation system adopted in this thesis, which only examines the relative order of the subject, verb, and the object.

#### 4.1.2 Summary

The previous section showcased the different word orders found within the English dataset. The data did not deviate significantly from already known facts about English word order. The data showed that most of the clauses followed the SVO structure seen in Section 2.4.2. Other word order patterns were also found, but for the most part, these patterns mirrored the patterns expected for the clause type. A few instances where the interrogative clause did not follow the expected V2 pattern in English interrogatives were found. Although there were few instances, these entries showed a leniency towards V2-drop in oral speech from some speakers of English. The data showed overall few instances of non-obligatory movement in English.

#### 4.2 Esperanto

Currently, few studies have examined word order patterns in Esperanto, and none have investigated the underlying syntactic structure of Esperanto. Thus, I have decided to compare my overall word order findings to a data search conducted by Gledhill (2000) to see if my data shows the same tendencies as previously reported data. Parkvall (2010) have reported

<sup>44</sup> <https://corpling.uis.georgetown.edu/annis/?id=b15e8e00-255c-45bc-9bac-3b2f564cf60d>

<sup>45</sup> <https://corpling.uis.georgetown.edu/annis/?id=a2cf5af0-d23e-40a2-abff-f5a18e109d1a>

that Esperanto allows for a wide variety of word orders though SVO was the most commonly used. This was also found to be true in Gledhill's (2000) data search, presented in Table 4.5 below:

Word order	SVO	OSV	OVS	SOV	VOS	VSO	Total
<b>Instances</b>	705	258	27	51	3	1	<b>1045</b>
<b>Percent occurrences (%)</b>	<b>67.46</b>	<b>24.69</b>	2.58	<b>4.88</b>	0.29	<b>0.1</b>	<b>100</b>

*Table 4. 5: Gledhill's (2000: 87) data findings*

Word order	SVO	OSV	OVS	SOV	VOS	VSO	Total
<b>Instances</b>	1386	100	72	24	21	13	<b>1616</b>
<b>Percent occurrences (%)</b>	<b>85.77</b>	<b>6.19</b>	4.46	<b>1.49</b>	1.30	<b>0.80</b>	<b>100</b>

*Table 4. 6: My data findings*

As seen in Table 4.5, Gledhill studied 1,045 different clauses, where SVO is the most common word order with 705 tokens (67.46%). My data also show SVO to be the most frequent word order used, but by significantly more than in Gledhill's data (see Table 4.6). It is important to note that Gledhill's data is obtained by the use of Wordsmith, which takes its data from several sources (Gledhill 2000: 144). Considering this, Gledhill's data might involve a greater variation in clause types and, as a result, a greater variation in word order distribution. Both of our datasets did find OSV to be the second most common word order, but there was also a significant difference in occurrence (24.69 % vs. 6.19 %). As seen in Section 2.3.2, it is natural to have object-initial word orders within relative clauses, wh-interrogatives, and indirect interrogatives. If this is the case for Esperanto as well, mine and Gledhill's data might reflect a skewed distribution of clauses within these categories to account for the differences in occurrence. My results found OVS word order to be used more frequently than in Gledhill's findings (2.58% vs. 4.46%). SOV constructions are used more often than OVS structures according to Gledhill's data (4.88% vs. 1.49%). Though my data show more instances with verb-initial word order, the difference between my data and Gledhill's data with verb-initial word order is not significant. Gledhill found VOS to be used 0.29% of the time, while my data showed it being used 1.30% of the time. The usage of VSO was even more infrequent, as Gledhill found only one instance (0.1%), while my data showed it being used 0.80 % of the time. Despite the differences in distribution, both Gledhill and my

data show a similar trend towards verb-initial structures being the least preferred word order, as well as preferring structures where the subject and the verb are close to each other (SVO and OSV). SVO is by far the most preferred word order, suggesting that Esperanto might have SVO word order rather than free word order, as previously suggested as the predominant word order by Gledhill (2000: 87-88).

#### 4.2.1 Esperanto dataset

The overall word order tendency of Esperanto, independent of clause type, was presented in Section 4.2. As seen in Table 4.6, my overall data showed less variation between the word order types than earlier studies. This suggests that Esperanto is an SVO language although its syntactic structure remains unknown. As seen in 2.4.2, SVO languages might significantly differ from each other. This section presents each of the word order types and the different clause types in which they are found. The potential movement rules which govern them are also explained.

Table 4.7 below illustrates the word order distribution found in main clauses, such as declarative, and both polar and wh-interrogative clauses. Table 4.8 illustrates the word order distribution found in different embedded clauses, such as adverbial, relative, and complement clauses. The tables show a similar distribution across main and embedded clauses. According to the data in Tables 4.7 and 4.8, SVO is the most common word order configuration across all of the different clauses. This leads me to believe that it shares the same VO-structure within the syntactic tree as English, and the rest of the data will therefore be processed as such unless the data suggests otherwise. As mentioned in Section 2.4.2, it is possible to discern that German is an OV-language based on embedded clauses. Relative clause constructions are therefore included to identify any potential asymmetric patterns between main and embedded clauses which might reveal Esperanto's base word order. Given that SVO makes up over 80% of the word order configurations in relative clauses, Esperanto does not show any irregularities which suggest asymmetry between main and embedded clauses. Relative clauses are therefore not included when analysing the data.

Word order	Declarative		Polar interrogative		Wh-interrogative		Total
<b>SVO</b>	908	86.56%	16	100%	21	56.76%	945
<b>OSV</b>	49	4.67%	-	-	9	24.32%	59
<b>OVS</b>	48	4.58%	-	-	5	13.51%	53

<b>SOV</b>	16	1.52%	-	-	1	2.70%	17
<b>VOS</b>	17	1.62%	-	-	-	-	17
<b>VSO</b>	11	1.05%	-	-	1	2.70%	12
<b>Total</b>	<b>1049</b>	<b>100%</b>	<b>16</b>	<b>100%</b>	<b>37</b>	<b>100%</b>	<b>1103</b>

*Table 4. 7: Distribution of word order patterns in main clauses in Esperanto*

Word order	Adverbial clause		Relative clause		Complement clause				Total
					Indirect Interrogative		That-clause		
<b>SVO</b>	101	95.283%	240	81.63%	5	55.56%	95	88.79%	442
<b>OSV</b>	1	0.943%	36	12.25%	2	22.22%	3	2.80%	42
<b>OVS</b>	1	0.943%	15	5.10%	1	11.11%	2	1.87%	19
<b>SOV</b>	3	2.8301%	2	0.68%	1	11.11%	3	2.80%	9
<b>VOS</b>	-	-	1	0.34%	-	-	3	2.80%	4
<b>VSO</b>	-	-	-	-	-	-	1	0.93%	1
<b>Total</b>	<b>106</b>	<b>100%</b>	<b>294</b>	<b>100%</b>	<b>9</b>	<b>100%</b>	<b>107</b>	<b>100%</b>	<b>517</b>

*Table 4. 8: Distribution of word order patterns in embedded clauses in Esperanto<sup>46</sup>*

#### 4.2.1.1 SVO

As seen in Section 2.3.1, the base position of the subject of a transitive verb is in the specifier of vP, but the end position varies across different languages. In English, the subject moves into the specifier of TP to check the strong EPP feature on T°. In Norwegian, in contrast, the subject is supposedly forced to move into the specifier of CP to check the EPP feature on C°. As seen in Tables 4.7 and 4.8, Esperanto is mainly a subject-initial language; the question then becomes what the subject's trajectory in Esperanto is? And does the verb move into C° as in many Germanic languages, to T°, or does it stay in v°?

The overall clause data showed several instances of clauses with more than one verb, as can be seen in (21) with the string *emis lerni*. Considering the structure of the clause, it is uncertain whether, *emis*, functions as the auxiliary or the main verb of the clause with an

<sup>46</sup> For some of the clause types, especially within the embedded clause category, there are few entries which makes it difficult to say for certain if the results shows a tendency towards a certain type of word order distribution or not. When one has enough entries in one clause category, one would expect to see an exponential growth across all word order structures if more clause type data were added.

embedded infinitival clause functioning as the object of the clause. As with any other language, I assume that the verb in Esperanto moves from  $V^\circ$  to  $v^\circ$ , as per Roberts (1985) and Larsson (1988). Since it is an adverbial, *do nature*, adjoined between the subject and the verb, the subject must move out of its base position in specvP and into specTP for this to be possible. Due to this the verb can therefore not move higher than  $v^\circ$  unless the subject moves even higher up the syntactic tree than specTP, such as specCP.

- (21) Mi do nature ne emis lerni la francan...  
*I [so naturally not] to.feel.like to.learn the French-ACC...*  
 So, naturally I did not desire to learn French...

The question then becomes whether the subject only moves into specTP or into specCP as the subject in many Germanic languages do. There are examples of adverbials as introductory constituents in a declarative clause, but since an adverbial phrase can adjoin atop both projections such as the CP and the TP, this does not tell us much about the subject's location. The constituent order presented in (21) can be obtained if the subject moves into specCP and the verb moves into  $T^\circ$  or potentially stays in  $v^\circ$ . If the subject only moves to specTP, however, the verb must stay in  $v^\circ$ , as we have made the assumption that adverbials do not adjoin at intermediate levels of projections like  $T'$ . Since Minimalist theorists try to keep the theory as simple as possible, I assume that the subject moves no further than to specTP unless it becomes apparent that it moves into specCP. (22) further illustrates that the subject, *koalicianoj*, must move to a higher projection due to it being placed before the negation *ne*. Considering the size of the negation *ne*, it is a possibility that it is a clitic and has attached itself to the auxiliary, *estus*, and they both have moved into  $T^\circ$ . Another possibility is that *ne* is not a clitic. If this is the case, the auxiliary cannot move into  $T^\circ$  due to the intervening negation and must stay in its base position.

- (22) ... [se koalicianoj ne estus invadintaj Ikrakon]  
*...If coalitionists not to.be invading.pl. Iraq-ACC*  
 (laux la registaro: liberigantaj), "helpo» tia superfluus.  
*According.to the government: liberating), "help" such superfluous.*  
 If coalitionists had not been invading Iraq (according to the government: liberating),  
 such "help" would have been superfluous.

SVO word order was also the only word order found within polar interrogatives. These interrogatives are initiated with the interrogative marker 'cxu' in Esperanto. Since it is an interrogative particle, *cxu* is likely merged into  $C^\circ$  to satisfy [ $*Q$ ]. The rest of the clause has the same constituent structure as one would expect to find in a declarative clause (23). This stands in contrast with the structures seen for English clauses, as there is no verb movement due to residual verb-second.

- (23) Cxu vi havas la respondojn?  
 Int.part. you have the answers-ACC?  
 Do you have the answers?

Polar interrogatives make it clearer that the subject of the clause does not move above the T domain, as several of the clauses have showed adverbial phrases adjoined between the C and T domain and the adverb *eble* in (24) is situated between the interrogative marker and the subject *ni*. This example also clarifies that the lexical verb in the clause cannot raise into  $T^\circ$ , as the adverb *simple* is placed between the subject, situated in specTP, and the verb, as can be seen in Figure 4.1:

- (24) Cxu eble ni simple represu tiamajn  
 Int.Part Maybe we simply reprint of.that.time-pl.-ACC  
 artikolojn, se ja cxio ripetigxas, iel tiel?  
 articles-ACC, if surly everything repeat, somehow such?  
 Can we simply reprint the articles of that time if everything surely is repeated,  
 somehow?

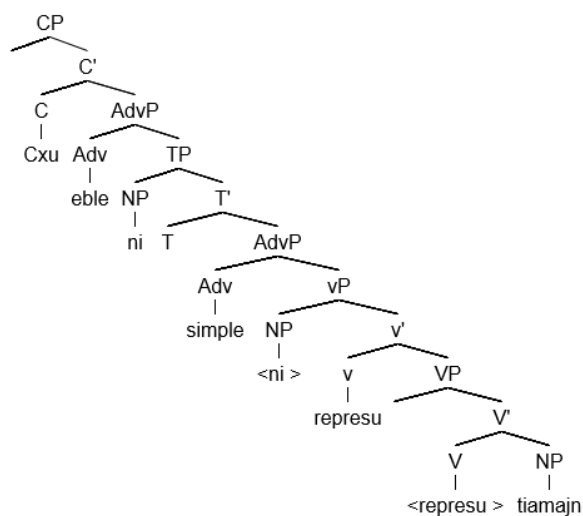


Figure 4. 1: Syntactic structure of (24)

One of the clauses stood out, as the interrogative marker was placed in the final position instead of the initial position (25). This structure is similar to interrogatives in Japanese where the interrogative particle is placed at the end of the clause (see example (5) in Section 2.1). As visualised in Section 2.4.1, the interrogative particles are placed in  $C^\circ$  in Japanese, but the orientation of the node is rightward resulting in it being read last. The clause originated from a conversation in a short story. This might suggest that these types of questions are acceptable in oral speech, but not in writing.

- (25) Do, vi denove instruas Esperanton, cxu?  
*So, you again teach Esperanto, Int.Part.?*  
 So, You teach Esperanto again, aren't you?

Wh-interrogatives were most commonly found with SVO word order. These clauses were in 16 out of the 21 cases initiated with a ki-interrogative word marked as an adverbial. Wh-interrogatives are seemingly similar in structure to polar interrogatives in that an adjoined adverbial between the initial adverb and the subject is possible, as seen in brackets in (26). This suggests that the adverbial phrase adjoins on top of the TP and that the subject is situated in specTP. The ki-interrogative for the remaining clauses was marked as the subject of the clause (27). This means that Esperanto shares the same strong [wh] feature on the CP level as English has, but not the  $T^\circ$  to  $C^\circ$  movement of an auxiliary.

- (26) Kial [dum tiu tempo] UN ne kreis komisionon?  
*Why during that time UN not created commission-ACC?*  
 Why didn't the UN create a commission during that time?

- (27) Kiu kutimis uzadi sportajn sxuojn?  
*Who used to.use sports-ACC shoes-ACC?*  
 Who used to use sport shoes?

SVO was the most common word order within all the represented embedded clauses. Both the adverbial clauses and that-clauses share structural similarities since both are introduced with constituents situated in the CP that do not count towards the subject, verb, object order of the clause. The subject in (28) and (29) must therefore be placed in specTP.

- (28) ...dum kvazauxa, giganta pugnobato frapis la muron.  
*...while seemingly, gigantic punch hit the wall-ACC.*



...while a seemingly gigantic punch hit the wall.

- (29) Dauxre li regurdas, [ke minimume 2900 blankuloj devos forlasi  
*Continuously he says, [that at.least 2900 white.person ought.to abandon*  
 siajn plantejojn.]  
*their.ACC plantations-ACC.]*  
 Continuously he says that at least 2900 white people ought to abandon their  
 plantations.

The indirect interrogatives found in Esperanto show the same pattern as the English indirect interrogatives namely that SVO is the most common word order followed by OSV. As seen in Section 2.3.4, indirect interrogatives are closely related in constituent order to their interrogative main clauses. Thus, the indirect interrogatives should either be object- or subject-initial depending on which on the constituents carries the [wh] feature. Most of the SVO clauses were initiated with an interrogative marker and were therefore similar in structure to polar interrogatives (30). Most of wh-initial indirect interrogatives were object-initial, there were, however, two cases found with SVO word order. The initial element in both cases was the adverb *kial*, as can be seen in (31). The adverb is situated in specCP since there is little to no variation within these clause types, further illustrating that Esperanto at its base has an SVO structure.

- (30) Sxi demandis, [cxu la lasta regino de Francio meritis la ekzekuton;]  
*She asked, whether the last queen of France deserved the execution-ACC;*  
 She asked, whether the last queen of France deserved the execution

- (31) Kiam li demandas ilin, [kial ili ne uzas gepatralingvan  
*When he asks them, [why they not use parental.language-ACC*  
 vorton anstataux moda germana esprimo...]  
*word-ACC instead.of fashionable German expression.*  
 When he asks them, why they don't use a word in mother tongue instead of a  
 fashionable German expression.

Similar to the other word orders, SVO was most frequently found in declarative clauses. This suggests that Esperanto at its base is an VO-language similar to English. It also shares many similarities in element structure with English, as shown by Eifring and Theil (2005). Both in English and Esperanto prepositions come before the noun in prepositional

phrases; the relative clause also follows the noun in both cases, and the auxiliary is mostly positioned before the main verb. All of these factors also support the hypothesis that Esperanto is a head-initial language.

#### 4.2.1.2 OSV

According to Gledhill (2000: 88), OSV constructions are usually preferred in interrogative clauses and are often initiated with a pronoun. Though there were more instances of OSV constructions found within declarative clauses, they were most frequently found in *wh*-interrogatives, ultimately supporting Gledhill's claim. Considering the nature of *wh*-interrogatives stated in Section 2.3, it is not surprising to find an object pronoun in initial position. This was the case for all the *wh* interrogative clauses found with an OSV word order, as seen in (32). The object of the clause was raised into *specCP* to satisfy [*\*wh*], while the subject presumably stays in *specTP* and the verb in *v*. Esperanto stands in contrast with English in that there is neither *do*-insertion nor auxiliary raising, (33), needed to satisfy a residual *V2*.

- (32) Kion vi celas?  
*What-ACC you mean?*  
 What do you mean?

- (33) Sed kion vi volis diri?  
*But what-ACC you wanted to say?*  
 But what did you want to say?

Because the object of the clause is merged as a complement of the verb phrase, it can never be moved into *specTP* to satisfy [*\*EPP*] in a transitive clause since the subject is situated before it in the *EPP*'s probe line. An object-initial clause structure is therefore only obtainable through topicalisation or focalisation (see 2.3.1). This is illustrated in (34), where the object, *parton de mi*, is moved into *specCP* to satisfy the optional [*\*foc*] feature.

- (34) Tamen parton de mi vi kunprenis.  
*Nevertheless a.part-ACC of I you to.bring.along.*  
 Nevertheless, a part of me you brought along.

Though OSV was the second most common word order, it was not particularly common within the different types of embedded clauses, which, in itself, is surprising because both relative clauses and indirect interrogatives are often object-initial; the object moves to satisfy the relative pronoun or *wh* interrogative (see 2.3.1). The two instances of indirect interrogatives found in the Esperanto data were introduced with a *wh*-interrogative. Since the initial element in a *that*-clause is most often the conjunction *that* or *ke* in Esperanto, as seen in (35), OSV word order is only obtainable by topicalisation or focalisation of the object (see 2.3.1), as can be seen in (35) where the object, *tiajn stultajn eraojn*, is focalised.

- (35) Ke pro manko de informiteco tiajn stultajn  
*That because.of lack of information such-pl.-ACC foolish-pl.-ACC*  
 erarojn nacilingve foje oni aperigas, jam estas  
*mistakes-ACC in.the.national.languague sometimes one publish, yet is*  
 Bedauxrinde, se en Esperanto-magazine tio vere  
*Unfortunately, but in Esperanto-magazine that really*  
 Ne estas akceptebla  
*Not is acceptable*  
 That because of a lack of information sometimes one publish such foolish  
 mistakes in the national language, yet it is unfortunate, but in an Esperanto  
 magazine that really is not acceptable.

My data suggest that the high frequency of OSV constructions in Esperanto can mainly be attributed to *wh*-interrogatives, indirect interrogatives, and relative clauses where this type of constituent construction is natural. This word order data does not support the hypothesis of free word order in Esperanto, as the movements are governed by specific contexts, rather than being random in nature. The object found in initial position within declarative clauses, adverbial clauses, or *that*-clauses are due to a focalisation or topicalisation of the object in the clauses. The landing site for the object is therefore the same in both optional and obligatory movements within OSV constructions.

#### 4.2.1.3 OVS

On one hand, Gledhill (2000: 89) found OVS word order to be uncommon in *wh*-interrogatives; my data, on the other hand, suggests that OVS structures were most frequently found within this clause type. OVS word order showed the same pattern of use as

OSV in that this word order configuration was most used in wh-interrogatives, indirect interrogatives, and relative clauses, which, as previously stated, are most often object-initial. This suggests that these OVS structures are OSV structures where the subject has been moved to the end of the clause due to HNPS (see Section 2.3.3.2.1). The OVS construction was found nearly as frequently in declarative clauses as OSV. In 28 out of the 48 instances, the subject was significantly longer than the object and likely moved due to HNPS, such as the subject in (36). The constituent structure in (36) is not possible in English, which is why it is translated as a passive construction. Not all of the subjects were realised as longer constituents; some instances were significantly shorter than or of similar length to the fronted object. In some of the cases, the moved subject were proper nouns, as is seen in (37). This leads me to believe that constituents in Esperanto might be moved to the end position for greater clarity of information (37). It is also possible to explain this pattern through Rizzi's cartographic CP theory (see Section 2.3.1) by stating that the focus phrase (*FocP*, see Figure 2.6) is right-branching instead of left-branching, and therefore appearing at the end of the clause. This might also hold true for the subject in the embedded clauses found, as neither of them were particularly long, as can be seen in (38), where the subject of the adverbial clause is in the end position. As constituents cannot Move down the syntactic tree, this movement must happen after spell-out and be a strictly phonetical movement. The subject is therefore still situated in specTP in the syntactic tree before spell-out and in LF.

(36) La arangojn de la unua festivala jaro cxeestis suficxe

*The arrangement-ACC of the first festival year attended enough*

da vizitantoj el diversaj sociaj tavoloj.

*Of visitors from various social-pl. stratum.*

The events of the first year of the festival were attended by enough visitors from various social strata.

(37) Gravan servon faris Gerrit\_Berveling per la traduko de tia kaj

*Important service made Gerrit\_Berveling with the translation of that.sort.of and*

tioma verko.

*So.much work.*

Gerrit\_Berveling made an important service with the translation of that sort of work and so much work.

- (38) *cxar grandan parton de gxiaj atingoj en la jura, arta, because big-ACC part-ACC of its research-pl. in the judicial, artistic, literature kaj filozofia kampoj influis la evangelia mesagxo... literary and philosophical fields influenced the evangelic message because a big part of its research in the judicial, artistic, literary, and philosophical fields influenced the evangelic message.*

The object in (36), (37) and (38) are moved to specCP due to a strong focus feature in both cases. As seen in 4.2.1.2, it is natural for both wh-interrogatives and indirect interrogatives to be object-initial. The subject was realised as a longer constituent than the object in only two of the wh-interrogative clauses, and the movement can be attributed to HNPS (39). The clauses where the subject was realised as either significantly shorter or of similar length to the object, the movement might be attributed to inversion of the subject, such as in (40).

- (39) *Denove kion faru mi, senpatra kaj senhelpa duonorfo? Again what-ACC do I, fatherless and helpless half.orphan? Again, what shall I, a fatherless and helpless half-orphan, do?*
- (40) *Kiujn lingvojn sciis Ludoviko Zamenhof? Which-pl-ACC languages-ACC knew Ludoviko Zamenhof? Which languages did Ludviko Zamenhof know?*

When excluding the clauses where the object was realised as a wh-pronoun and moved due to a strong [wh] feature, most of the objects were realised as longer constituents. In these cases, the object was likely fronted due to focalisation or topicalisation. This might also be the case in the declarative clauses where the object, *tion*, was realised as a fronted pronoun (41), but the object might also be a clitised pronoun, while the subject has moved due to HNPS:

- (41) *Tion iniciatis dekjara kompanio Gelvora, certa pri efiko de tiu That-ACC initiated ten.year company Gelvara, certain concerning effect of that metodo. method. That was initiated by a company of ten years Gelvara, certain concerning an effect of that method.*

As stated, OVS and OSV have similar movement tendencies, in that the object is fronted due to [\*top] or [\*foc]. What differentiates these word orders from each other is the

movement of the subject to a post-verbal position. This movement is, in most cases, likely due to HNPS. Not all cases fit within these frames as some subjects were significantly shorter than the object. Thus, I suggest that Esperanto, similar to Spanish, might allow for some post-verbal subjects (Lozano & Mendikoetxea 2008). Considering the small number of entries, this might also be due to language interference and might not be accepted by all Esperanto speakers. Regarding the entries where the subject and object were relatively similar in length, Indriðadóttir (2017: 132–133) states that Faroese allows for direct object to move past a following PP even though it is a shorter constituent. This might also be true for some constructions in Esperanto. Despite the movement of the subject, the syntactic tree resembles an OSV structure in most cases since the subject moves after spell-out. The only difference would be if the object attached itself to the verb as a clitic; then, the structure would have been read as SOV before spell-out, as the subject would be situated in specTP and the verb in  $v^\circ$ .

#### 4.2.1.4 SOV

According to Gledhill (2000: 88), more often than not, the object in SOV clauses is realised as a pronoun, but that this is a marked construction, as objects realised as pronouns are more common in SVO constructions. This might suggest that the object of the sentence is a clitic and has attached itself to the verb located in  $v^\circ$  (see 2.3.1). The objects were realised as a pronoun in 11 out of 16 of the declarative clauses in my data, which supports Gledhill's claim. There was one instance of adverbial disruption between the subject and the object (42), which is possible if the subject raises to specTP as discussed in 4.2.1.1. Two instances of disruption between the object and the verb (43) were also found. One of the instances was the negation *ne*, which might have attached to the verb as a clitic along with the object and ultimately not caused a disruption between the object and the verb (44), but since the verb is situated in  $v^\circ$  and the negation in negP, which is supposedly a projection located between the TP and vP, this should not be possible unless the verb moves to  $T^\circ$  or the action happened during PF. Another option is that *ne* is not a clitic, and that the object attaches itself to the negation in negP instead. Because the objects in both (42) and (44) are pronouns, *gxin* and *tion*, the SOV word order can be explained with clitisation. (43) can, however, not be explained using clitisation, as the object is too heavy to be a candidate for clitization. This can perhaps be explained through Rizzi's (1997) CP projections, as both topics and focuses can be situated in the CP string (see Figure 2.5).

(42) Oni simple gxin masakris.

*One simply it-ACC massacre.*

One simply massacre it.

(43) Kamaradoj kamaradojn erare mortpafas.

*Comrades comrades-ACC by.mistake to.shoot.dead.*

Comrades mistakenly shoot comrades.

(44) Sed la sorto tion ne volis.

*But the fate that-ACC not wanted.*

But fate did not want that.

Both adverbial and complement clauses were found to exhibit an SOV word order. In all except one of the adverbial clauses (45), the object was realised as a clitised pronoun. There were several instances of the negation ‘ne’ between the object and the verb, as seen earlier, which suggests that this is not an uncommon structure.

(45) Se la stultajxo de Blair gejunulojn politike provokas...

*If the foolishness of Blair young.people-ACC politically provokes....*

If Blair’s foolishness politically provokes young people...

The same goes for a wh-interrogative with an SOV word order. Though the object of the clause may not be realised as a longer noun, it is not a pronoun since it is the subject of the clause that moves into specCP to satisfy [*\*wh*], this might be a case of object fronting due to focus. The object would then Move from its base position into specCP. However, this cannot be the case in (45), as the adverbial conjunction is situated in C°, *se*, and the subject in specTP. A fronted object would therefore yield the word order OSV, instead of SOV. (45) and (46) might suggest that Esperanto allows for larger constituents than pronouns to clitise to the verb. (46) can also be explained by the use of Rizzi’s different CP projections (see Section 2.3.1). Both the subject and object would then be moved into their respective projection in the CP string. According to Rizzi (1997: 291), however, both the wh-constituent and focus-constituent are situated within FocP and can therefore not co-occur. It has been argued by Kiss (1998) and Hagstrom (2001) that some constituents can co-occur. This might therefore be the case in (46).

- (46) Kiu gasojn flaras?  
*Who gasses-ACC smells?*  
 Who smells gasses?

Most of the SOV constructions can be explained by a clitisation of the object. Nevertheless, there were three instances (43), (45), and (46) where the object of the clause likely did not move to attach itself to the verb. I propose two different theories as to why these constructions are possible in Esperanto. In clauses where the subject of the clause is moved into the CP domain due to a strong [wh] feature, the intervening object can be explained by a leniency towards which elements can be clitized or potentially through Rizzi's (1997) CP projection chain.

#### 4.2.1.5 VOS

As mentioned, VSO and VOS were the least common word orders found in both studies. According to Gledhill (2000: 88), both are marked word orders, usually found in fiction or poetry. There were 17 declarative main clauses with VOS word order found in the Esperanto dataset. In 13 of the clauses the subject was realised as a longer constituent, often as NPs with accompanying relative clauses or prepositional phrases (47) or coordinated NPs (48). This pattern suggests that the subjects move due to HNPS shift, as seen in Section 4.2.1.3.

- (47) En la tablotensia sekcio nun trejnas sin homoj de cxiuj agxoj.  
*In the table.voltage section now train themselves-ACC humans of all-pl. ages*  
 People of all ages now train themselves in the table voltage section.

- (48) Foje, laux viktimoj, kiuj sukcesis fugxi, trompis ilin  
*Sometime, according.to victims, who succeeded to.flee, deceived them-ACC*  
 ecx familianoj kaj proksimuloj.  
*even family.members and neighbours.*  
 Sometimes, according to victims, who succeeded to flee, even family members  
 and neighbours deceived them.

VOS is most commonly found in sentences taken from short stories (eight instances found in the data) but is also found in articles (six instances found in the data). Instances were also found in an essay (two instances found in the data), and one instance taken from *Taglibro*, in an account over monthly happenings. Since essays often feature informal writing and most of



the VOS data were from short stories, my data support Gledhill's (2000: 88) statement that VOS structures often appear in fiction. A pattern found in most declarative clauses can also be found within that-clauses, as the subject in these clauses were exclusively realised as longer constituents, as seen in the bracketed clause in (49). This leads me to believe that the VOS pattern can largely be explained through HNPS, which does not change the syntactic structure, as this movement happens after spell-out (see Section 2.3.1.2).

- (49) Raportite estas, [ke cxiujare mortigas sin en Cxinio 287.000 homoj] ...  
*Reported is, [that yearly kill themselves in China 287.000 people]...*  
 It is reported that yearly 287.000 people kill themselves in China...

- (50) laux mia memoro apogis lin en la revuo de UEA  
*according.to my memory supported he in the magazine of UEA*  
 sole Emilija\_Lapenna  
*solely Emilija\_Lapenna*  
 According to my memory, he was supported in the UEA magazine solely by Emilija Lapenna.

Similar to OVS, there were instances in which the subject was not realised as a long constituent (50); the subject might still be moved due to HNPS, but instead of being moved due to the weight of the constituent, it might be moved due to the newness of the constituent as argued by Arnold et al. (2000) as seen in Section 2.3.3.2.1. It is also possible to arrive at this type of word order with a proclitic object and a focalised verb. VOS constructions in Esperanto can therefore be explained by either HNPS or verbal fronting. In the first instance, the syntactic tree does not change as HNPS occurs after spell-out. In the latter, the verb and the cliticised object move into specCP due to [\*foc]. It is possible to obtain this structure without an object clitic, namely through topicalisation of the entire vP or VP, which also might be the case in (50).

#### 4.2.1.6 VSO

Despite there only being one instance of VSO word order among wh-interrogatives (51), it still holds the highest percentage (2.63%) occurrence compared to the other clause types. The highest number of occurrences were, however, found within declarative clauses (11, 1.05 %), as seen in (52), but due to the number of declarative clauses the percentage stays relatively

low. As seen in Section 2.1, Esperanto does not need a subject in the initial position, unlike English. It should therefore be possible to focalise a verb, which is likely the case in VSO constructions. Since the *wh*-interrogative sentence is headed by the adverb *kiel*, which is situated in specCP, it is therefore possible for the verb to move from its position in  $v^{\circ}$  into  $C^{\circ}$  to satisfy a strong focus feature. The question emphasises how the action was conducted, not the agent nor the theme of the clause. This might also be the case for the declarative clause in (52).

- (51) Kiel montris Avery, ke la genetika informo estis en DNA?  
*How showed Avery, that the genetic information was inside DNA?*  
 How did Avery show, that the genetic information was inside DNA?

- (52) Deziro gas Blair [blea] duan UN-rezolucion por pravigi sian.  
*Desires Blair [blea] second-ACC UN-resolution for to.justify his-ACC*  
 politikan starpunkton.  
*political-ACC standpoint-ACC*  
 Blair [blea] desires a second UN-resolution to justify his political standpoint.

Most of such clauses were spread across different samples from non-fiction writing, with three instances taken from a biographical article and most of the other data taken from Taglibro (see Section 4.2.1.5). Considering the nature of this type of text, it might not be as strict in what it allows as other longer bodies of text and may perhaps be more prone to focalisation. There were instances of clauses framed as direct speech, and at least one of them was taken from a novel. Due to the nature of Monato, the difference between my findings and Gledhill's findings might be due to a lack of fiction and poetry in my source material.

#### 4.2.2 Esperanto survey

As shown throughout Section 4.2, the Esperanto data show a wider range of word order configurations than the English data does. Some of these differences are due to specific clause constructions, such as object-initial word orders being common in *wh*-interrogatives. Some of the constructions are, however, not due to obligatory or clause specific movements, but rather due to non-obligatory constituent movement, –namely, topicalisation and focalisation, which happens before spell-out, and cliticization and HNPS, which are said to happen during PF, in most cases. This section is dedicated to assessing the acceptance rate of the different word orders. Though the Esperanto data show word order variety in all of the different clause types,

the survey only examined declarative main clauses. As mentioned in the introduction, Esperanto might be more prone to interference effects from the L1s of its speakers. This might lead to higher acceptability of sentences with structures similar to the participants' L1 or other languages that they have knowledge of. To some degree, this can be taken into account by comparing the word orders of the languages the participants know to their acceptability of a sentence. Due to the size of the participant pool, however, the participants' L1 and other known languages will be referred to by word order, not name.

The data from the survey showed insignificant variation with regard to the participants' gender and age; thus, taking the size of the participant pool into consideration, these factors were not included when analysing the data. The answers that the participants provided could be compared with their pre-existing language knowledge, to see if what they think is acceptable correlates with the word order knowledge they already possess. The word order information related to each language will, when possible, be based on which word order category WALS places them in. One of the participants' L2 was a language not located in WALS, because it is a constructed language; its word order was therefore based on articles describing the word order of the language.<sup>47</sup> All of the participants' first languages were languages which follow SVO word order. The same goes for the languages they rated themselves most dominant in. Over half of the participants also rated themselves as somewhat proficient in an SOV word order language. There were no instances of non-subject-initial languages present.<sup>48</sup> All of the participants also rated themselves proficient in English in addition to their proficiency in Esperanto.

As mentioned, the participants were asked to evaluate six different clauses which are repeated below. (53) represents a declarative clause following SVO word order. (54) is an SOV construction; since the object of the clause is a pronoun, it has likely attached itself to the negation as a proclitic considering the placement of the verb.

(53) Malmultaj konas tiun trian vojon.

*Little-pl. know that-ACC third-ACC roads-ACC*

Few know those three roads.

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<sup>47</sup> As mentioned, WALS uses declarative clauses as the base for word order structures in each given language. It is not stated which sentence type is the basis for the word order of the other constructed language. This might not be problematic, but worth mentioning.

<sup>48</sup> Considering the similarity of the participants language background their L1 interference, if present, might be quite similar in this instance.

- (54) Sed la sorto tion ne volis.  
*But the fate that-ACC not willed.*  
 But fate willed not that.

Both (55) and (56) are object-initial clauses. The object in (55), *cxuijn*, is likely a focalised constituent. Since (55) is a OSV construction, the subject and verb are likely placed in specTP and  $v^\circ$ , respectively. (56), in contrast, follows OVS word order and requires more than one movement operation. The object of the clause, *la arangxojn de la unua festivala jaro*, is likely topicalised. The object, as well as the subject, is a longer clause. The subject has probably been moved to end position due to HNPS.

- (55) Cxuijn oni forigis post la sekigxo de gluajxo.  
*All-ACC one removed after the drying of glue*  
 One removed all after the glue dried.

- (56) La arangxojn de la unua festivala jaro cxeestis suficxe  
*The arrangement-ACC of the first festival year attended enough*  
*da vizitantoj el diversaj sociaj tavoloj.*  
*Of visitors from various social-pl. stratum.*  
 The events of the first year of the festival were attended by enough visitors from various social stratum.

The last two clauses represent the two least used word order namely, VSO (57) and VOS (58). The verb in (57) has undergone  $v^\circ$  to  $C^\circ$  movement to satisfy a strong focus feature on  $C^\circ$ . Considering the length of the subject in (58), the VOS construction is likely due to HNPS of the subject.

- (57) Deziregas Blair [blea] duan UN-rezolucion por pravigi sian  
*Desires Blair [blea] second-ACC UN-resolution for to.justify his-ACC*  
*politikan starpunkton.*  
*political-ACC standpoint-ACC*  
 Blair [blea] desires a second UN-resolution to justify his political standpoint.

- (58) Frapis min la fakto, pri kiu mi gxis nun ne okupigxis.  
*Struck me-ACC the fact, concerning which I until now not concerned.*  
 I was struck by a fact which until now had not concerned me.

Table 4.9 shows how the participants evaluated each of the sentences in terms of acceptability:

Sentence with word order	Could use	Could not use/unlikely	Would swap into SVO	Would swap into SOV	Would swap into OSV	Would swap into OVS	Would swap into VSO	Would swap into VOS	Acceptability in terms of usage <sup>49</sup>
1) SVO	7	-	-	-	-	-	-	-	100%
2) SOV	5	2	5	-	2	-	-	-	71.43%
3) OSV	6	1	5	1	-	-	-	-	85.71%
4) OVS	3	4	4	-	1	-	-	-	42.86%
5) VSO	6	1	6	-	-	-	-	-	85.71%
6) VOS	6	1	2	-	-	-	-	-	85.71%

*Table 4.9: Sentence acceptability found in survey.*

All of the participants rated the SVO clause as a clause they could use and would not change. Consequently, the SVO word order the most accepted word order out of the six.

The second sentence follows an SOV word order. A few of the participants noted that they were unlikely to use or would not use the clause as it stands. Most of the participants deemed the clause usable, but that they would change it to make it more natural to use. One out of the five participants that stated they could use the clause as it stood, would not have changed the sentence at all. Most of the participants found the sentence more natural if it followed an SVO word order, one found OSV word order to be the most natural, and another stated that both SVO and OSV could be used<sup>50</sup>. There is seemingly a higher acceptance of topicalised constituents rather than clitisised constituents, potentially explaining why some of the participants found OSV word order to be more natural than SOV.

The third clause follows an OSV word order. Most of the participants stated that the clause could be used as it is but would have changed it into an SVO order to make it more natural to use. One of the participants stated they were unlikely to use the clause, and whether SOV or SVO would be the most natural variation were context dependent.

The fourth clause, OVS, was the least accepted clause, with only three of the participants deeming it usable. Out of the five participants who wanted to change the word order of the clause, most wanted to change it into an SVO word order, with the exception of

<sup>49</sup> This is based on whether or not the participants could use it (column 2 in Table 4.3), not if it necessarily felt natural (column 3).

<sup>50</sup> Due to this, the participant's answer is listen both under SVO and OSV.

one participant who wanted to change it into an OSV. This might be explained through more movements leading to less acceptability.

The second to last clause that the participants were asked to evaluate followed a VSO word order. Most of the participants concluded that the sentence could be used as is but would have moved the subject to the initial position, making the word order SVO for a more natural construction. One of the participants stated that they would have used both the S-V and V-S versions of the sentence interchangeably due to the nature of verb, but that SVO would have been more natural if another verb had been used.

The last clause follows a VOS word order. Almost all the participants agreed that the word order of the clause was usable, and only two of the participants would have changed the word order of the clause by moving the subject of the clause to the initial position. This suggests that HNPS is acceptable in Esperanto, supporting my previous statement that the OVS structure was less accepted due to more movement rules.

As mentioned, in terms of usability, SVO was the most accepted and OVS the least. This related to not only the clauses presented, but also what the participants wanted to change the clauses into overall. Only one of the two participants that wanted to front the object in the SOV clauses reported having previous proficiency in an OV-language. The participant who wanted to front the subject of the OSV clause did have previous proficiency in an OV-language, while the participant wanting to change the word order in the statement with OVS order into OSV did not report any previous proficiency in an OV-language. As mentioned in Section 4.2.1, both Gledhill and my study shows that word orders where SV are placed together tend to appear more frequently, potentially providing an explanation for this choice.

Considering the small size of the data pool, it is not possible to conclude anything with certainty, but since all of the participants were familiar with SVO word orders in their first or second language, a trend on acceptability of different word orders from speakers with SVO-heavy backgrounds may be observed. Most of the clauses were deemed as acceptable by over 70% of the participants. This suggests that the word order patterns are viable options in Esperanto and that there is high acceptability of non-obligatory movement as long as only one single movement occurs at a time. It is important to note, however, that the participants were introduced to the clauses without the surrounding context, which might have affected the acceptancy rate.

### **4.2.3 Summary**

Section 4.2 was dedicated to the Esperanto data found in my corpus search as well as to the data from the survey. As stated in Section 1.1, Esperanto seems to predominantly follow an SVO word order, a notion which my data supports. Similar to the English data, most of the deviations from SVO could be explained through different clause-specific constructions, such as *wh*-interrogatives mostly being object-initial. Esperanto did show acceptance towards non-obligatory movements, such as clitisation of the object and movement of the subject due to HNPS. The acceptance of such constructions was corroborated by the participants of the survey which rated most of the word orders usable with the exception of the OVS construction. This was perhaps the only construction where more than one non-obligatory movement was used, potentially contributing to its lack of acceptability to the participants.

## **Chapter 5:**

### **Conclusion**

In this thesis, I have examined the syntactic differences between English and Esperanto to illustrate potential parametric variations, which may account for their differences in freedom of constituent order. Chapter 1 introduced a roadmap for the thesis. The hypothesis and goals for the thesis were also presented. A Minimalist approach was used as the basis for the theoretical framework which was used to answer parts of the questions asked. An introduction to the Minimalist framework, as well as how it is utilised in this thesis, was presented in Chapter 2. Since this thesis studies constituency order in transitive clauses –namely, the order of the subject, verb, and object– a part of Chapter 2 was dedicated to word order typology. The methodology used when obtaining the data from the corpus and the survey data were presented in Chapter 3. Chapter 4 presented both the corpus data and the survey data, as well as explored and analysed the word order patterns found and possible derivations giving rise to these patterns.

This chapter is now dedicated to answering the hypothesis presented in Chapter 1. Scholars have stated that Esperanto –although SVO dominant– is a language with free word order (Parkvall 2010: 65). As a result, I expected the Esperanto data to showcase more entries with not only a wider variety of word orders, but also a more even distribution of word orders compared to English. As an extension of the first hypothesis, I assumed that if these data patterns were true, there would need to be parametric differences between English and Esperanto to account for this. Section 5.1 compares the results from the English and the Esperanto data to answer how the data were distributed and if there are parametric differences between the two languages. The section also answers whether the potential parametric difference can be attributed to the freedom of constituent order. Since several instances of non-obligatory movement were observed within the Esperanto data, Section 5.2 explores potential reasons for differences in distribution between English and Esperanto in relation to this phenomenon. Finally, Section 5.3 concludes this thesis.

#### **5.1 English v. Esperanto**



Chapter 4 presented the English and the Esperanto data and illustrated their syntactic structures. This section is dedicated to comparing the two languages to illustrate the potential differences and identify the parameters to answer the questions presented in the hypothesis.

I hypothesised that the Esperanto data would show a wider variety of word orders, but also a more even distribution between the different word order patterns than what could be found in the English data. Tables 5.1 and 5.2 illustrate the distribution of word orders found in Esperanto and English across different clause types. As can be seen in the tables, in most cases, Esperanto has a wider distribution of word order patterns than English does although it is not as evenly distributed as I hypothesised.

Word order	Declarative				Polar interrogative				Wh-interrogative			
	English		Esperanto		English		Esperanto		English		Esperanto	
<b>SVO</b>	1076	99.72%	908	86.56%	4	14.29%	16	100%	4	9.52%	21	56.76%
<b>OSV</b>	3	0.28%	49	4.67%	-	-	-	-	2	4.76%	9	24.32%
<b>OVS</b>	-	-	48	4.58%	-	-	-	-	21	50%	5	13.51%
<b>SOV</b>	-	-	16	1.52%	-	-	-	-	-	-	1	2.70%
<b>VOS</b>	-	-	17	1.62%	-	-	-	-	-	-	-	-
<b>VSO</b>	-	-	11	1.05%	24	85.71%	-	-	-	-	1	2.70%

*Table 5. 1: Combined data for English and Esperanto main clauses*

Word order	Adverbial clause				Indirect interrogatives				That-clause			
	English		Esperanto		English		Esperanto		English		Esperanto	
<b>SVO</b>	330	100%	101	95.28%	13	72.22%	5	55.56%	153	100%	95	88.79%
<b>OSV</b>	-	-	1	0.94%	5	27.78%	2	22.22%	-	-	3	2.80%
<b>OVS</b>	-	-	1	0.94%	-	-	1	11.11%	-	-	2	1.87%
<b>SOV</b>	-	-	3	2.83%	-	-	1	11.11%	-	-	3	2.80%
<b>VOS</b>	-	-	-	-	-	-	-	-	-	-	3	2.80%
<b>VSO</b>	-	-	-	-	-	-	-	-	-	-	1	0.93%

*Table 5. 2: Combined data for English and Esperanto embedded clauses<sup>51</sup>*

<sup>51</sup> The data from relative clauses have been excluded from this table as no new information about English and Esperanto word order were obtained.

Table 5.1 showcase a clear difference in word order distribution between Esperanto and English in polar interrogatives, where English has a larger distribution in word order patterns than Esperanto. The SVO pattern found within English polar interrogatives reflects an acceptance towards an irregular pattern within this clause type for some speakers of English. A majority of the entries within the different embedded clauses and the *wh*-interrogatives in Esperanto are consistent with the pattern naturally found within the clause type. The clauses which show the most evenly distributed word orders in Esperanto were found within *wh*-interrogatives and indirect interrogatives. *Wh*-interrogatives most commonly began with either a subject or an object, and the same can be said about indirect interrogatives. Interestingly, the *that*-clauses in the data shared a distribution in word order similar to that of declarative clauses, but with fewer entries within the word orders where topicalisation or focalisation was expected to be found. Since *that*-clauses are headed by a conjunction *that* situated in  $C^\circ$ , it is not surprising to find fewer fronted constituents. The largest similarities were found within the word orders where cliticisation or subject heaviness were at play. This can be seen as support for these non-obligatory movements. The results from the survey also supported this statement, as most of the word orders were deemed acceptable by the participants. It is worth noting that these non-obligatory movements do not apply to polar interrogatives although they, similar to *that*-clauses, have a constituent in  $C^\circ$  which is neither a verb nor noun-like, namely the interrogative marker *cxu*. The word order of polar interrogatives can therefore be seen as rigid in Esperanto. Although the data showed a wide variety of different word orders in Esperanto, the frequencies of each of these word orders were not as evenly distributed as I had expected, but it corroborates earlier statements about Esperanto being predominantly SVO.

The collected Esperanto data follow some of the patterns, which Eifring and Theil (2005: 11) deem consistent with SVO structured languages namely: the placement of the preposition before the noun and a noun before a relative clause (1):

- (1) ...tekston, kiu sxajne estis destinita por ili.  
 ...text, that seemingly is destined for they.  
 ...text, that seemingly is destined for them.

As stated in Section 4.2, the relative clauses in Esperanto did not show pattern consistent with an underlying syntactic structure similar to German, these patterns suggest that Esperanto is a left-branching languages similar to English. As stated in Section 2.1, the trajectory of the verb is from its base position in  $V^\circ$  into  $v^\circ$ , and, depending on the language, it moves from  $v^\circ$  into

T° to satisfy a strong tense feature and from T° to C° in V2 languages. As seen from the English parameters presented by Adger (2003: 368), the lexical verb raises no further than v° in English. As with the other languages presented in Chapter 2, it is assumed that the verb raises from its initial position in V° to v° due to the obligatory nature of this movement (Roberts 1985, Larsson 1988). I assume that this also holds true for Esperanto. Unlike in V2 languages, such as Norwegian and Swedish, in Esperanto, the verb cannot move into C° since the subject, in most cases, appears before the verb. This holds true even in clauses with topicalised or focalised constituents. The verb can therefore not move any further than v° in Esperanto.

As seen in Chapter 2, the base position of the subject is in the specifier of vP and the base position of the verb is in V°, but I assume it moves into v°, while the object is placed as a complement to V°. The auxiliary is placed after the subject in both English and Esperanto; thus, it is certain that the subject moves out of its base position in both languages. As seen in Section 2.3, it is possible for languages to have both a strong EPP on T° and on C°. Germanic languages with V2 patterns most likely have a strong EPP on C°, forcing the subject to move into specCP. As English and Esperanto show few instances of data with unmistakable V2 patterns. It is, therefore, no clear evidence supporting a strong EPP on C° in neither language. Polar interrogatives further illustrate that there must be a strong EPP feature on T° in Esperanto, similar to English, as the subject is the first element after the interrogative marker which is situated in C°, as seen in (2) and Figure 5.1:

- (2) Cxu vi havas la respondojn?  
 Int.part. you have the answers-ACC?  
 Do you have the answers?

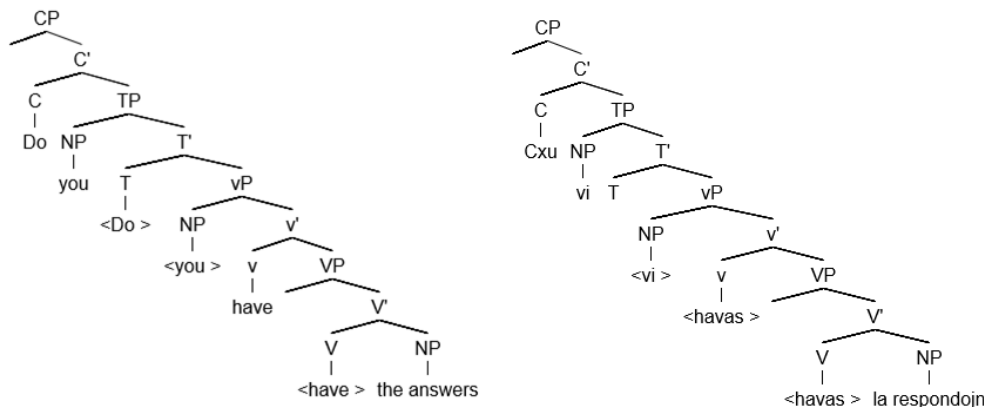
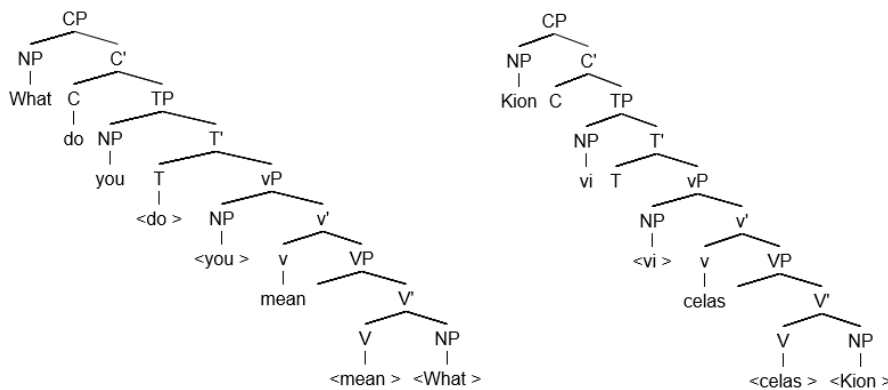


Figure 5. 1: English and Esperanto polar interrogatives, (2)

A substantial portion of the object-initiated clauses –namely, OSV and OVS– could be explained by obligatory constituent movement related to specific features, such as [*\*wh*] in *wh*-interrogatives or indirect interrogatives, or relative clauses. This was also true for the English data. The data reflect a strong [*wh*] feature present in the CP domain for both English and Esperanto. This feature forces a *wh*-constituent to move from its base position into *specCP*, as *kion* in (3). As Figure 5.2 illustrates, English and Esperanto deviate from each other in the sense that English requires an auxiliary in *C*<sup>o</sup> in interrogatives, while this is not the case in Esperanto.

- (3) Kion vi celas?  
*What-ACC you mean?*  
 What do you mean?



*Figure 5. 2: wh-interrogatives in English and Esperanto, (3)*

This is also the case for [*\*Q*], but it is fulfilled by different elements. The strong interrogative feature in English requires either an inversion of the subject and an auxiliary or *do*-insertion, which creates a VSO structure. The interrogative feature in Esperanto is, however, satisfied with the insertion of an interrogative marker. In all but one case, the interrogative marker was placed in the initial position, meaning that the branches in the CP domain lean towards the left, as they do in English.

There were, however, object-initial declarative clauses found within Esperanto, which could only be explained by optional movement rules, such as topicalisation or focalisation of an object or potentially focalisation of the verb with an attached proclitic. The English data showed no indication of verbal focalisation, and only a few instances of object fronting were

observed. Esperanto also allowed for clitisation of object pronouns which attached themselves to a host further up the syntactic tree, resulting in object medial constructions, such as SOV. Both (4) and (5) illustrate the object attaching itself to a host constituent namely: the lexical verb (4) and the negation (5).

- (4) Oni simple gxin masakris.  
*One simply it-ACC massacre.*  
 One simply massacre it.

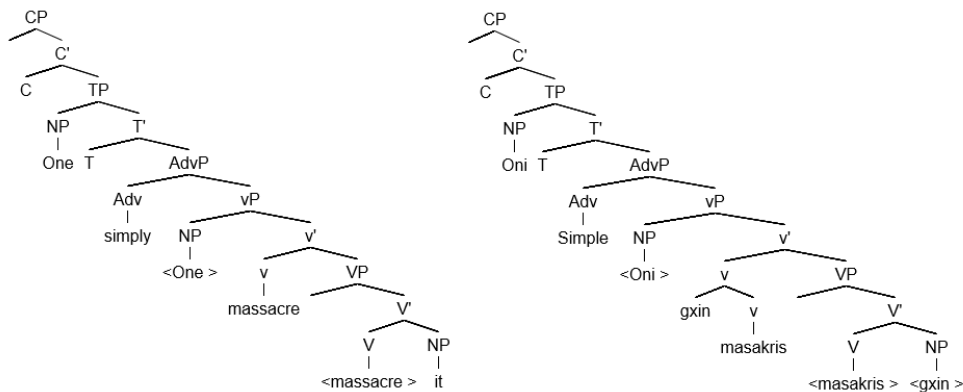


Figure 5.3: Esperanto clause illustrating clitisation of the object to the verb host, (4)

- (5) Sed la sorto tion ne volis.  
*But the fate that-ACC not wanted.*  
 But fate did not want that.

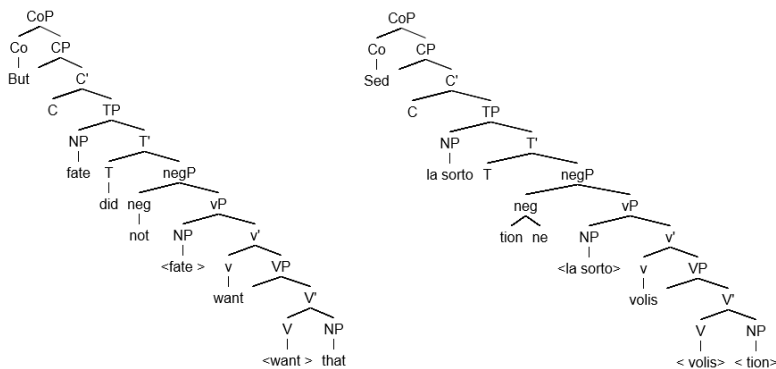


Figure 5.4: Esperanto clause illustrating clitisation of the object to the negation host, (5)

As I have illustrated, the subject must be situated in specTP, unless we assume a double EPP, both on C° and T°. Since the Minimalist framework is used in this thesis, I will not entertain this notion. (4) and Figure 5.3 illustrate that the lexical verb can move no further than v° in Esperanto, due to the possibility of adverbial adjunction between the subject and verb, and

due to the SV-pattern found in focalised or topicalised clauses. Following this reasoning, the negation, *ne*, cannot be a clitic in Esperanto since I assume that the object in (5) has moved due to cliticization as visualised in Figure 5.4. The participants acceptance rate also supports the validity of this object-negation structure (see Table 4.9). (6) further illustrates that *ne* cannot be a clitic as there is an adverbial, *nur*, situated between the negation and the verb, *volis*. The negation and the verb must therefore inhabit different projections since I have assumed that adverbials adjoin on top of a projection. If the reasoning presented thus far is sound, then the auxiliary in Esperanto cannot move out of its base position in its respective auxP, as the negation is situated before *estus* in (7). As illustrated in 4.2.1.1, English and Esperanto might deviate from each other in that it is possible with adverbial disruption between an auxiliary and the subject in Esperanto, while this is severely restricted and generally not possible in English. The auxiliary can therefore not raise into T°, as it does in English, but must instead stay in its base position. Although this thesis only studies transitive clauses, this pattern can also be found in intransitive clauses, such as (8) where the adverbial, *apenaux*, is adjoined between the subject and auxiliary.

(6) Sed Mortier *ne nur* volis sxangxi la teatran ejon.

*But Mortier not only want to.change the theatrecal-ACC room-ACC*

But Mortier did not only want to change the theatrical room.

(7) ... [se koalicianoj *ne estus* invadintaj Ikrakon]

*...if coalitionists not to.be invading.pl. Iraq-ACC*

(laux la registaro: liberigantaj), “helpo» tia superfluus.

*According.to the government: liberating), “help” such superfluus.*

If coalitionists had not been invading Iraq (according to the government: liberating), such “help” would have been superfluous.

(8) Hodiaux gxi apenaux estas parolata en pura formo ...

*Today it barely is spoken in pure form ...*

Today it is barely spoken in pure form...

As this thesis concentrates on transitive clauses, nothing conclusive can be said regarding whether Esperanto falls within the object shift or the scrambling category as seen illustrated by Thráinsson (2001) in Table 2.3. Esperanto seems to be able to move pronominal

NPs which is consistent with both Scandinavian object shift and scrambling. There was one instance which is consistent with full NP shift but considering the scarcity of the clauses following this pattern, it is unlikely to be the case. This pattern of pronominals shifting, but not full NPs, is consistent with object shift in some Scandinavian languages (Thráinsson (2001: 158). By Thráinsson's (2001: 156) account, object shift in Scandinavian is not possible if there is an auxiliary in the clause. My data shows no instances of SOV word order with a cliticised object and an auxiliary in the same clause, which might support the idea that the object movement action found in Esperanto is similar to Scandinavian shifting. The auxiliary rule in Scandinavian shifting might stem from the V2 rule, and as shown throughout this thesis Esperanto shows few instances of V2 pattern. The lack of clitic and auxiliaries within the same SOV clauses in both languages might therefore be a mere coincidence. English showed no instances of object cliticization in my data.

The subject-final word orders, such as VOS and OVS, could largely be explained by HNPS in Esperanto. This is, however, not possible in English as stated in Section 2.3.1. English showed no instances of VOS word order, but there were instances with OVS word order. These were not due to HNPS as most OVS entries in Esperanto, but rather due to *wh*-interrogatives. This is possible in English, as the object moves to satisfy [*\*wh*] and the verb moves due to residual V2. Esperanto shows little to no V2 pattern that I can identify. Overall, Esperanto, and English show many of the same placements within clauses with regard to obligatory movement within interrogatives, declaratives, and embedded clauses, with the exception of auxiliary movement.

Although the word order differences between English and Esperanto are not as significant as initially believed, the differences do, lead to one difference with regard to parameter setting, which partially support what I expected to see. When analysing the constituent order of each of the clauses in Esperanto, I found little variation between the two languages. The only difference between them seemed to be the tense feature working on the auxiliary (Table 5.3). Table 5.3 is based on earlier tables from Adger (2003), with the exception of the [Q] feature, which I have included. Although I have deemed the [Q] feature strong in both English and Esperanto, it is important to remember that the feature is not satisfied by the same elements. As seen in 2.3, the [Q] feature is satisfied by either *do*-insertion or SAI, while in Esperanto, it is satisfied by an interrogative particle. The implementation of [Q] in Table 5.3, can therefore be seen as an overarching feature with regard to polar interrogatives since the feature serves the same purpose in both languages.

Language	Tense on auxiliary	Tense on v	EPP on T	Decl on T	Wh on C	Q on C
English	Strong	Weak	Strong	Weak	Strong	Strong
Esperanto	Weak	Weak	Strong	Weak	Strong	strong

*Table 5. 3: Parameter settings for English and Esperanto*

The data do not support my hypothesis in its entirety; consequently, the difference in distribution of word order instances must therefore stem from something other than the parameter setting set by Adger (2003). As seen in Chapter 4, Esperanto allows for a greater variety in non-obligatory constituent movements, such as clitisation of objects and movement of the subject due to HNPS. The reason behind the greater acceptance of non-obligatory movement in Esperanto compared to English constitutes the question that naturally follows this observation.

## 5.2 Potential reasons for non-obligatory movement

Thus far, I have explored a variety of different movement rules in both Esperanto and English. As seen in Section 5.1, there is seemingly only one difference between English and Esperanto in parameter settings. The proposed difference in feature strength on  $T^\circ$  should not account for the differences found in word order variety between the two languages. Throughout Chapter 4 and in Section 5.1, I stated that some of the unusual word orders might stem from non-obligatory constituent movements, such as HNPS, clitisation, topicalisation or focalisation. As these are all deemed optional movements, it is essential to consider why Esperanto allows for more use of optional constituent movements than English. This is the question I will presently turn to.

The Esperanto data show significantly more entries with topicalisation or focalisation than the English data does; movement of the object to specCP due to topicalisation or focalisation is possible in both languages. The English data did not show it happening as frequently as in the Esperanto data. I argue that this might be due to the morphological case on the object in Esperanto in line with other scholars linking morphological case and free word order (Holmberg 1986: 214, Zabrocki 2016, 118). Another explanation might also be the nature of the datasets. The English data where the object was fronted were gathered from either fiction or oral speech, the difference in data findings might therefore be a result of differences in the distribution of data types instead of a difference in acceptance of



topicalisation or focalisation of an object. This is, however, not the case with focalisation of the verb or VP, as well as topicalisation of VP, all of which could only be found in Esperanto. English rarely allows for clauses without an overt subject in the initial position. The exceptions to the rule mainly have to do with polar interrogatives and imperative clauses. As illustrated in Section 2.1, Esperanto allows for clauses without overt subjects, which might be the reason for the difference in verb and VP raising.

Only transitive clauses were considered in this thesis, which means that the subject is always overt. Despite this, there might be a connection between the allowance of covert subjects and HNPS. As illustrated in 2.3.3.2.1, English allows for HNPS of constructions with direct object and prepositional phrases, as well as with direct object and indirect objects. It is not possible for subjects to move due to HNPS in English clauses, no matter how heavy the constituent is. This might be related to the need for an overt subject in English, as the clause would be verb-initial if the subject is moved. This is not the case in Esperanto, which also allows for shifting of the subject if it is heavy, as seen in Sections 4.2.1.3 and 4.2.1.5. This difference may be due to a difference in EPP type between English and Esperanto. Doner (2019) argues that there are different types of EPP which applies to different languages. According to the different EPP types presented by Doner (2019: 65), English falls in the DP-EPP (NP-EPP) category, due its implementations of expletives. According to Doner (2019: 141), it is difficult to contribute a similarity in EPP type to languages with similar null-subject patterns. It might therefore be difficult to state conclusively that the difference in subject placement in English and Esperanto is due to EPP type, but the difference in HNPS found in the two languages might be contributed to a difference in EPP type.

In Section 2.3.3.2.2, I differentiated between phonetic and syntactic clitics, and illustrated that English allows for clitisation. The data from Dixon (2007) illustrated that English allows for both proclitics and enclitics, but the illustrated clitics in English do not show movement similarly to the proposed clitised constituents in Esperanto. This might be attributed to the morphological case carried by the subject and object in Esperanto as opposed to English. Both Holmberg (1986: 214) and Zabrocki (2016: 118) states that languages with rich morphological cases allow for freer word order than languages without them. There is, however, a dissension between scholars as to whether rich morphological case alone can be the driving force behind object shift. Vikner (1994b: 502) argues that rich morphological markings cannot be the only driving force since only pronominals move due to object shift in Faroese, not full NPs. Some argue there is a difference in strength within case between different languages, which is the reason behind some constituents moving while others do not

(Holmberg and Platzack 1995: 173). Other linguists argue that these differences are due to historical changes within a language, such as English, which earlier had morphological case (Roberts 1997). Roberts (1997) proposes another parameter –namely, a case-feature– which can force the object to move before the verb, either checking the features and gaining a morphological case marker or check from afar if the parameter is weak, staying in its position behind the verb, and not gaining a morphological case marker (McFadden 2005: 63–64). Roberts (1997) proposed this as an explanation for the loss of OV structures in old English in favour of the now most common VO structure. As OV structures were commonly found in my Esperanto data, these structures could have been explained similarly to the English structures. As Esperanto has morphological case markings on the object, no matter which position it is in, Robert’s (1997) argument seems an unlikely solution, however. Others have also argued that case cannot be the reason behind the shift from OV to VO in English (McFadden 2005, Pintzuk 2002). Although Esperanto might have changed since its creation in 1887, the object shift found within Esperanto might be due to language interference or might be an argument for strong or weak morphological case. It has also been proposed that object shift might be a PF movement (Holmberg 1997), which would have left the object in its initial position in the syntactic tree. In addition to speakers learning Esperanto as a second language, there are also native speakers of Esperanto (Karlsson 1994). A few studies have been conducted related to potential differences between native and non-native Esperanto (Bergen 2001). Bergen (2001) studied the Esperanto spoken by bilingual children and found that the accusative marker was sometimes left out by the children that spoke languages without morphological case markers. According to Bergen (2001), the data also show a tendency towards a more SVO fixed word order. This can be seen as support for my previous statement, namely that the higher acceptability towards optional movement being due to morphological case or at least being a contributing factor. This evolution might also explain the differences in word order entries between my dataset and Gledhill’s.

I argue that some of the patterns which were difficult to explain might be due to language interference. As stated in Section 1.1, there is consensus that languages one learns earlier in life further influence the acquisition of new languages. There are, however, different theories as to how much they interfere and how proficiency of L1 and L2 affect that interference (Williams and Hammarberg 2009, Lorenz, Bonnie, Feindt, Rahbari and Siemund 2019). This may also be the case for Esperanto, as Janton (1993: 73) states:

*Today, it is perfectly reasonable to argue that Esperanto syntax allows Japanese speakers to render ‘the dog saw the cat’ as la hundo la katon vidis or Arabic*

*speakers to say vidis la hundo la katon, just as they would in their own languages, as long as rules of clarity and comprehensibility are observed.*

As an extension of interference from other languages leading to different word order patterns in Esperanto, it is important to consider that English might be a factor in the prominence of SVO word order pattern in Esperanto. Since English is widespread and accessible to most people around the globe, the SVO pattern found within Esperanto might be due to the influence of English. SVO is also one of the most used word orders within declarative clauses according to WALs (see Table 2.1); This may also be a factor. Interestingly, the Esperanto declarative clause data does not match the data from WALs (see Table 5.4). This suggests that the word order pattern found in Esperanto is not likely exclusively due to language interference.

Word order distribution in Esperanto declarative clauses		Word order distribution around the globe (WALS)	
SVO	86.56%	SOV	47.51%
OSV	4.67%	SVO	41.11%
OVS	4.58%	VSO	8.00%
SOV	1.52%	VOS	2.11%
VOS	1.62%	OVS	0.93%
VSO	1.05%	OSV	0.34%

**Table 5. 4:** Comparison of word order distribution.<sup>52</sup>

The data from the Esperanto survey conducted showed that most of the participants preferred the SVO word order in most cases (see Table 4.9), suggesting some degree of interference. There were, however, instances which do not support such a finding. As there were few participants and no in-depth inquiry into the word order patterns of the participants' grasp of other languages, it is difficult to state anything conclusive. My data show that there is a possibility that Esperanto is subject to cross-linguistic interference, but further studies on the subject are needed to make any conclusive statement.

### 5.3 Conclusion

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<sup>52</sup> The data from WALs is taken from table 2.1, but the languages which lacks a dominant word order have been excluded for simplicity.

The goal of this thesis was to identify and compare transitive word order patterns in Esperanto and English on the basis that they are both considered IALs but regarded as different in their freedom of constituency movement. The analysis of the retrieved data was used to answer which parameters governed each language based on the parameters explored by Adger (2003: 368). These parameters were further used to identify which movement rules applied.

There was a larger variation of word order patterns found in Esperanto compared to English. The word order configurations were not as evenly distributed as hypothesised, but Esperanto showed an overwhelming tendency towards SVO, which is also the most common word order in English. When analysing the data, the word order patterns revealed little difference between the two languages with regard to parameter settings. According to my findings, the only difference between the two languages, with regard to the parameters proposed by Adger (2003: 368), is a difference in the strength of the tense feature working on the auxiliary. A weak tense feature working on the auxiliary should not result in anything but greater freedom with regard to adverbial placement and cannot account for the differences in word order patterns found.

Some of the differences found can be explained through clause-specific obligatory movements, such as the [Q] feature. English and Esperanto share a strong [Q] feature, but it is fulfilled through different constituents, which results in English polar interrogatives having predominantly VSO patterns, while those of Esperanto follows an SVO pattern. Other dissimilar patterns can only be explained by non-obligatory constituent movements. The main syntactic difference between English and Esperanto is therefore not a difference in parameters in narrow syntax, but rather a difference in acceptance of object and subject movement, largely due to clitisation and HNPS.

In the previous section I argued that movements due to HNPS might be explained by a difference in EPP type, in accordance with Doner (2019), allowing Esperanto to have a covert subject compared to English. Roberts (1997) argued for a loss of morphological case to be the reason behind English losing its OV pattern in favour of VO. I proposed rich morphological case to be the reason for Esperanto allowing for freer placement of constituents within a clause, specifically, movement of the object due to clitisation. As stated, Robert's (1997) argument have been refuted by several scholars, which have concluded it unlikely that morphological case can be the sole reason for loss of OV in English (Pintzuk 2002, McFadden 2005). Naturally, the loss of OV in English does not necessarily exclude rich morphological case from being a factor of clitisation in Esperanto, but it makes it difficult to state conclusively that it can be the sole factor. More research and comparative studies are

needed to state more conclusively whether the difference between word order patterns in English and Esperanto can be attributed to a difference in EPP type and rich morphological case.

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	_____	
	_____	
	_____	
5	_____	
	_____	
	_____	
	_____	
	_____	

4. Please list all the languages you know in order of acquisition

1	_____	
	_____	
	_____	
	_____	
	_____	
2	_____	
	_____	
	_____	
	_____	
	_____	
3	_____	
	_____	
	_____	
	_____	
	_____	
4	_____	
	_____	
	_____	
	_____	
	_____	
5	_____	
	_____	
	_____	
	_____	
	_____	

5. At what age did you start learning Esperanto?

_____
_____
_____
_____
_____

6. On a scale from zero to ten, please select your level of proficiency in speaking, understanding, and reading Esperanto

Speaking	_____	
	_____	
	_____	
	_____	
	_____	
Understanding	_____	
	_____	
	_____	
	_____	
	_____	
Reading	_____	
	_____	
	_____	

<hr/> <hr/> <hr/>	
<p>The next section is the question section.          You will be presented with a sentence and asked to evaluate it.          As mentioned the sentences are taken from Arbobanko. In Arbobanko the sentences were written using the x-system and to limit the possibility of compromising the data, I have decided to keep them in their originality.</p>	
<p>(1) Malmultaj konas tiun trian vojon.</p>	
<p>(1.a) Could you have used the sentence as it is?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(1.b) Would you change the word order in the sentence in order to make it more natural for you to use?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(1.c) If yes in 1.b what would you have changed it to?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(2) Sed la sorto tion ne volis.</p>	
<p>(2.a) Could you have used the sentence as it is?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(2.b) Would you change the word order in the sentence in order to make it more natural for you to use?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(2.c) If yes in 2.b what would you have changed it to?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(3) Cxiujn oni forigis post la sekigxo de glujxo.</p>	
<p>(3.a) Could you have used the sentence as it is?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(3.b) Would you change the word order in the sentence in order to make it more natural for you to use?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>
<p>(3.c) If yes in 3.b what would you have changed it to?</p>	<hr/> <hr/> <hr/> <hr/> <hr/>

<p>_____</p> <p>_____</p> <p>_____</p>	
(4) La arangxojn de la unua festivala jaro cxeestis sufcixe da vizitantoj el diversaj sociaj tavoloj.	
(4.a) Could you have used the sentence as it is?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(4.b) Would you change the word order in the sentence in order to make it more natural for you to use?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(4.c) If yes in 4.b what would you have changed it to?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(5) Deziregas Blair [blea] duan UN-rezolucion por pravigi sian politikan starpunkton.	
(5.a) Could you have used the sentence as it is?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(5.b) Would you change the word order in the sentence in order to make it more natural for you to use?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(5.c) If yes in 5.b what would you have changed it to?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(6) Frapis min la fakto, pri kiu mi gxis nun ne okupigxis.	
(6.a) Could you have used the sentence as it is?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(6.b) Would you change the word order in the sentence in order to make it more natural for you to use?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
(6.c) If yes in 6.b what would you have changed it to?	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>