# The Significance of the Head of the Complementizer Phrase in X-bar Theory:

# A Structure Determining Only Force

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Abstract of the Thesis

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This thesis investigates the features held in the head of the Complementizer Phrase as a position in X-bar grammar: features shown to determine force as a major system of sentence types. It shows selection and movement as the major processes of grammar by which those features influence the distinct characteristics of different forces across languages, as they are defined as representing major functions of communication. Therefore different chapters investigate each major type of force: declarative, interrogative, and imperative. Unique types of selection and movement are described for each type of force. The investigation includes different types of languages and how they distinguish among the types of force. Sources include discussions of individual forces and of force in general.

The investigation also includes sources providing a basis for understanding X-bar grammar. The findings from these sources are used for three major parts of the basis of

the argument: the position of the head of the Complementizer Phrase in relation to the rest of the sentence; the structures in which selection occurs; the nature of movement within the structure. There are also sources used to describe parts of the sentence influenced by such selection and movement. In short, the investigation includes specific discussion of force among some sources, and other parts of X-bar structure in other sources. This structure is discussed in terms both of what it is and of its implementation of force.

For the chapters discussing each force individually, the investigation is about their use in the context of the main clause. However, the last chapter includes a discussion of each in embedded clauses. It also includes a discussion of combining forces through conjunctions. The sources used for describing these last two points make another important point about force: while a sentence often has only one force, there are also structures allowing two forces in one sentence. Movement and selection are important in such a context as well.

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# Introduction

In a discussion of syntax, it is important to define the perspective from which it is to be analyzed. In other words, assumptions about language are the basis of the analysis. The assumptions to be used in this current analysis come from the hypothesis of generative grammar. The fact that syntax is being analyzed further narrows the scope of what is here analyzed through the perspective of generative grammar.

## Background and literature review

The hypothesis of generative syntax was first developed by Chomsky. The focus here is on a more specific part that he developed: X-bar theory. The best way to introduce generative grammar is a simple statement of its theoretical basis: the concept that similarities among languages are due to structures built into language-processing in the brain (Kornai and Pullum 1997). Its origins go back to the 1950s (Crain and Lillo-Martin 1999, 102-103). From these origins, the theory has since been expanded through research by Chomsky and other authors. The name of the more specific X-bar theory indicates that it is a theory, but it provides a framework for extensive research within generative grammar. It is proposed as a mechanism underlying vast structures of language, and therefore across languages. The area of research that is to be examined in this thesis concerns certain sentence types.

While research specific to generative grammar, especially X-bar theory, is of primary interest, there is also the different area of traditional grammar that will also inform the analyses provided. This is due to the fact that that much older approach to syntax has provided much terminology that is also used in the generative approach.

Loberger and Welsh give a good example of what this other approach is about: instructing people in a particular use of a language called “standard” (2002, ix). The sentence parts and rules of grammar in different languages are elements of traditional grammar that are to be described in this analysis of generative grammar.

One counter-argument to X-bar theory is also of interest (Leon and Bhatt 2009). This is to be discussed from a perspective of seeing why generative grammar is the best understood through the perspective of X-bar theory. As will be seen later, this alternative has some interesting connections to generative grammar and raises some important questions about why X-bar theory is the best framework. In that discussion, some sources give a perspective from X-bar theory on the subject of some issues in which that counter-argument differs with X-bar theory (for example, Baglini 2007).

Some particular sources are worth introducing now. Chomsky’s article that first proposed X-bar theory is to be cited later in the discussion. So is Kornai and Pullum’s early analysis of properties necessary for X-bar grammar. Other articles analyze particular aspects of X-bar theory (for example, Rizzi 2017 and Broekhuis 2006). There are also textbooks with broader presentations as an overview of the hypothesis (for example, Crain and Lillo-Martin 1999 and Carnie 2012). The counter-arguments also come from linguistic textbooks.

Traditional grammar as a perspective will be presented from textbooks about particular languages. These are English (for example, Loberger and Welsh 2002); French (for example,Ollivier and Beaudoin 2004); and Ancient Greek (for example, Shelmerdine 2008). These three languages were selected because they are the ones I have studied the most. Greek actually gives a very different perspective on language

structures from the other two. However, this thesis is intended to provide a wide range of analysis of language structures. Therefore many other languages are mentioned as representing different types of structures not seen in those three. Information about some of them will come from articles about different aspects of their grammar relevant to the argument (for example, Korean in Zanuttini, Pak and Portner 2012). Other information comes from brief mention of some languages in books among the sources.

In short, the sources provide insight into what ideas have been discussed concerning generative grammar. They matter because the authors represent expertise in different areas of grammar, whether working from the traditional or generative approach. They allow an analysis of a particular sentence element to be described. In the next section, this argument is presented under the “purpose” heading.

First, some other sources are worth describing. The major sentence types of primary interest are discussed individually in some sources. The declarative is not the focus of any whole source, but is discussed in many. However, the interrogative is the focus of several sources: both polar questions (for example, Bailey 2013) and WH questions (Fennimore 2010). The same is true of the imperative (for example, Zanuttini, Pak and Portner 2012).

**Purpose**

The purpose of this writing, to be described in more detail later, is to examine a position in the sentence according to X-bar theory which is supposed to influence many other parts of the sentence. This position is the head of the Complementizer Phrase, or CP. Of more specific interest is how this position influences sentence types. Of the

ways that sentences can be classified, only force is determined in that position, since this feature is distinct in giving the sentence purpose in ways to be defined later. The types of force were mentioned in the literature review: declarative, interrogative, and imperative. Depending on the language, different sentence elements can move there through mechanisms to be described later and different forces can be distinguished by what each allows to move there. Other characteristics of particular forces include functional categories with features selected by the force feature in head of CP.

In this there is a way that the head of CP determines sentence types: it contains force features that control particular movements and select features in other functional categories. As will be seen later from some of the sources, this has been discussed individually in the contexts of the interrogative and imperative forces. However, the contribution to be made here is an analysis of a general feature of the head of CP, including its application to the declarative as well as the other two types of force. I make an important argument that this one position has its features influencing the whole sentence in significant ways through the movement and selection to be described.

**Method**

Due to the nature of the argument, research integration is a large part of the writing. This is because the analyses of many other authors have allowed the development of the argument. Common themes among pieces of information from different authors have led me to move quickly from one source to another, so that one paragraph often has more than one citation. Therefore long sections of writing cited entirely from the same source are rare in this argument. At the same time, there are

sections of writing of different lengths without citations, because these often provide personal analysis and conclusions about information from the sources.

The depth of the research and analysis are based in the fact that X-bar theory is a major area of interest for me. I studied it in several courses in college, including an in-depth special topics seminar. I enjoy studying the analysis of grammar. The argument I make in this thesis was chosen after consideration of different areas of X-bar theory. I chose one specific area in which I could make a distinct argument.

**Outline**

The analysis of the issue here starts in the first chapter with a description of X-bar theory and its place in generative grammar; this is important as a basis for understanding the argument to be made about X-bar theory. The second chapter moves from general theory into an examination of sentence structure in X-bar theory. The elements of this structure form a basis for the distinct characteristics of the different forces, thus making an important part of the argument. The counter-argument mentioned earlier is included in the third chapter, which is about limits of sentence types determined in head of CP. Afterward, individual forces will be described in their own chapters: declarative in Chapter 4; interrogative divided into polar questions in Chapter 5 and WH questions in Chapter 6; imperative in Chapter 7. These will show the distinct characteristics of each force in terms of movement and selection. Chapter 8 will examine structures that combine two forces in one sentence. These will reveal some other important points about how the head of CP influences sentence structure. Finally, Chapter 9 examines a potential force feature not described in any of the sources.

# Chapter 1- The Place of X-bar Theory in Generative Grammar

Since the thesis statement is about the head of CP as a position in syntax that influences other positions, the first step in understanding this is through an examination of the structure in which these positions occur. Such a position is called a *node*, and can contain a word or a group of words. The later of these types of nodes must, by definition, contain a group of nodes (Parker and Riley 2005, 57). It is called a *phrase* (Loberger and Welsh 2002, 141). A node can also be defined by a *functional category*, requiring an inflection (Kimenade and Vincent 1997, 6-7). In short, nodes can contain whole words, parts of words, or groups of words.

## Phrase structure rules

There are many types of rules controlling the configuration of nodes within a sentence. When a sentence takes shape, it first depends on *phrase structure rules* for the configuration of nodes. When those nodes fit into a sentence, the resulting whole formed is a *phrase marker* (Crain and Lillo-Martin 1999, 76-77). The term *selection* in the thesis statement refers to a type of phrase structure rule. It means that when the phrase marker takes shape, the items in some nodes limit the kinds of items that can fill other nodes (Rizzi 2017). Specific examples will be seen throughout the argument.

An important point about phrase structure rules is that they can be divided into two groups defined statistically. The first group is *principles*, defined statistically because they are shared by all languages. This statistical feature of such rules has to do with their basis in the *Universal Grammar*, which is the set of properties contained in language as a faculty of the human brain; a feature demonstrated through their use by

children who are just learning to speak. In other words, children apply the rules without having to learn them. The rules that distinguish particular languages are based on the structures formed by principles (Crain and Lillo-Martin 1999, 52-56).

The other group of rules establishing phrase structure is based in principles, and they are called *parameters*. Each parameter is a set of possible structures occurring in an area of syntax. In each language, children learn the structures in each area to set the parameters. In this way, Universal Grammar has control over cross-linguistic distinction. Unlike principles, these become distinguishing features among languages (Crain and Lillo-Martin 1999, 55-56). According to Chomsky and Lasnik, one property of parameters is that they always provide options within structures formed by principles. The resulting limits for variation cause parameters to connect languages. The features that distinguish individual languages are in their manifestations, built on the structures of parameters in unique ways (Chomsky 2015, 22).

In short, phrase structure rules do not occur in the same set in all languages. While a particular rule may be seen in all languages, others distinguish a language or group of languages from others. Since selection is a phrase structure rule in the thesis statement for this argument, the concept of principles and parameters is relevant because different languages have different kinds of selection. Considering more specifically the argument that the features in the head of CP make selections in other nodes, an important point is that the exact selections include some defining the same force in all languages and some distinguishing the same force only in certain languages. In this way, principles and parameters will come into the argument. The next chapter will include some types of nodes that are selected by the head of CP.

### Transformational rules

Phrase structure rules are supplemented by another category: transformational rules. These allow phrase markers to undergo *transformations* by which their structures are altered. Therefore rules of this category apply after the phrase structure rules have produced the original phrase markers. Working together in the resulting procedure of *derivation*, the two types of rules produce correct sentences in the form of final phrase markers (Crain and Lillo-Martin 1999, 167-168). According to Chomsky and Lasnik, these rules are also affected by principles of different types. In other words, language as a whole involves particular types of transformations. At the same time, different languages apply those transformations in different ways. As a result, principles and parameters influence transformations (Chomsky 2015, 24). Since principles and parameters have already been shown to influence phrase structure, the statement of their influence on transformations shows that these four types of rules are interrelated. They all will come up throughout the argument.

The thesis statement in this argument involves movement. The reason why transformations are introduced here is because movement is a type of transformation. Movements are defined as the altering of positions of different words in the sentence, which is no longer the same as in the phrase structure level (Crain and Lillo-Martin 1999, 277). This applies to the thesis because the head of CP can be a position into which different sentence elements can move. Furthermore, the features of that head also cause sentence elements to move into its specifier. Many examples will be discussed for movement into either position. The emphasis is on the movements

influenced by different force features. There are also some transformations of other types that will be brought into the argument.

**Defining the X-bar**

As a rephrasing of the definition already mentioned, nodes have these properties: each one has requirements of what fills it, and two or more of them can join into a larger node as a phrase. As an expansion of types of nodes, the later scenario describes the relationship of a *mother node* to its *daughter nodes*. Furthermore, the two daughters relate to each other as *sister nodes*. A sentence has a hierarchy of relationships because one node can be both a mother and a daughter. The standard format for representing such connections within a sentence is the *tree diagram* (Kornai and Pullum 1997). Many examples of such diagrams will be provided as part of the evidence in later chapters. This chapter ends with an example of such a diagram.

As mentioned before, words and some inflections fill individual nodes. These types of items become *terminals,* making their nodes *preterminals*. However, a mother node by definition contains other nodes instead of a single terminal, and therefore has a different term: a *non-terminal*. Any non-terminal has its structure revolve around one preterminal, which acts as its *head* while other daughter nodes are its *projections* (Kornai and Pullum 1997). Instead of preterminals, the projections are each non-terminals. There is a phrase structure rule requiring this and it is also a principle, thus placing the same requirement on projections in all languages (Carnie 2012, 198).

The properties just described define a standard X' grammar, or SXBG; the abbreviation X' for X-bar is to be used for the rest of the discussion. Seen across

languages, SXBG allows for the structure of *c-command* or *max-command*. The later structure is a type of the former, and the most important type for the argument of interest. It essentially defines a preterminal's connection to any daughter node of a sister non-terminal; the connection allows certain processes involving both nodes (Kornai and Pullum 1997). A point to be seen in the next chapter is how c-command influences movement (Carnie 2012, 337).

While the hierarchical structure of sentences has already been described, X' theory supposes that every non-terminal has at least the mechanisms for a hierarchical structure, even if it has only one word (Crain and Lillo-Martin 1999, 373). In the original form of the theory, the X', though notated differently at the time, was a division in a non-terminal with X standing for any preterminal. The specific examples discussed are N' and V' within their respective phrases (Chomsky 1970, 19-26).

First of all, the non-terminal is notated in the format *XP*, meaning that it is a phrase with the preterminal X as its head. The X' is directly under XP and may or may not have a specifier as its sister node. In turn, it includes the head and sometimes a complement. The theory is based on evidence that the complement is closer to the head structurally than the specifier is. A non-terminal with only one word may lack specifier and complement, but this does not negate the mechanisms by which it could have these (Crain and Lillo-Martin 1999, 100-101). It is still a non-terminal.

Different languages have different orders for the three parts of a phrase: the head, the complement, and the specifier. Relating X' Theory to the earlier discussion, these three elements form a principle because all languages have such a structure. However, there are two possible explanations for the differences among languages as

to their order. One of these suggests that the principle for phrase structure rules includes a universal order, with deviations from it explained as transformations that move the parts around according to the individual language. However, due to a lack of evidence for a particular order being universal, the other explanation seems more likely. This explanation is the *branching constraint*, or BC, which attributes X' structure to the influence of parameters. It allows complements to take different positions in relation to the head depending on surrounding structures. Because of the variation allowed, the order of those three parts of a phrase must come from parameters (Broekhuis 2006).

Two parameters establish the structure. The first establishes the position of the specifier in relation to X' under the XP. The other establishes the position of the complement in relation to X under X'. Together they have a wide range of effect on the grammar of a language (Crain and Lillo-Martin 1999, 100-101). The specifier and complement are the major types of projections (Kornai and Pullum 1997).

**The argument of interest**

The argument here relates to an important question that came up early in research about generative theory: whether the sentence means the same thing before and after transformations. In other words, do transformations control part of the signification within the structure? One reason for the question is that structures, such as the addition of suffixes, allow a word to take forms in more than one part of speech (Chomsky 1970, 19-26). A concept which helps to explain the different ways of expressing the same idea without relying on syntactic transformations is *syntactic coding* or *syntactic frames*, defined by allowing related words from different parts of speech to alternate, creating different structures with similar sets of words. Words can

even take the same part of speech but different positions. In other words, the phrase structure is different, and transformations do not make major changes to the expression of the idea. Here is an example: “I discipline myself” and “I have self-discipline” (Dixon 1989, 100-101). The transformations that alter coding on the same structure do so on a minor basis instead of expressing separate ideas (Chomsky 1970, 19-26).

Force has already been described as the major area of sentence types of interest to this argument. While other areas carry different meanings for the sentence, force actually defines the purpose of the sentence. There are three types: declarative, for presenting ideas; interrogative, for requesting information of some kind; imperative, for getting someone to do something (Beijer 2002). As will be seen in detail later, the forces are characterized by different transformations. While the evidence showing that meaning is complete at phrase structure level is not specifically about force, it supports the conclusion that forces must be determined at that level. If transformations were introducing force in the derivation, then the meaning would not have been complete in phrase structure.

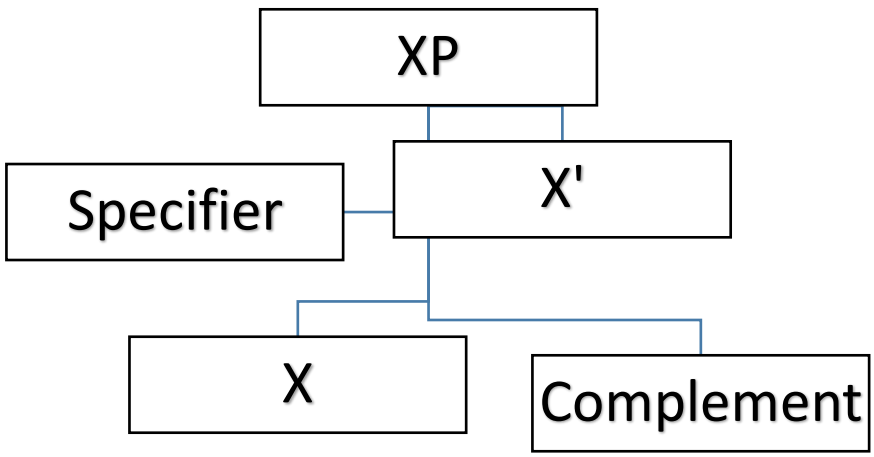
Again, the thesis statement is that the head of CP determines force in phrase structure, and that the features held there have important properties controlling movement and selection. Since movement has been defined as a transformation, the movements of interest can be defined. While the CP is to be defined in the next chapter, the movements of interest can already be defined as terminals in other parts of the sentence moving into the head or specifier of CP. The thesis means that the features in that head cause that movement to occur (Carnie 2012, 321-322). They also prevent other terminals from moving into the same positions. Thus only certain terminals can

move into those positions, depending on the language and the force of the sentence. Selection has been defined as a phrase structure rule, and its application to this thesis means that the head of CP has its features determine features in other nodes. Different forces can have some differences in their sets of terminals.

The types of selection of particular interest here are in function words and functional categories. The function word is defined by Carnie according to syntactic purposes in the sentence, such as prepositions (2012, 45). The functional category is again defined by Kimenade and Vincent as inflections when they act as terminals (1997, 6-7). Many examples of both types of selection will be described throughout the argument, specifically as they distinguish force.

Figure 1

Tree diagram diagraming basic X' structure, adapted from Crain and Lillo-Martin (1999, 100)



# Chapter 2- Sentence Structure in General

The parts of the thesis statement that have been explained already are the definition of X' structure, basic definition of force, and what movement and selection are. The next part to explain is what CP is, and what parts of the sentence it influences. These other sentence parts are of interest because many of them are selected by the head of CP and some can move into the head or specifier of CP. Of course these parts will be shown to follow X' structure.

## Tense Phrase

Before the complementizer is described as the head of the sentence, its complement has some details of importance. This is because such details are necessary before the complementizer can be understood. There are several types of projections within the phrase in the complement position.

The noun phrase and verb phrase were two phrases recognized early in generative theory. They were soon abbreviated NP and VP respectively, and divisions labelled N' and V' (Chomsky 1970, 19-26). The Inflection was later proposed as the preterminal of which the NP was specifier and the VP was complement. This preterminal includes in English auxiliaries such as *will* and tense markers influencing conjugation (Crain and Lillo-Martin 1999, 76-86). As a result, another label that has been used for the node is *tense phrase*, or TP (Carnie 2012, 247).

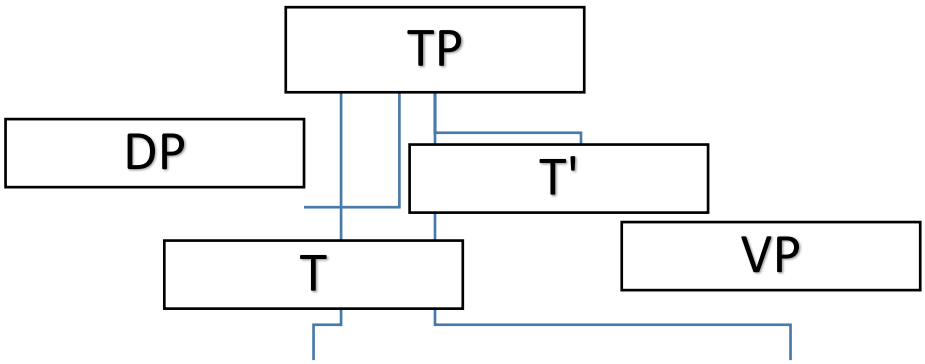
There is more detail concerning the specifier of TP. The NP was once considered to have determiners filling its specifier (Cain and Lillo-Martin 1999, 78-79). In current

theory, the NP leaves out the determiner and acts as its complement. The resulting *determiner phrase*, or DP, is specifier of IP (Sideeg 2016).

An examination of the DP will reveal some important ideas. Comprising a type of functional category, determiners include more than one type of node. There are several types, proven to comprise a single category due to similar positions. There are three types that go in the same configuration as function words right before a noun: articles, such as *the*; demonstrative pronouns, such as *this*; and quantifiers, such as *all*. Slightly different configurations right before a noun include the possessive suffix, which must have a different noun to which it is attached, and the possessive pronoun. The former is the only inflection among determiners, while the latter is another type of function word. Pronouns of configurations besides the possessive are included in the category, though they have different configurations from the possessive form. The last type of determiner, an expletive, occurs without a specific meaning. It has a different configuration with a noun, such as *there* in the structure “there is a…” (Sideeg 2016).

At phrase structure level, one position usually requiring a DP is the specifier of VP. English has an example of a movement transformation, in which the subject fills specifier of TP (Sideeg 2016). In the same language, DPs are also common in object position when the VP has a complement containing the DP. The later position can contain a DP alone or as part of a prepositional phrase, or PP. In other words, ‘DPs relate to verbs in different ways (Crain and Lillo-Martin 1999, 81-83).

Figure 2- Like Figure 1, this is also a tree diagram, as will be the rest of the figures. This one depicts the basic structure of TP; adapted from Carnie (2012, 209)




Just a few more phrases are needed before the CP is defined. First of all, a clause with a tense marker requires a *finite* verb which it inflects; any other verb position lacks the finite feature (Kimenade and Vincent 1997, 6-7). It shows person and number in its conjugation in many languages (Balme and Lawall 2003, 56). To account for this, another node has been suggested as a mandatory part of any clause: a Finiteness Phrase (Zanutinni 2008, 210-216). The theory suggests that its head is + for finite or – for non-finite clauses. The TP is within this phrase, which in turn is the complement of CP (Rizzi and Bocci 2017). Within the Finiteness P in some languages, tense is supplemented by another feature in conjugations and called *mood*. In those languages, it is believed to have its own Mood P (Kimenade and Vincent 1997, 6-7). An example of such a language is Ancient Greek (Shelmerdine 2008, 7-9). Differences in these nodes

with Finiteness and Mood will later be seen among features distinguishing force in different languages.

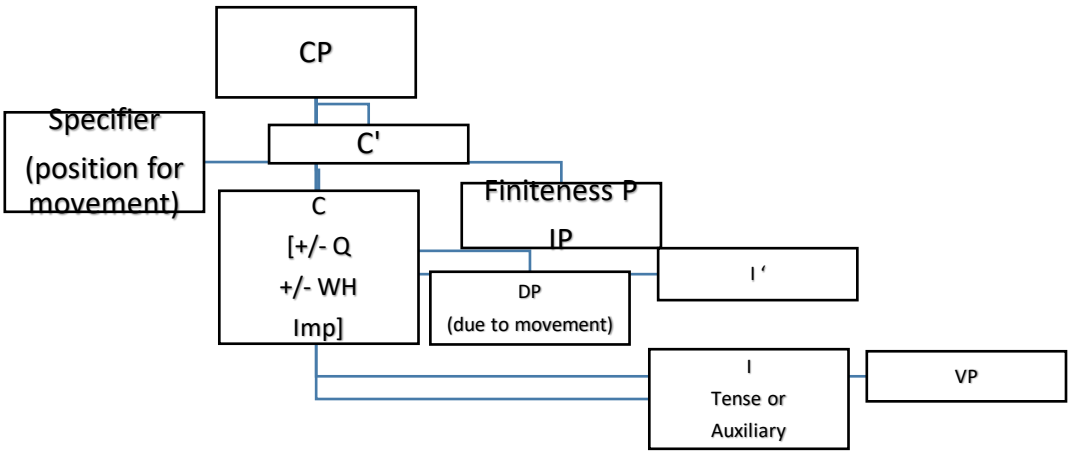
### The Complementizer Phrase

With the Finiteness P identified as its complement, the CP can now be described in terms of its head. Its original identification is in the context of embedded clauses. The term *complementizer* actually means a word used to introduce such a clause. The primary complementizer in English is the word *that* (Crain and Lillo-Martin 1999, 87). For example, a sentence can start with a phrase such as “I know that” and then continue with a subordinate clause (Loberger and Welsh 2002, 219-220).

Though this was the context in which CP was first described, whole sentences were later identified as the same type of phrase. This fact can be demonstrated though limits on some of the structures described within the complement of the main CP. The highest node that can receive movement within that specifier is complement of TP. Again, that is a very specific movement, in which the original position of the DP moving there is the specifier of VP (Carnie 2007, 319-321). There is one other very specific configuration in which a different DP can make the movement to be described later in the context of voice; still, the position is sufficient to identify the highest position for movement within the specifier of CP. Though the Finiteness P is higher within complement of CP, Rizzi and Bocci identify it only as determining structure; not as providing its head and specifier for movement (2017). In short, CP has limited movement within its complement; it provides higher nodes for movement, to be described next.

Evidence that the CP is required as a level higher than the Finiteness P in the main clause comes from movements into positions higher than those mentioned within TP. To be more specific, the transformation placing a DP in specifier of TP in certain languages can be accompanied by earlier positions being taken in other movements. In English for example, questions have inversions in which the inflection moves in front of the subject DP. Since there must be positions higher than Finiteness P to receive those movements, those positions are clearly the head and specifier of the main CP (Crain and Lillo-Martin 1999, 172-174): Its head, even when not the node for something to move there, holds information about the force in all sentences (Carnie 2012, 207-209).

Figure 3- English sentence structure; the force features are shown in head of CP and will be described more later; adapted from Crain and Lillo-Martin (1999, 87) and Carnie (2012, 207-209)



**Rules of movement**

Again, the argument being made here includes the idea that the head and specifier of the main CP are nodes for movement controlled by force features. Therefore movement into those positions is neither random nor arbitrary. Part of the argument is identifying the types of terminals that make such movement. Different force features allow such movement for different kinds of terminals (Carnie 2012, 321-322. Furthermore, languages are not identical in the movements allowed. However, there are some principles controlling movement; as a result, all languages follow some of the same restrictions.

One principle, *government*, is defined by a configuration of c-command. It is more specific than c-command as the general connection of a preterminal to daughter nodes of its sister non-terminals; government as a type of connection cannot occur when the non-terminal involved has its preterminal with c-command of the projection in question. Government is further defined by limitations in certain configurations. The biggest limitation is that that heads can only govern heads while projections can only govern projections (Carnie 2012, 116-117). The relevance of government to movement is that the principle includes the condition that the node to which an element moves can only be one that governs the original position. That element can move more than once, but it cannot skip steps because then the node to which it moves would not govern the original node due to the c-command of a closer node (337).

Another important structure for movement is *economy*. Movement of a word is often into some functional category within the sentence. The terminal that moves there does so because it is morphologically incomplete otherwise. It then takes the features in

the new node so that it becomes complete. It is thus *licensed* through merging with these features. Economy basically confines such movement to situations when licensing is the purpose (Kimenade and Vincent 1997, 6-7). A point to be described in more detail is how force features can involve licensing in movement (Carnie 2012, 321-322). Specific ways will be described for different forces.

# Chapter 3- Limit of Features in Head of CP

Force is not the only area of sentence types. Again, it is distinguished from other areas by the fact that it gives the sentence purpose. The declarative, interrogative, and imperative represent very different types of communication. This can be seen through examples of similar words transferred into different forces. First, here is a declarative sentence: “You work hard.” It is an observation. Here is the interrogative form of the same thing: “Do you work hard?” While the words are mostly the same, the sentence has gone from making an observation to asking if that observation can be made. Furthermore, it requests clarification from the addressee. Finally, here is the imperative: “Work hard.” Now the purpose is getting the addressee to make it true that they work hard. In short, forces represent purposes in giving and requesting ideas or information, or pushing action on the part of someone else (Beijer 2002). Again, the argument is that features distinguishing force rely on head of CP. Now the point is why other areas of sentence types do not need to be determined in head of CP.

## Are there other forces?

The first consideration is some sentence structures that have been suggested to comprise more forces. One example is the *exclamative* (Rizzi and Bocci 2017). Another is the *optative*. Structures of these types are analyzed as fitting within other forces or as *nonsentences*. The later type of utterance does not form a sentence; it either starts with a complementizer and comprises a subordinate clause or does not comprise a clause at all. For example, here is a nonsentence of the exclamative: “Oh, the poems they wrote!” Here is one for the optative:  “If only I could run faster!” (Beijer 2002).

A definition of these structures confirms that they often fit into the declarative. First of all, the exclamative fits within the larger group of *exclamations*, which are broadly defined as sentences meant to emphasize feelings. Exclamatives, as a more specific group of structures, are further defined by syntactic anomalies. Here is an example of such an exclamative: “They are such thieves!” (Beijer 2002). Next, the optative forms a mood in languages such as Ancient Greek, in which it defines clauses, usually subordinate, as conditions desired or hypothetical (Shelmerdine 2008, 177).

Some other types of these can be classified as a type of interrogative, such as this exclamative: “Will they have fun or what!” In short, exclamatives and optatives express purposes of major types of force; while they have distinct structures and meanings, they are not outside the purposes of expressing and requesting information. Therefore the three types of force described at the beginning of this chapter are sufficient for this argument (Beijer 2002). They are represented by the features in head of CP (Carnie 2007, 321). These other two sentence types have some specific structures that will be discussed in a later chapter. Though not a major part of the argument, they have features of interest. It was also important to consider whether they are forces in the head of CP, though they were not concluded to be such.

**Clauses in a sentence**

Besides force, another way of classifying sentences is according to relations between clauses. The first type is a *simple sentence*, defined by the whole sentence being the only clause. The other two types have two or more clauses. A *complex sentence* has at least one extra CP as a subordinate clause. A *compound sentence* has

two CPs on the same level at the top of the diagram (Loberger and Welsh 2002, 143-144). This last type is two CPs combined into one. (Carnie 2012, 209).

Figure 4- The structure of a CP with an embedded finite clause; adapted from Crain and Lillo-Martin (1999, 87) and Carnie (2012, 207-209)

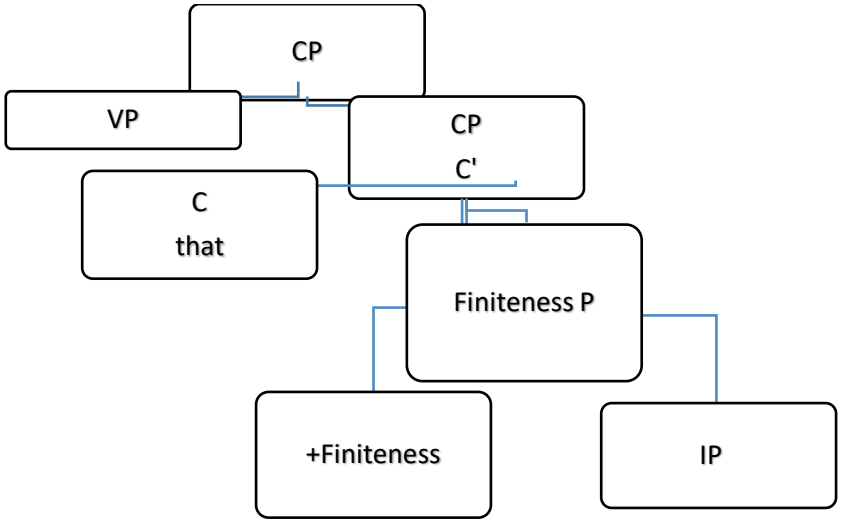
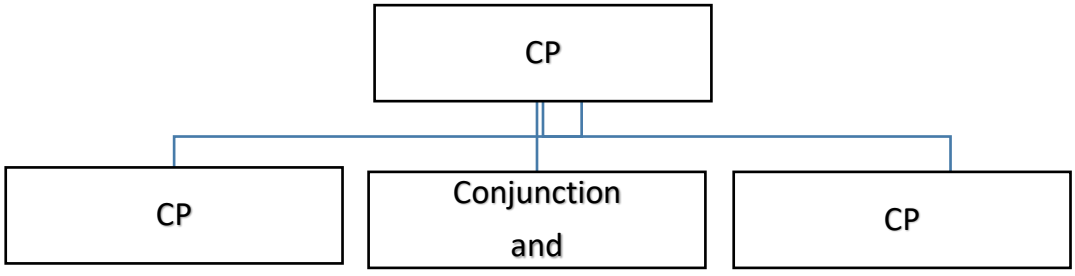



Figure 5- The structure of two CPs connected by a conjunction to form a whole CP (Carnie 2012, 209)



### A counter-argument to X' Theory

Since sentence types are of interest, there is a theory worth considering because it has force determined in the same node as two other sentence categories. This hypothesis is the Global Phrase. In this analysis, the Nominal Group and the Verbal Group make up the Phrase. The Phrase is under a larger Global Phrase, annotated Σ, which includes information about the type of sentence in a different node in the tree diagram (Leon and Bhatt 2009, 171-173). One of the elements of the sentence type is Modality, with the choices of declarative, interrogative, or imperative. Another element is Voice, which can be active or passive. The other element is Polarity, for which the options are positive or negative (195-202).

This model of grammar has both similarities and differences in relation to Generative Grammar. One major similarity is the use of the tree diagram. Furthermore, the Nominal Group is equivalent to the NP and the Verbal Group to the VP. On the other hand, this model does not include X' Theory. As a result, the two groups into which the sentence is divided do not revolve around the tense or inflection. Instead they are daughter nodes of the larger Phrase. The Σ is then the mechanism by which major sentence types are incorporated into the syntax.

The elements in the Σ which are separate from the Phrase are supposed to lead to transformations within the Phrase. Examples include making a question from a statement and making passive from active (Leon and Bhatt 2009, 196-204). This can be recognized as an expression of the idea that the meaning of a sentence is complete before any transformations occur. In this, it has commonality with Generative Grammar. The feature labelled Modality in this model is that being called *force* in the thesis

statement. However, the holding of this information under CP, according to the current argument, is the explanation in keeping with X' Theory.

Something worth noticing about Σ is that it is supposed to have voice determined in the same node as force. Since X' Theory has force in head of CP, does voice also occur in the same node? This is an important question because the goal is to see what features are held in that node. While the research question focuses on force features, the exclusion of other major sentence types are worth examining before they are confirmed as limits to what is determined in that node.

Looking again at the alternative model, the part of the sentence called *Phrase* is supposed to have the active voice as its basic structure. The passive voice is then supposed to represent a transformation on that structure (Leon and Bhatt 2009, 196-204). The transfer of an active sentence into a passive form is a well-known operation in grammar (Loberger and Welsh 2002, 56). Such concepts of voice do not include CP as the top node of the sentence, leaving open the question of how CP incorporates voice.

From this later perspective, the active and passive sentences with basically the same words relate in the form of alternate coding as a difference on phrase structure level. In such a situation, the two forms are separate syntactic frames. Again, this has the sentence type determined in phrase structure before any transformations (Dixon 1989, 100-101). The verb that can be passive in form must be transitive. To switch voices, the verb changes the positions of DPs around it (Carnie 2012, 291-293).

While DPs are affected by voice, verbs are also affected. The exact structures involved in voice have some variation among languages. English is the first example.

For this language, as described by Carnie, the VP includes the VPassive structure, comprising *be* + *-en*. The affix attaches to the verb, while T head attaches to *be*. Here is an example: “I was summoned to jury duty” (2012, 265-270).

In the same voice, the transitive verb has a complement instead of a specifier in phrase structure level. However the specifier of TP still must be filled. Without a specifier, the transitive verb then has its complement as the element to exit the VP. It is the passive transformation by which specifier of TP is filled by that complement (Carnie 2012, 293-294). In this way, phrase structure distinguishes between these two voices.

Some languages have very different structures for indicating voice. Ancient Greek is an example of a language in which the voices comprise a feature in conjugations. It is represented in the inflections of the verb (Shelmerdine 2008, 90). This is different from English, in which the single verb of the active becomes a two-word structure in the passive, with *be* + the past participle (Carnie 2012, 270). Instead Ancient Greek forms the passive without the helping verb.

There are still other languages, such as Pashto, in which voice comprises its own phrase as a projection of T but having VP as its own projection (Masood and Rahman 2015). This is part of another type of voice construction involving inflections. Therefore, languages using affixes to indicate features of the verb can include voice in the form of a functional category. This is likely true of Ancient Greek.

Still another structure for indicating voice is seen in Mandarin Chinese. There are words in the language used particularly for indicating the passive. Other words in the sentence then take particular configurations around such a word, which acts as a

*particle*; this last term means that the special word indicates grammatical features. Configurations such as these become a way of marking the passive in languages with similar morphology (Baglini 2007). Other particles will come up in the argument later.

Some languages also have a middle voice, with another distinct set of properties. While the active and passive are two configurations of a transitive verb, the middle applies to a different kind of verb. Common sense may suggest that the opposite intransitive verbs are then middle voice. However, across languages, this later group of verbs actually tends to be active in structure. Therefore middle voice is different. As in the passive, Chinese uses particles for this voice (Baglini 2007).

This voice can be understood in the context of Ancient Greek, in which it was first analyzed as a part of grammar. Like the other two voices, the middle comprises a feature distinguished in the conjugation of the verb through suffixes. It indicates the subject as being under some kind of influence, as specified by the verb (Baglini 2007). While some verbs have middle voice as an option, *deponent* verbs are confined to this voice (Balme and Lawall 2003, 78).

French has a different form of middle voice in some pronominal constructions (Baglini 2007). One type of pronominal construction is transitive verbs in a reflexive or reciprocal form: the first corresponding in English to pronouns with the *–self* suffix, the second to *each other*. English examples will demonstrate them respectively: “I dress myself” and “We saw each other.” Returning to French, the other type is verbs automatically pronominal or having a distinct meaning in that form. The latter category is the type of pronominal verb of interest here since it indicates the subject being under influence (Ollivier and Beaudoin 2004, 318-323).

In conclusion, the three kinds of voice do not require the head of CP to determine their structures. Special inflections for voice, such as in Ancient Greek, show the voice having its own head (Masood and Rahman 2015). In English, configurations in the IP are also sufficient to determine the forms of the voices; yet the head of IP does not determine the structures, and neither would a Voice P be necessary. Words used for particular voices, as in Mandarin, have no need to be determined in the head of CP. While voice is often about different coding of the same idea with change of emphasis, the same cannot be said about force. Similar sets of words can be configured into different forces, but the meaning will be quite different as demonstrated by the examples at the beginning of this chapter.

Finally, the other element proposed for Σ deserves a brief comment: polarity. According to Crain and Lillo-Martin, a word making the sentence negative, such as *not*, has its own node in phrase structure. This position is within IP, and of course it is not needed in a positive sentence (1999, 177). It has been suggested to comprise a Polarity Phrase (van der Wurff 2007, 60). Therefore, polarity does not need to be determined in head of CP, since it is determined in lower nodes.

The hypothesis of the Global Phrase was important to consider for several reasons. First, it offers an explanation for force outside of X' theory. Second, it suggests that force features are not unique to the top nodes of the sentence. Consideration of the hypothesis here has shown that force features really are unique in that position and that X' theory gives the best reason why. The next four chapters will each deal with a specific force and its unique forms of selection and movement.

# Chapter 4- The Declarative Force

This chapter and the following three each deal with a major type of force. Since force is defined by major purposes, each of these chapters will start with the purpose of that force. The following discussion of the structures distinguishing each force will emphasize its selection and movement. First is the declarative, which is arguably the most used. A “statement” is the traditional definition for this force (Loberger and Welsh 2002, 144). As mentioned before, this means its use is sharing ideas and facts (Beijer 2002). In such sentences, the head of CP is marked [-Q-WH] (Carnie 2012, 321).

## Selection and features of pronouns

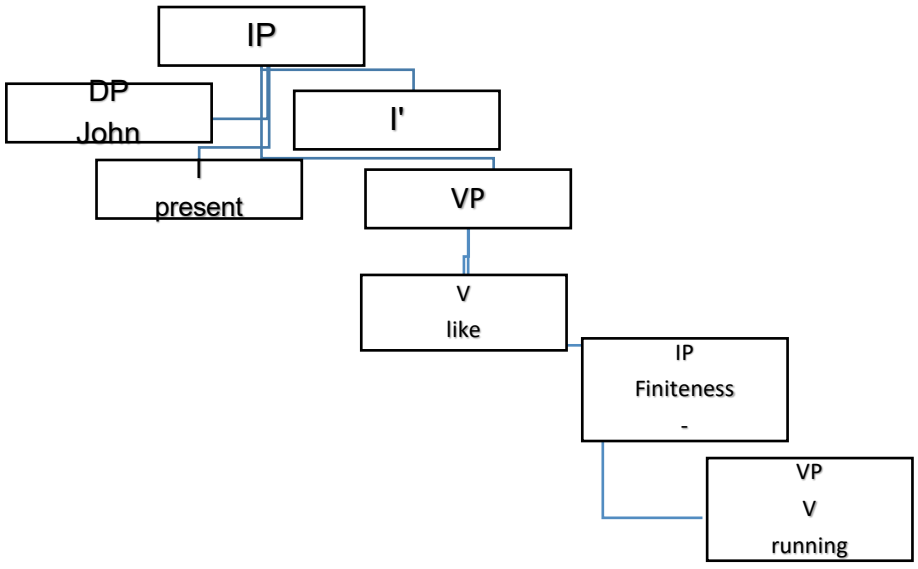
It has been mentioned already that different forces select different kinds of DPs as a functional category. Since the pronoun is one kind of DP, its features within the declarative are very important.

While pronouns will primarily be described in their usual structures, a different structure called *Pro* is also of interest. Since the discussion has already mentioned several nodes without words or parts of words, Pro can be defined as a DP of that type. Infinitives and some gerunds are clauses defined by Pro, which is a feature of such nonfinite clauses; they are the contexts in which it occurs in the most languages. In addition to these non-finite clauses, some languages extend the feature to the finite subject. In still fewer languages, Pro is not even confined to the subject. The conjugation of finite verbs is the feature that determines the extent of Pro in a language. First of all, in languages where the six combinations of person and number each have a distinct inflection, Pro is allowed at least for the subject. On the other hand, when verbs do not change form according to those features for a particular language, Pro is also

allowed. It is languages between those two extremes in which it is not allowed. An example of the last category is English, in which only the third person singular has its own suffix in the present tense (Speas 2001). For Pro, the Finiteness head can be + or -. The properties of Pro to be discussed here will have importance for other forces.

Pro also requires some particular configurations. For example, a DP governing Pro relates to it in the form of *coindexation*, so that they mean the same thing (Carnie 2012, 140). As a result of this structure, Pro occurs at phrase structure level. It remains null throughout the derivation (Speas 2001).

Figure 6- A nonfinite clause embedded in a finite claue; diagram for the sentence: “John likes running.” Adapted from Speas (2001)



In short, Pro is controlled by verb morphology and by syntactic configurations. While English is one of the languages with the least use of Pro, it has some interesting uses of the feature outside of the infinitives and gerunds to which it is generally confined. The interest here is specifically in the declarative force. First of all, there are a very few expressions in which the subject is dropped due to being obvious. The major example is “Thank you,” in which the subject is obviously first person and thus not in need of explicit expression. The form of the verb excludes third person singular, and the second person would not make sense. The third person plural, though matching the verb inflectionally, still needs to have the overt subject because of its singular counterpart. In this case, “Thank you” becomes an expression understood to be first person, either singular or plural. As for null object, there are times when a transitive verb occurs without a direct object because the latter is not needed. A major example is the verb *to eat*, which can be used to express an action independent of the fact that something is eaten.

It can be seen that the + Finiteness feature is one of the selections in functional categories made by the [-Q-WH] feature. It is other properties of the syntax of a particular language that determine Pro. It was worth discussing now for two reasons. First, the specific –WH feature limits the kinds of pronouns that can occur in the declarative; more detail about this will be discussed in the selections made by the +WH feature in a later chapter. Second, the –Finiteness feature will be described in a later chapter as allowing different reasons for Pro, due to different configurations. Thus, DP and Finiteness P are functional categories in which the declarative has its selections different from some other forces.

Something else that pronouns can do is called *dislocation*, in which the movement of a DP is accompanied by insertion of a pronoun in the original node, as another type of transformation. An example is in French, where the node on the receiving end of the movement is sentence-final. Here is an example, with the pronoun in italics and the dislocated DP after the comma: "*Elle* est gentile, cette femme." (Fagyal, Kibbee, and Jenkins 2010, 108-114). Examples of other structures with a pronoun provided in place of a dislocate DP will be seen in other forces in later chapters. There is even another example later in this chapter. It is a transformation providing pronouns of which this use is a property.

The *clitic* is a type of pronoun including complement pronouns as objects with different cases. Transformations cannot place them in positions outside the VP in French, though they can in languages allowing the process of *clitic climbing* (Fagyal, Kibbee, and Jenkins 2010, 108-114). An example of this process is in Spanish, where a clitic has two options as object of a nonfinite clause introduced by particular verbs. One option is *encliticization* as a suffix to the nonfinite verb; in this example, the last word is the infinitive with the suffix: "Voy a verlo." The other option is *procliticization* as a separate word in front of the finite verb; it is the option also called *clitic climbing*. This can be demonstrated through altering the last example; the clitic is the first word: "Lo voy a ver." A related structure is when the aspectual verb is the complement of an auxiliary verb. In this case, the aspectual verb is nonfinite as is the verb with the clitic at phrase structure level. Both are possible recipients for the encliticization (den Dikken and Blasco, 2007). These facts about pronouns will be seen to have a different use in

the imperative. This is important because it represents a type of DP with features of movement controlled by force.

In short, pronouns have their structures modified according to force. Since the pronoun is a type of functional category, the force feature in head of CP determines some of their properties. Examples in the current discussion include properties such as types of pronouns, their positions before and after transformations, and the option of Pro. Furthermore, all types of DPs described in the discussion in Chapter 2 occur in the declarative. In structures with the word order adverbial-verb-subject mentioned above, there must be a modification of the usual movements.

**Word order**

A language most directly shows the dominant order of the verb and its subject and object in the declarative. That order reflects the X' parameters, but transformations can cause deviations from those. With the parameters, phrase structure can never have the subject between the verb and the object. A language where that very order is dominant therefore has a transformation producing it on a regular basis. For example, Gaelic has VSO (Carnie 2012 254-259).

In a pattern that alters usual word order, DPs can switch places with the verb in some languages. This was more common in Middle English than it is in Modern English. Some uses that have almost disappeared from Modern English include negative sentences, and subordinate clauses expressing potential. The later type is equivalent to a clause such as "However great the need is," in which there is no longer switching of subject and verb. A very restricted use in the negative can be seen in the later part of this example from Modern English: "You are not in town, and neither am I." Middle

English had this transformation for many adverbials, of which few remain in Modern English. A major example is “Here lies” followed by the subject DP (Burrow and Turville-Petre 2005, 53). A point to be seen in the next chapter is described by Crain and Lillo-Martin: inversion in English places the tense in the head of CP (1999, 171-174). The adverbial in the current structure of interest must go in the specifier. This is important because that movement gives direct evidence of CP as the top node in the declarative.

At the same time, there are differences in the amount of variation that word order can take within a specific language. There are some languages with very limited variation, called *fixed word order*; and others with significant variation, called *free word order*. Languages actually fall somewhere on a spectrum, with no language absolutely free or strict. It is languages toward the free end of the spectrum that demonstrate the point of word order independent of force (Pinker, 1998). The types of movement involved in this would not be governed by economy, since not all the nodes involved would be functional categories. Only some languages have word order indicating force. A point to be seen in later chapters is how languages that lean to the free end of the spectrum have other structures for distinguishing the declarative from the other forces.

**Topicalization and other emphasis**

Another parameter related to word order is about the DP emphasized in a sentence. There are *subject prominent languages* such as English, in which the node for emphasis is specifier of TP. There are also *topic prominent languages* such as Japanese, in which there is a position, often before the subject, allowing something else to be emphasized (Pinker 1998). These parameters involve transformations creating deviations from the phrase structure rules controlling the order of the verb and its

subject and object. While those three parts make up the TP, this parameter determines some other phrases that may make up the sentence. Those other parts will be described shortly, but it is important first to understand that the TP can have other words surrounding it, rather than its own words being at the beginning or end of the sentence.

In subject prominent languages, something can be placed before the subject as a topic (Pinker 1998). This process, *topicalization*, is seen in French (Fagyal, Kibbee, and Jenkins 2012 126). The feature that distinguishes a topic prominent language is a special node in the tree diagram, usually called a *Topic Phrase* (Baglini 2007). For English, two nodes are used for emphasis: DPs are emphasized in the *Operator*- Op; adverbials, including PP, in *Modification*- Mod (Rizzi 2017).

Some facts discussed earlier will reveal some ideas about topics. Again, the subject goes from specifier of VP to specifier of TP (Carnie 2012, 341). In a sentence of the type mentioned earlier such as “Here lies John,” the adverbial seems to move to the same position. The topic or a different adverbial goes to a position higher than the specifier. In English and other subject prominent languages, according to Rizzi, the Op and Mod positions must be in either head or specifier of CP (2017). This point can be seen by extending the last example: “For the time being, here lies John.” Because the head of CP is a functional category, economy dictates licensing as the reason for the movement into that position according to Kimenade and Vincent (1997, 6-7). Topicalization in such configurations is evidence for CP as the top node.

In languages that have the Topic Phrase, it has the IP as its complement. It is in turn the complement of CP. This must be due to the parameter which separates such

languages from the subject prominent. The later have the IP as the direct complement of the CP. Therefore the parameter affects the structure of the CP. Where there is a Topic Phrase, the IP cannot be separate from it because then there would be no place for the Topic Phrase. Something else of interest is that the X' parameters of a language would determine the position of the topic. For example, it could be at the end of a sentence in a head-final language. Therefore emphasis is not always in a position before the subject (Baglini 2007). The reason why the topic is the head of its own phrase in those languages will be seen next. Yet in such languages, topicalization is not evidence for CP, even though it is so in languages such as English.

Figure 7- This diagram shows the specifier of CP as the location of movement for emphasis in English; adapted from Rizzi (2017)

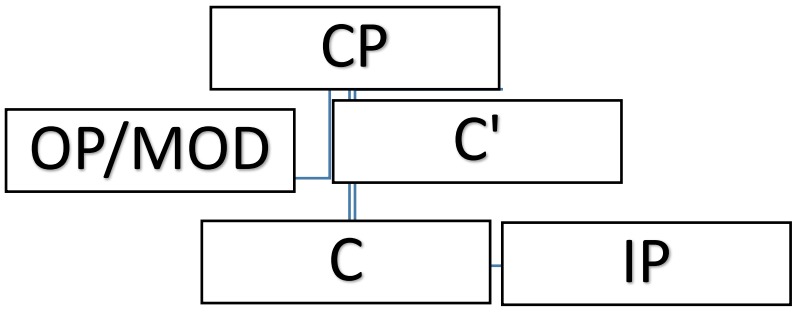
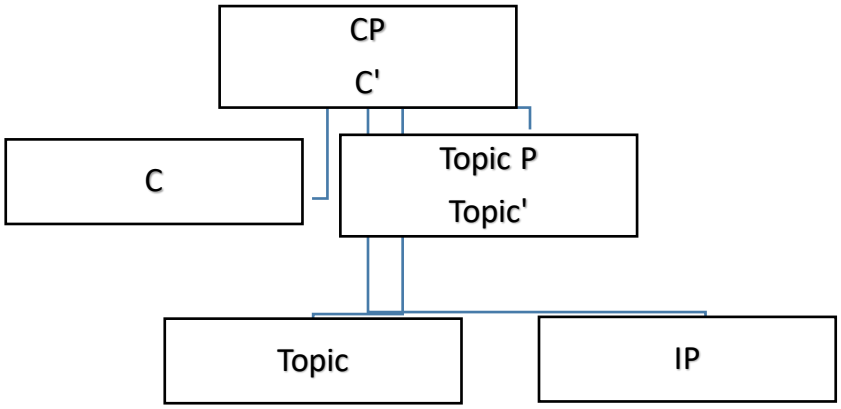


Figure 8- Sentence structure in topic prominent languages; adapted from Baglini (2007)




This comes from the fact that those kinds of languages do not limit a sentence to one topic. Furthermore, there is the other position of *Focus* which distinguishes one of the topics with particular characteristics. Languages with such a structure include Italian and some families such as Uralic and several in Africa (Rizzi 2017). The Topic Phrase accounts for this for more than one reason. First of all, it must by definition have a specifier position, and this position could host an additional topic. Second, the earlier description of the X' allows it to have another X' of the same type as its complement. The resulting potential for a topic to c-command another topic is another way that more than one topic can exist in a sentence. Furthermore, the Focus can then have a special position in the configuration, such as head instead of projection.

In languages lacking Topic P, there are significant limits to what can be emphasized in a sentence. The largest possible structure of movements is one DP to Op, and two adverbials to Mod. Here is an example in English: "Earlier in Paris, Notre Dame I saw." Therefore, there are fewer positions than in topic-prominent languages

(Rizzi 2017). These differences among languages raise the question of what economy says about topicalization. First of all, these transformations are licensed. The positions filled, in both topic-prominent and subject prominent languages, have criterial features for what fills them, such as + Topic (Rizzi and Bocci 2017). This configuration keeps the transformations of topicalization from changing the signification of sentences.

In subject-prominent languages, topicalization can easily be seen as a choice within the declarative force, not a requirement (Pinker 1998). In topic-prominent languages, the topic is marked more often, but there is still a choice of what goes in the position (Rizzi and Bocci 2017). In V2 languages, there are different options for what precedes the verb in a sentence (Kemenade and Vincent 1997, 3-9).

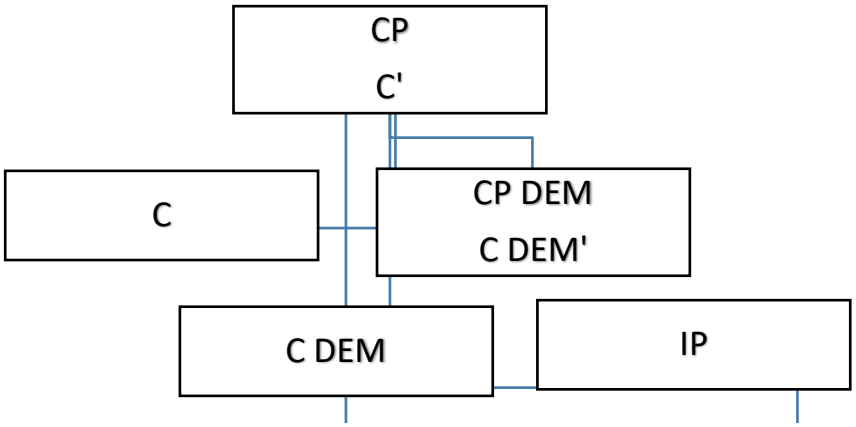
The V2 Parameter has an important relationship to force. It is basically about whether the finite verb has to go into the second position in the sentence, as it does in German and Dutch. In short, the V2 feature requires the verb in the head of the CP in the sentence, with another word in the specifier. Because these two early positions in the sentence lack features to be gained by the words that move into them, the economy principle does not prevent such movements (Kemenade and Vincent 1997, 3-9). This provides direct evidence for the CP as the top node in the declarative sentence.

There are actually two nodes in this context to which certain elements can move in front of the finite verb in head of CP. One part of the evidence for this is *left-dislocation*, in which the requirement for the finite verb to be second in word order allows the position that is usually first to be preceded by one other phrase in the specifier of the main CP. This leads to the theory of an additional level of the sentence called the *demonstrative complementizer phrase,* or CP DEM. In those languages, this

fills the complement of another CP and has as its complement the IP. There are several terminals its features license for movement into its specifier, and those of interest here are the topic and the D-pronoun. The later term refers to the demonstrative pronoun, which has some special features in Dutch and German, leading to this special term coming from the first letter shared by all examples in those languages. The main property that distinguishes these pronouns is that a transformation provides them to fill in the original node of a larger DP that has gone through the left-dislocation mentioned earlier, the opposite *right-dislocation*, or deletion. Yet the D-pronoun also has its own transformation in which it fills the specifier of CP DEM, often followed by its own deletion. While it was mentioned earlier that some languages have transformations providing pronouns in the original nodes of dislocated DPs, D-pronouns are defined by that purpose (Barbiers 2007).

Again, left-dislocation is allowed for several phrases in the sentence. The specifier of CP DEM gains a D-pronoun or a topic in the declarative. Later chapters will show this structure in the imperative and the interrogative. The C DEM head does not draw any DPs (Barbiers 2007). This is where the finite verb goes (Kimenade and Vincent 1997, 8-9). In the main CP, the head indicates the declarative force. The movements described here for the CP DEM are allowed by the same force, due to its properties selected by the main CP.

Figure 9- A diagram of German and Dutch sentence structure, emphasizing the place of C DEM; adapted from Barbiers (2007)




The examples so far from specific languages have demonstrated the beginning of the sentence as the location for emphasis. However the end of the sentence is also a location in which movements can have the same purpose, including in German and Dutch (Barbiers 2007). Other languages have the end as the primary or exclusive location for this purpose. The X' parameters influence this, because they can form configurations with the main CP having its head at the beginning or end of the sentence (Rizzi and Bocci 2017). Furthermore, the exact configuration of the Topic P in the languages that have it is another factor in determining the location used for emphasis, whether early or late in the sentence (Baglini 2007).

In short, different languages have different nodes used for emphasis through movement. These have been introduced here because other forces will be seen later to

have their structures in different languages influenced by such nodes. The same languages often distinguish among the forces partly through their configurations around such nodes. Furthermore, it is force features in head of CP controlling what moves into that node and its specifier. The point to be seen in the next two chapters is that the features of the interrogative have different types of terminals that can move into those positions. The types of DPs and adverbials allowed into those nodes through the features [-Q –WH] have been described in this chapter.

# Chapter 5- The Interrogative Force: Polar Questions

The next type of force is interrogative. This one comprises two types of questions that are worth discussing separately. Both are defined by the purpose of seeking information or verification from the addressee. The first type is *polar questions*, defined by a requirement for an affirmative or negative response; it is the seeking of verification (Bailey 2013). In head of CP, it is [+Q-WH] (Carnie 2012, 321).

## Inversion

The first point of interest is a type of movement that constitutes the question in several languages. Seen for example in English, the nature of inversion is that a transformation places the Inflection in the head C (Crain and Lillo-Martin 1999, 171-174). This co-occurs with the movement of DP from specifier of VP to specifier of TP (Carnie 2012, 330). All the types of determiners described in Chapter 2 are involved in such movement. There are other languages where polar questions likewise have a word order different from the declarative. The significance of the movement to the head C will be seen shortly.

As mentioned earlier, the T head is home to present and past tense, and sometimes to auxiliaries. When it is just a tense, the inversion places it in a node isolated from any verb to which it can attach. *Do-support* then provides a verb without meaning in the context to which the tense can attach, such as in this example: “Do you run?” This is not needed when an auxiliary moves. Another way that inversion occurs is shown in this example: “John is running” becoming “Is John running?” (Crain and Lillo-

Martin 1999, 171-176). Together the auxiliary *be* and the present participle form an adjunct verb structure called *V progressive* (Carnie 2012, 270).

French also has inversion, but it is a little bit different. There is nothing equivalent to do-support, because the verb itself goes before the subject pronoun. When the subject is a DP other than a pronoun, it stays in place while the equivalent pronoun is inserted after the verb. There is also a structure equivalent to the V progressive, and there the verb *Avoir* equivalent to *Have* is involved in the inversion (Ollivier and Beaudoin 2004, 233-234). In short, the finite verb is the one involved in inversion. The insertion of a pronoun after a verb with a noun in the subject DP is comparable to the insertion of the pronoun in the original position of a DP left-dislocated as mentioned in the last chapter. In the interrogative situation, the DP before the verb makes the same movement to specifier of TP as it makes in the declarative as described in the last chapter. When the verb moves to the head of TP, the position of the dislocated DP taken by the pronoun is then after the verb. Therefore the declarative and interrogative in French both have situations in which the subject can be represented both by a pronoun and a DP with a noun in different parts of the sentence.

There are some interesting properties in inversion. English and French are examples of how auxiliaries of different kinds make the movement with the tense. Do-support, as described by Crain and Lillo-Martin, is the result of the English transformation isolating the tense from the verb (1999, 171-176). As for the inflection that makes the movement, the +Q feature selects the same kinds as the declarative. As a result, languages that have such a movement distinguish polar questions from

declaratives through movement instead of selection. However, there is selection in many other languages. In fact, the movement discussed in this section is the feature of a minority of languages (Bailey 2013).

### Question particles and similar words

The dominant structure for this type of question in a particle. The particle tends to be at either the beginning or the end of the sentence. A similar structure is in Imbabura Quechua, where there is an interrogative affix emphasizing the word to which it attaches. In Latin, the particle immediately follows the subject at the beginning of the sentence, becoming a suffix to it. The particle is a functional category, in this case representing the +Q feature (Bailey 2013).

A rule related to these particles is the *Final-Over-Final Constraint*, or FOFC, which affects phrases where a preterminal follows its projections, which again must be non-terminals. The rule prevents the non-terminals from reversing the order of nodes under their mother node, in which case the daughter node would have its preterminal preceding its projections. This rule relates to question particles that conclude a sentence. For example, Japanese has such a particle as part of a larger syntax in which preterminals consistently follow projections. Representing the +Q feature, the particle goes at the end of the sentence without any contradiction of FOFC (Bailey 2013). The topic prominent structure of the same language allows so many nodes into specifier of CP that a feature beyond word order is needed to indicate this force. Since any force marks its topic, the mechanism for marking the interrogative is this particle.

A language that is more complicated in terms of indicating polar questions is Thai. While its question word ends the sentence, the non-terminals that fill the complement and specifier of CP have their preterminals preceding their complements and specifiers. Therefore, C cannot end the sentence because of FOFC. Though a question requires the special word, it is not really a particle because it does not represent the Q feature in CP; the particle and the Q feature are in different positions. It actually represents *disjuncture*, in the form of a negative term concluding a positive sentence. Disjuncture can be better understood in the context of tag questions, as in English structures such as the part after the comma in this sentence: “You know that, don’t you?” Unlike tag questions, the Thai question word is necessary in a polar question, so that it is labelled as a *semi-particle* (Bailey 2013).

English has some informal words with meanings comparable to this semi-particle. However they lack the same designation, since they are neither required nor consistent, instead labelled as adjunct adverbials. One of the most common in English is the word after the comma in this sentence: “You know that, right?" Comparable words particular to dialects include *eh* (Bailey 2013). In French, there is a comparable phrase in standard use: n’est-ce pas. There is another standard phrase for the beginning of the sentence: est-ce que. These are actually phrases meaning essentially: “is it?” for the beginning of the sentence and “is it not?” for the end. Furthermore, a question can have one of these, but not both (Ollivier and Beaudoin 2004, 233-234). These two seem to be semi-particles, like the equivalent in Thai. Since the use of inversion in French has been described already, the semi-particles are clearly not required for polar questions.

However, they are more consistent then the English adverbials; they are also proper in formal use, unlike the English adverbials.

Ancient Greek has a particle at the beginning of the sentence: αρα. This is in a language with one of the freer word orders (Balme and Lawall 2003, 171). This particle can easily represent the head of CP without violating FOFC. That head is clearly not preceded by the complement, since the IP follows it. The position of its specifier is less clear, unless the particle is selected in that node by null force features in the head of the phrase. However, the IP seems to have its head after both specifier and complement. The verb is the only thing for that head to inflect, since there are no auxiliaries. Its free word order also makes the particle necessary, since inversion could not indicate force.

In Dutch, the Specifier of CP DEM mentioned in the previous chapter can contain a null operator for polar questions. The movement of D-pronouns and topics to that node, as described for the declarative force, is not permitted in polar questions due to the presence of the operator. However, the verb still must be second in order, with the subject following it. Furthermore, left-dislocation still occurs to emphasize a DP. As in English, word order is different in this force from the declarative (Barbiers 2007).

Polar questions are formed in different languages with functional categories, inversion, and special words. Different languages have different configurations of these structures. Some represent the force with a particle in C position or an operator it selects in specifier of CP, both types blocking any movement there. The head also selects semi-particles or adverbials in languages that have them. In languages with inversion, that head draws the Inflection head to it, whether a finite verb or auxiliary is

with it or not. Such choices are influenced by parameters of the language. In short, the +Q feature can draw movement or block it. In this way, it controls what kinds of elements can move there. In short, the structures described here give direct evidence for CP as the highest node due to movements it draws and particles it contains.

# Chapter 6- The Interrogative Force: WH questions

The other kind of question is called *WH-question* in English, in reference to its use of words such as *who* and *what*. The term, however, represents structures seen cross-linguistically. By definition, they use interrogative pronouns, such as those just mentioned for English, which require details to be provided by the addressee (Crain and Lillo-Martin 1999, 188). As will be seen here, these have other distinct properties, including in the head of CP. That head can be seen to select WH features in other parts of the sentence in ways to be seen later. This supports the selection part of the main argument; the movement part of the argument is supported by the WH movement to be described. In head of CP, according to Beijer, it is marked +Q +WH (2002). There is a +Q feature as in polar questions. To distinguish questions, there is also a WH feature, which is + in these structures (Carnie 2012, 317-321).

**WH pronouns**

Since the main argument includes the idea that each force makes selections of other functional categories, one part of this that has been stated before is that each force selects particular properties for pronouns. The discussion of WH questions therefore starts with the WH pronouns they select as their defining feature. Besides English, another good language for discussing these is French. Its primary interrogative pronouns, equivalent to those mentioned above for English, are *que* and *qui* respectively (Ollivier and Beaudoin 2004, 240). Something else interesting about French is that these two words double as *relative pronouns*, by definition as part of a

subordinate clause. Within such a clause, *qui* is the subject and *que* the object (285-286). The English structure with relative pronouns will be seen later.

French structures with interrogative pronouns tend to include a relative pronoun following it somewhere, though they are never adjacent. The relative pronoun is then followed by more words, and these are structured like a declarative. The most common words that can come between the interrogative and relative pronouns is *est-ce*, literally meaning “is it.” When the word *qui* is on both ends of it, the phrase can be shortened to *qui*; for example: “Qui est-ce qui vien?” becoming “Qui vien?” However, if *que* is on both sides, the comparable shortening changes the rest of the sentence; for example: “Qu’est-ce que vous preferez?” becoming “Que preferez-vous?” Inversion is needed in the second rendition (Ollvier and Beaudoin 2004, 236-240). The difference relates to the use of *est-ce que* described in the previous chapter.

English and French will be used to demonstrate many properties of WH questions. While they are to be used as primary contexts for discussing features of these questions, other languages will be mentioned briefly as well. This is because of some cross-linguistic structures not seen in the two languages being emphasized. There are options for WH questions not seen in either of these languages, so that other languages are to be referenced.

One more important point to be noticed about WH questions is that they do not limit their structures to WH words. Since pronouns are of particular interest here, this means that other kinds of pronouns can be present in such a question as well. Therefore the requirement of the WH question is that it select like features for at least

one other functional category. There is more detail about this property of interest. In French, the relative pronouns have properties resulting from selection, since they are in configurations different from the declarative. One more point is that all types of DPs described in Chapter 2 occur in WH questions.

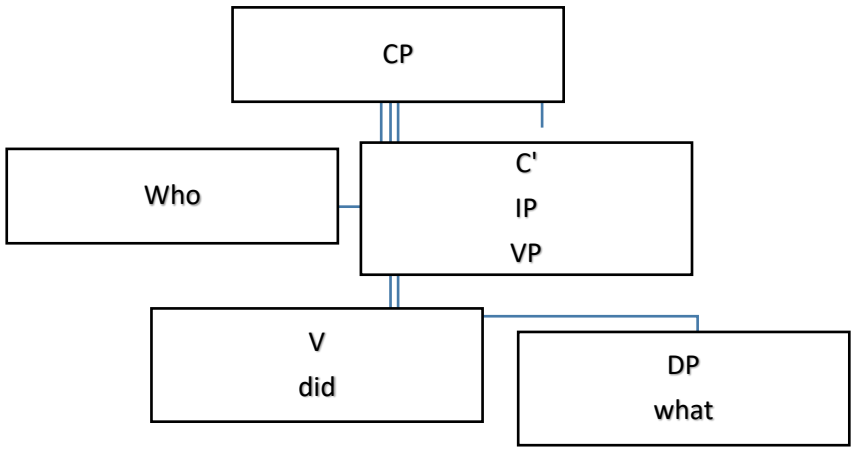
In English and French, *WH-movement* is the transformation explaining the position of WH words at the beginning of the sentence. For understanding of how this works, an example is needed. First, phrase structure rules can form a sentence like this: “You met who?” The transformation then makes this structure out of it: “Who did you meet?” It is a fronting of the question word. In French, the WH word is not always seen at the beginning of the sentence (Crain and Lillo-Martin 1999, 188-204).

The later scenario is *WH-in-situ*, similar to English *echo-questions* in which a WH word remains in the original position dictated by phrase structure for the purpose of emphasis. An example of this English structure is this: “You want what?” (Carnie 2012, 342-343). The same language also has WH-in-situ in the *multiple question*, containing by definition two WH words. This is best demonstrated with an example, such as this: “Who did what?” It can be seen that only *who* is at the front in this question, while *what* remains in its original position. The later cannot move into a position already filled, so it stays in place (Crain and Lillo-Martin 1999, 204-205).

Other languages have different structures concerning such questions. WH-in-situ is the pattern in Chinese and Japanese, among other languages. More than one WH word occurring together in a multiple question will collectively enter the head of CP, instead of one staying in-situ, in Slavic languages and Romanian (Crain and Lillo-Martin

1999, 201-206). In Japanese, the particle described in the last chapter also accompanies a WH word in these questions (Bailey 2013). In Gaelic, there is a complementizer unique to WH questions and distinct from that used in polar questions (Carnie 2012, 321). Furthermore, languages toward the free end of the word order spectrum may not rely on WH movement as a major feature, since the WH word could take many different positons without changing the signification of the sentence.

Figure 10- Structure of the example of a double WH question, after the movement of "who." Adapted from Crain and Lillo-Martin (1999, 204-205)




The reference above to the variation of options for WH-movement in French requires some more detail. Fennimore cites an original survey with results revealing more specific features. The nature of the survey was asking a native speaker of French to judge the correctness of several WH questions with different configurations. Here is

an example of a sentence from the survey judged to be incorrect: “Tu penses que Jean aime que?” This means that the complementizer *que* cannot have the interrogative pronoun remain in the CP it introduces. The latter must move (Fennimore 2010).

The licensing principle for movement mentioned in the first chapter is certainly relevant to WH-movement. According to Carnie, government is the necessary relationship of the node receiving the movement to the original node (2012, 337). Another condition is for the head of the embedded CP, requiring an *agreeing complementizer*. The reason why *qui* indicates the subject position for the imbedded question in French is because it is the agreeing complementizer. If the trace is in object position, the verb meets governing and licensing conditions, allowing *que* as the complementizer instead. In short, different structures in French require these two complementizers allowing the interrogative pronoun to exit the clause (Crain and Lillo-Martin 1999, 228). Again, these complementizers are selected by the WH feature in the head of the main CP. Because they head the embedded CP, the distinction between them selects the placement of WH features. To be more specific, *que* selects WH features for the object so it can exit the clause. On the other hand, *qui* selects the features for the subject.

In English, *that* has already been identified as the complementizer, but the position can be null. Thus these structures are equally valid and mean the same thing: “What do you think John is doing?” and “What do you think that John is doing?” This example is an object question. In subject questions, there is a *that-trace effect* limiting such structures to the null complementizer. In this example, the first option is correct

while the second is not: “What do you think is happening?” and “What do you think that is happening?” The structure requires an agreeing complementizer; in English, the requirement is met by the null option (Crain and Lillo-Martin 1999, 226-232).

The results of Fennimore’s survey show that a null complementizer is never an option in French. Here is the survey item found to be incorrect for an object question: “Que crois-tu Jean aime?” Here is the item found to be incorrect for a subject question: “Que crois-tu est arrive?” The complementizers are always overt (2010).

It is to be noted here that English complementizers are completely separate from WH pronouns. In other words, there is nothing that can fill both positions, like the equivalent words discussed for French. Whereas in the context of French, the relative pronoun has so far been discussed in a way synonymous with the complementizer, these are not the same thing. The distinction has been unclear so far because the same words that double as complementizers and WH pronouns are also relative pronouns (Ollvier and Beaudoin 2004, 285). However, the distinction can be seen in the reference above to the fact that a complementizer can be used in the answer to some questions: when the answer starts with something like “Je crois que” (246) After this introduction, the rest of the answer has the syntax of a regular declarative. The complementizer can be followed by a complete clause. It can be seen that many questions, such as the type to which the above type of answer can be given, will have a WH word replacing the part of the subordinate clause in question. That word’s movement out of the clause changes the clause’s syntax.

When *que* and *qui* are relative pronouns, they take the place within the subordinate clause that belongs to a DP within the main clause. Again, *qui* is for the subject position and *que* for any objects within the subordinate clause. They always occur at the beginning of the clause, so that they immediately follow the word in the main clause of which they are taking the subordinate clause position (Ollivier and Beaudoin 2004, 285-286). Based on the earlier discussion, the configuration of a WH question makes this very similar to the complementizer in French. However, the declarative shows the relative pronoun as very different from the complementizer.

The phrase *est-ce que*, described in the last chapter, can also be used in WH questions in French (Ollivier and Beaudoin 2004, 236). Fennimore's survey included two items with the phrase, and both are acceptable in French. They are as follows: "Qu'est-ce que tu crois est arrivé?" and "Qu'est-ce que tu crois qui est arrivé?" French professor Dr. Moine is quoted in the research identifying *est-ce que* as the semi-particle in both instances. There is a *que* at the beginning of each functioning as the interrogative pronoun and preceding the semi-particle. The complementizer *qui* appears in one. Thus the semi-particle makes a configuration in which the complementizer has a null option. Otherwise it must be a word instead of a null feature (2010).

The WH words described so far are not the only ones. Many comprise a distinct class among DPs, characterized by transformations of the same kinds already described. The word *what* has already been described, and something about it is that a noun can follow it. Another word, *which*, can occur with the same structure. Structures with more than one WH word have been discussed, but something else about their

movement is that the one that moves can only move away from the other. One cannot move from one side of the other to the opposite side (Heny 1998, 218-219).

*Who* and *what* have been considered to fill the position NP [+WH] within a diagram (Crain and Lillo-Martin 1999, 190). To update this for current theory, it would be DP [+WH]. Such a designation represents their distinct class. The other words of this class are *where, when, why*, and *how*. These must fill more of an adverbial position.

In French, there is a *PP-island Constraint* in which the DP within a PP must stay within that phrase throughout the derivation (Fagyal, Kibbee, and Jenkins 2010, 108-114). As a result, a WH word within a PP requires the whole PP to be fronted. Here is an example with the PP in italics: "*De quel livre* pense-tu?" (Ollivier and Beaudoin 2004, 237). Without the same constraint, English allows, outside of many traditional standards, the DP with WH features to leave the preposition when fronted. Here is the English translation of the French example: "What book are you thinking about?" In such a configuration, the preposition becomes a type of particle (Carnie 2012, 71-72).

While WH movement has been discussed already, some more detail is needed about the transformation itself. First, when it is placed at the beginning of its clause, the node is specifier of that CP. In fact, this is its only movement in a simple sentence. Yet there are also *long-distance questions*, in which such a word has its original position within a subordinate clause which it exits. This involves an additional movement from specifier of the embedded CP to that of the main CP. In fact, transformations can take it through two or more layers involving an embedded clause inside another embedded clause, in the process of *Successive Cyclic Movement* (Crain and Lillo-Martin 1999,

216-223). As for configurations in which a PP with a WH word is fronted, the explanation is that the DP has its WH features affecting the PP.

One more significant configuration with a long-distance question is with two WH words. In such a sentence, the *Island Constraint* permits only one to take the steps out of the embedded clause, since that word's trace keeps the other from moving even into the specifier of the embedded CP. It is not possible for one to enter the specifier of the embedded CP while the other bypasses that node to enter the main clause (Crain and Lillo-Martin 1999, 223-225).

In Dutch, the WH word in such a question is something else that can fill the specifier of CP DEM. Movement of D-pronouns and topics then has only the specifier of the main CP as a potential location. Since the former need the DEM feature in the final location as a condition of deletion, they have to be overt in WH questions. Unlike other DPs in that node, the D-pronoun moves there by a process other than left-dislocation. With this being followed by a WH word and then a verb, the configuration is an exception to the usual V2 patterns (Barbiers 2007).

In short, WH movement can reach the head of the CP, or in some languages of the CP DEM. In addition to drawing movement of WH words, that feature in head of CP also selects the same feature occurring in another node. Examples have been seen here with those features in DPs and adverbials of different kinds. The latter category includes a PP when it goes through WH movement due to that feature in the DP within it. This is important because DPs and adverbial phrases are functional categories; this

selection supports the main argument that the head of CP selects other functional categories and draws movement.

# Chapter 7- The Imperative Force

The last force is imperative, defined by its use in expressing action to be performed by someone, called a *To-Do List*. While a command is its traditional definition, there are other functions and various structures in different languages (Kaufman 2014). A wider perspective on its use is in the acronym RIM- *request, insist, and demand* (van der Wurff 2007, 1-4). The head of CP has the feature *Imp* (Reis 1999). The many structures and uses for the imperative are connected in one force.

**Pro**

The defining characteristic of primary importance across languages is Pro, allowed in many languages by an implied second person for the subject (Zanuttini, Pak and Portner 2012, 1232). This characteristic points to a principle mentioned earlier, in which it is shared with most non-finite clauses (Speas 2001). Many languages have imperatives without finiteness, but not all (Zanuttini 2008, 210-216). Since each force is here argued to make selections of DPs, Pro is the selection made by the imperative.

Across languages, there are two main explanations for the imperative Pro depending on the languages: the – feature in the Finiteness head; inflections just for the imperative (Zanuttini 2008, 210-216). This later type has force determined in a particular node with an inflection attaching to the verb. Suggested nodes include the head of the IP/ TP (Zanuttini, Pak and Portner 2012, 1233). That position would explain the inflectional forms particular to the imperative. The configuration would naturally cause the inflection to attach to the verb. These would have the + feature in the Finiteness node. The – feature is then an option when languages form the imperative differently.

An example of the later type of language is English, in which the imperative matches the infinitive. Neither one has any inflections, while both are nonfinite (Zanuttini 2008, 210-216). Yet, this does not explain null subjects when Finiteness is +. It only explains the null subject in English and other languages that form imperatives in this way.

As mentioned for a parameter earlier, one option allows Pro when conjugation indicates person and number (Speas 2001). Languages with such a conjugation system certainly have an explanation for imperatives with null subject. Ancient Greek is an example, with imperative inflections classified as a mood. This is one of the languages with the most use of Pro (Balme and Lawall 2003, 26-27). The special inflection is necessary to indicate the imperative since Pro could be used just as easily in other forces. Such languages need no other explanation for imperatives without overt subject.

French gives a different perspective. While confining Pro mostly to non-finite clauses, it has inflections for the imperative. Though this makes the imperative finite, the subject can still be null (Ollivier and Beauvoin 2004, 26). In French, Pro cannot be explained by a non-finite structure or by extensive inflections. It is explained instead by the imperative option for force in head of CP selecting Pro. This is a different kind of licensing of Pro from its licensing discussed in the context of the declarative. The Pro discussed for the declarative is limited to certain configurations unrelated to the –Q-WH feature (Speas 2001). However, the imperative feature selects Pro, comprising a form of licensing. Unlike the possibility of Pro in the declarative for some languages, the same

feature defines the imperative (Zanuttini 2008, 210-216). For this reason, it represents a form of distinction for this force.

**Person features**

The next point of interest is that Pro is not the only feature of pronouns selected by this force. In fact, this relates to the idea that Pro is allowed partly because the person features are understood and do not need to be explicit. Different languages have different structures in which this happens, as described in the last section. The point of interest now is that languages are not all the same in person features selected.

Therefore some more information is needed about the inter-linguistic variation. First of all, all languages have the imperative in the second person. Some have it in other persons and numbers too, with none of the combinations excluded from possibility (Zanuttini, Pak and Portner 2012, 1235-1236). For example, Ancient Greek has it in third person as well (Shelmerdine 2008, 113). French, instead of third person, has it in first person plural as an expression of suggestion (Ollivier and Beauvoin 2004, 26).

English is an example of a language in which the imperative is basically limited to second person, with some exceptions to be seen shortly. While the English structure has been described already, there are some other structures used in languages that also limit the imperative to second person, usually in the form of a particle specific to the imperative. This other structure allows a Pro subject, of which the information is expressed in the particle (Zanuttini, Pak and Portner 2012, 1232-1235). A simple example of this is Japanese (Kaufman 2014).

Some languages have the corresponding particle as part of a larger system of *jussives*. Particles in this category are defined by their representing person features for Pro. It can best be understood in the context of the other kinds besides the imperative. The best language to demonstrate this is Korean, in which there are two other jussives. One of these is the *exhortative*, defined by indicating a plural subject: specifically the addresser and the addressee. Its meaning is a recommendation, comparable to what in English would start with the phrase *Let's*. The other jussice is the *promissive*, defined by indicating first person as a way of giving one's word on action that one will take. All the jussives in Korean end the sentence (Zanuttini, Pak and Portner 2012, 1233-1234).

The structure suggested to explain this is the jussive being the head of its own phrase with TP as its complement. This phrase is then supposed to be the complement of CP. The jussive and the tense are supposed to be adjacent nodes, with the jussive governing the tense. The tense here has a person feature as the only thing in common with the jussive. Due to these features, they act as one unit. Their person features then put them in *agreement* with the subject, providing an additional condition for Pro, which is in general use instead of being distinct for imperatives. Though Korean is head-final, the theory puts T-Jussive at the beginning of the original phrase marker with the VP next in order (Zanuttini, Pak and Portner 2012, 1242-1246).

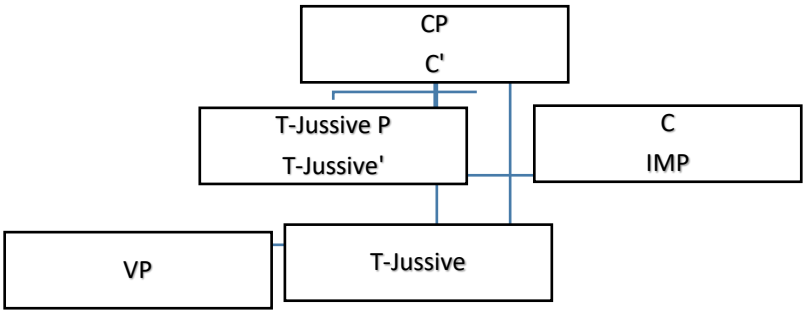
This later idea seems to be based in the Universal Base Hypothesis, of a VO type since the head of T-Jussive is placed before its complement VP. The fact that the subject precedes V in VP does not contradict this, since subject is specifier instead of

complement. Yet, since the current argument includes parameterization of X' structure, it seems more likely that the jussive is at the end of its phrase at all levels of derivation.

Korean has its heads at the end of the phrase (Zanuttini, Pak and Portner 2012, 1248). That fact makes this explanation for the jussive structure best. There would be no node for them if they were not the head of their own phrase. Their position at the end of the sentence leaves no maximal projection of either TP or IP in which they would fit.

More detail is needed concerning the person features of the imperative. In some languages, the second person is selected automatically. In other languages, the second person is among options selected. Yet when all persons and numbers are allowed in the imperative for a particular language, there would be no selection at all. Otherwise, person features represent this force selecting pronouns as a functional category.

Figure 11- Sentence structure with jussive in Korean; adapted from Zanuttini, Pak and Portner (2012)



### Other structures

As mentioned before, the exhortative in Korean is comparable to English *Let's*. This equivalent is a phrase, short for *Let us*. While treated as a phrase instead of a set of individual words, its origin has a structure similar to a command, though used for a recommendation. According to van der Wurff, it has a structure unusual in English with the position and the case declension being typical of an object (2007, 55-57). The same meaning was seen earlier in the French first-person plural imperative. In short, the Korean exhortative connects to some imperative structures in other languages.

English has some different uses in the imperative. One use is expressing hope for someone, such as: "Have a nice day." Another is about directing instead of commanding, such as: how to use a product; a recipe; how to go somewhere. Furthermore, two English aspects can be used in the imperative in rare constructions. The progressive is used to emphasize that the action is to be current and ongoing, as opposed to something that needs to be done later; for example: "Be thinking about what you want." The perfect is used as a strongly expressed condition concerning the past; for example: "Don't have fallen from the tree" (van der Wurff 2007, 5-7). As seen in the example, the perfect occurs only in the negative.

These later two types of imperative are similar to some structures in other languages. One example is the use of aspects in Greek imperatives, which are formed through inflections on the verb. The present aspect indicates action in process, while the aorist as a form of past indicates action at one time (Shelmerdine 2008, 113). Other languages can have the later type of imperative with a *hortative* meaning as a rebuke,

corresponding in English to clauses starting with something like “You should have.” The action described is shown as necessary in a past circumstance (van der Wurff 2007, 48-49). French has an equivalent to the English perfect imperative; the mode is seen in the inflection of the auxiliary *avoir* or *etre*, followed by the past participle of the verb. Unlike the English equivalent, this can be in positive form and the meaning is for the future and setting a deadline (Ollivier and Beaudoin 2004, 26).

Again, all combinations of person and number occur in the imperative in some languages. Many languages use the subjunctive mode instead for meanings similar to the imperative in a person and number lacking an imperative form (Zanuttini, Pak and Portner 2012, 1250). Since first person singular is one such option, there is some connection to the Korean promissive. However, the subjunctive meaning can be different from the promissive. The distinction can be seen in equivalents in English: people promise “I will always love you”; the related subjunctive would be “May I always love you.” The subjunctive lacks the same sense of promise, indicating more of a wish. As van der Wurff points out, the structure of *let’s* mentioned earlier can also have the first person replaced with third person, producing a different kind of suggestion, or even a demand; one example is *let him*. The structure also allows the singular of first person (2007, 55-57). This last example includes expressions, such as “Let me think” or “Let me see,” requesting time to give someone information. It is not a promise.

Another example comes from French. First of all, demands in the first person singular and third person are in the subjunctive since those do not have imperative forms. Sentences of that type start with the complementizer *que* as an expression of

wish (Ollivier and Beaudoin 2004, 26). Another alternative to the imperative is the future tense for second person, also as a command (124). This type of command is seen in other languages as well, such as English. In this structure, RIM features are needed to distinguish it from the declarative *you will* or its equivalent in other languages (van der Wurff 2007, 4). Here is an example of a declarative use: “You will need a car.”

This last point relates to another theory that has been proposed to explain the lack of finiteness in imperatives, such as in English. This theory is that the tense occurs with a null modal instead of the verb. However, there are two problems with this theory. First of all, it can only explain non-finite imperatives without particles. Second, even in those languages in which the imperative lacks finiteness, the negative imperative does not fit the theory. An example of this is English, in which the negative imperative has automatic do-support, such as “Don’t run.” A null modal would not allow this structure. Overall, this theory is not consistent with the facts. Thus while English commands can start with the modal phrase “you will,” this modal structure does not point to a null modal in other imperatives (Zanuttini, Pak and Portner 2012, 1261-1262).

In Chapter 4, it was mentioned that the imperative has some different tense selection from the other two forces. From the discussion of the imperative so far, this idea can now be expanded. As a language in which the imperative takes different aspects, Greek has been shown to lack the same range of tenses as seen in the other two forces. Simpler imperative structures, such as in English, do not have such inflectional distinctions that is due to lack of finiteness. Furthermore, the same language only distinguishes time reference in its imperatives by adding the future word *will*, or the

progressive or perfect structure described above; none of these options are inflectional, though there are inflections added to the auxiliaries. The imperative therefore selects only certain tenses.

Most of structures that are not imperatives, but with similar meanings to it, must tend to be marked as declarative in the head of CP. While a jussive indicates the imperative in Korean, the head of CP is also marked for the force. Since the exhortative and promissive have similar meanings and structures, it is quite possible that their presence also indicates an imperative in the head of CP. In other words, jussives could comprise a single force, selected by the null marker in CP. Their use does not contradict the statement that the imperative is indicated in head of CP, as in Figure 11.

The three kinds of jussives share the function of indicating an action to be fulfilled. One theory has the Jussive Phrase as a principle with the imperative as the only required type and the other two types as options for some languages (Zanuttini 2008, 210-216). However, for languages that do not mark the imperative with a particle, an imperative feature in the head of CP would be sufficient to select the – Finiteness feature. Therefore, the Jussive Phrase seems to be more of a parameter option for languages with an imperative particle, including Japanese.

More needs to be said about languages in which the imperative is confined to second person but formed without a particle. With English as an example, the confinement to second person is indicated by some structures. First of all, tag questions can be added to an imperative, usually in the form *won't you*. The other structure is a

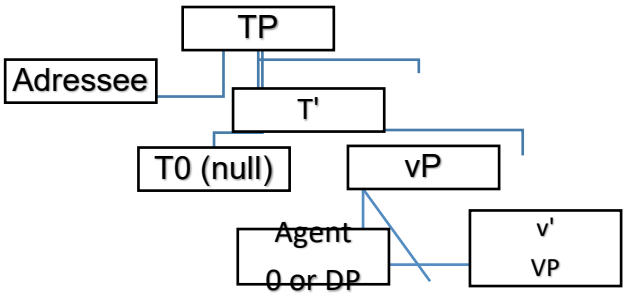
reflexive verb in the imperative, accompanied by some form of *yourself*. English imperatives cannot be in another person (Zanuttini, Pak and Portner 2012, 1238).

It was mentioned earlier that languages generally confining the imperative to second person have some exceptions. The type of exception can occur whether there is a particle in the language or not. This is when a non-pronoun DP is inserted in the subject position. This is actually in addition to the Pro subject, in a two-part structure called *anaphor*. In the imperative, it indicates who is being commanded. It can also occur in the promissive in Korean when the subject is first person plural and the speaker is specifying who will do the action in question. For the exhortative, it can indicate to whom the recommendation is made (Zanuttini, Pak and Portner 2012, 1256-1258).

A rarer structure, such as in Italian, has anaphor with two overt subjects and the verb in subjunctive. The first subject is addressed to arrange something, and the second is the subject of what is to be arranged. English is a language in which similar structures occur, but rarely; the verb is not finite; such as: “Foreman, someone fix that crack in the wall.” The first subject plays more of a *vocative* role than a true subject (Zanuttini, Pak and Portner 2012, 1250-1253). This means it names the addressee, as the Greek vocative case does (Balme and Lawall 2003, 20). This kind of structure has a level in the tree diagram not yet discussed: vP, notated intentionally with a lowercase v. This new structure is the complement of TP and has the VP as its complement. It creates an extra node, allowing the addressee to fill the usual position of subject in TP while the agent of the verb fills a node in vP. While its specifier contains the subject, the T head indicates second person influencing the conjugation (van der Wurff 2007, 40). In a

similar structure, the addressee is named and given a to-do list. Furthermore, the second-person pronoun can be pronounced.

Figure 12- The structure of an imperative with two overt DPs in English; adapted from Zanuttini, Pak and Portner (2012)

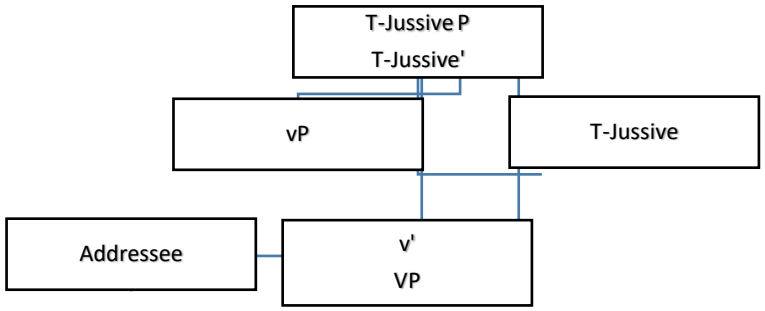



Korean has a similar structure with an overt subject other than a pronoun in a sentence with a jussive. The way it is analyzed is that the verb still has a null subject indicated by the jussive; the overt subject is secondary (Zanuttini, Pak and Portner 2012, 1256-1258). A vP with this secondary subject in specifier explains this.

Placement of complement pronouns around an imperative is also important. In French, they follow the imperative verb, to which they are attached through hyphens. This is different from the declarative, in which they precede the verb. The negative imperative has the clitics before the verb instead. An example of the positive would be: “Regarde-moi.” Here is the negative form: “Ne me regarde pas” (Ollivier and Beaudoin 2004, 25). In Spanish, these clitics follow a pattern similar to that mentioned earlier for nonfinite clauses: enclisis with the imperative verb. When the imperative occurs for

aspectual verbs, the process can usually occur either with the imperative or with the infinitive following it. Here is an example with both possible structures: “Termina de hacerlo;” “Terminalo de hacer” (den Dikken and Blasco 2007). Since different forces make different uses of pronouns, this example is distinct for the imperative.

Figure 13- The structure of a jussive with an overt subject; adapted from Zanuttini, Pak and Portner (2012)




One final point of interest is some forms of topicalization in the imperative. In Dutch, it is another force with a null operator in the specifier of CP DEM. Like the one in polar questions, this operator prevents D-pronouns from moving there and forces them to remain overt. However, German has no such operator, thus allowing D-pronouns to move to the location and be deleted. The subject in both languages remains null due to its position in the specifier of a kind of vP, which has been mentioned earlier. There are two reasons: the node is marked as DEM; it indicates second person. There are still phrases that can be emphasized in this structure, though not the D-pronoun, in the form of topics and left-dislocation. Their movement is into the main CP (Barbiers 2007, 103-110). Other languages with topics marked include the structure in imperative clauses

(Rizzi 2017). This is important because topicalization is a type of movement taking some distinct forms in the imperative.

**Function of imperative features**

The force feature in head of CP selects features in other parts of the sentence depending on the particular language. For these features, options chosen by different languages include jussive heads, – finiteness, and an imperative inflection. These all have been shown to involve Pro as another selection. Furthermore, the last of those options, since it is classified as a mood, is a selection in Mood P. Outside of these options, related structures in the declarative force are often in the subjunctive mode. These selections all relate to the argument being made, because they are all for functional categories. The vP is another selection made for particular structures with overt subject other than a pronoun.

The discussion of German and Dutch is also important because of movement, which is also part of the argument. According to van der Wurff, only German has its specifier of CP Dem open to movement in this force. Both languages have earlier positons open to movement (2007, 103-110). Also, the operator in the head of that same phrase is not a substitute for the feature in the head of the main CP. It is more likely that the features in the top C position select the operator in C DEM. This is another example of the feature selecting one in another functional category.

There is another important point related to word order. Several options for indicating the imperative are useful in the context of free word order. First of all, particles and jussives allow different word orders around them without losing the

imperative meaning. Second, imperative forms of conjugation show the meaning in the verb no matter where it is in relation to other words.

Korean, again, includes jussives in a grammar with Pro as a general feature not confined to the imperative. Therefore the jussive is needed to indicate this force because Pro is not sufficient to do so. As a related point, many languages with special imperative inflections also have Pro as a general feature and not just in that mood. This is another context in which something other than Pro is needed to mark this force (Zanuttini, Pak, and Portner 2012, 1255).

# Chapter 8- Other Structures with Force

So far the three types of force have been described in the context of simple sentences. As mentioned before, there are also complex and compound sentences. The point of interest now is how force manifests in the clauses of these kinds of sentences. The only other references so far to the possibility of two clauses in a sentence has been in the context of long-distance questions and tag questions. This additional discussion of compound and complex sentences is important because some distinct forms of selection and movement occur is such structures.

## Embedded declaratives

First of all, the complex sentence is defined by the presence of a subordinate clause (Loberger and Welsh 2002, 144). Since generative theory requires that all clauses have force, an important concept is the relationship of an embedded clause to the main clause in terms of their respective forces. In such a situation, all conceivable combinations of a main clause force and an embedded clause force are possible. This discussion then starts with embedded declaratives.

In such a clause, the complementizer such *that* in English usually follows the main clause, followed by the subordinate clause usually with the same structure as if it were a main clause. A declarative embedded in another declarative is often introduced by expressions of particular types. For example, there are verbs of intellect such as *think* and of discourse such as *tell* and *hear*. There are also adjectives describing emotion, such as *angry*. The verb *disturb* has another kind of structure, in which there is

a direct object followed by an embedded clause, either finite or nonfinite. It is common for a pronoun in that clause to refer to a DP named in the main clause (Landau 2013, 245). The verb or phrase that introduces the embedded clause represents a form of selection. Therefore this is a clause in which force features are selected (Rizzi 2016). While the argument here is largely about selections made by force features, the features can also be selected. This is important to understand.

However, the embedded declarative is not confined to structures from the main clause that select it. When other kinds of verbs and phrases are used in the main clause, an embedded clause has the function of indicating the purpose of that verb or phrase. The complementizer then has the word *so* in its specifier. Here is an example: “I exercise so that I feel better.” The clause’s force is not selected by the main clause, but the structure shows the ideas as being related.

There is another way embedded declaratives can connect to the main clause. Here is an example of a clause filling the position typical of a DP: “That you would think that surprises me.” This is different from the usual embedding of a declarative selected by a VP in the main clause, though it fills the complement of VP as a DP can; the difference is that the complement can be several things other than a DP, while the specifier is generally confined to a DP.  Thus the complement can be seen in this example: “I know that you run.” In short, the embedded clause has different functions in the sentence. While not of primary interest here, non-finite clauses such as infinitives can take the same positions (Landau 2013, 238-239).

Another distinct property of embedded declaratives allows *anaphora*, in which an embedded pronoun gets its meaning in identifying with a main clause DP. Here is an

example: “John knows he can run” (Crain and Lillo-Martin 1999, 145-147). The type of anaphora of interest here is with a finite embedded clause, but it can happen also with implied subjects of nonfinite clauses such as infinitives. This is important because several types of structures referred to earlier as introducing an embedded declarative can allow their subjects or objects to be anaphors of the embedded pronoun (Landau 2013, 240-241). Furthermore, the embedded clause can be earlier in the sentence, so that structures allowing anaphora are modified to allow the same kind of connection in configurations called *cataphora* (Fagyal, Kibbee, and Jenkins 2010, 108-109). Here is an example in the declarative: “So that he can run faster, John practices every day.” Examples will be seen in other embedded forces.

In languages allowing topics in main clause declaratives, the same is allowed in embedded declaratives. Italian and Japanese are examples with different orders for emphasis of different elements. *Criterial freezing* prevents transformations from removing the words from the embedded clause. Also, criterial features provide the mechanism by which words take those positions. Movement into the positions depends on the features selecting the words that undergo the transformation (Rizzi and Bocci 2017).

### Embedded questions

The kinds of questions already discussed have been *direct questions* and *long-distance questions*. There is another type of scope called *indirect questions*, comprise a subordinate clause. In this configuration, the main clause is usually of the declarative force. When there is a WH word, a transformation places it at the beginning of the subordinate clause (Crain and Lillo-Martin 1999, 188-200). This is different from the

long-distance questions mentioned earlier, in which the transformation removes the WH word from the subordinate clause (216-218). Indirect questions often occur because the WH word cannot exit the subordinate clause.

There is a structure to explain this. First of all, several languages have a particular complementizer used to introduce an indirect question. One example in English is *if*. By definition, this complementizer is part of the clause of the indirect question. In the main clause, there are verbs and verbal structures that also help to introduce the indirect question. The major example in English is the verb *wonder*, which is followed by *if* (Rizzi and Bocci 2017). It is clear that this structure introduces a polar question. For a slight modification, the same verbs can be used to introduce a WH question without the complementizer. This configuration triggers the transformation placing the WH word at the beginning of the clause. It does not, however, produce a long-distance question.

Of course these verbs mentioned for the main clause represent selection of the interrogative for the embedded clause (Rizzi 2017). There are many verbs taking as complement a subordinate clause that can be used to introduce a long-distance question. It is the ones specifically associated with questions that cannot do so, since they introduce the indirect question. For example, the verb *wonder* cannot allow WH words to exit the embedded clause, as they only do so in long-distance questions (Crain and Lillo-Martin 1999, 216-218).

Another interesting point about this can be seen in an example. This is a long-distance question: “What did John say Mike heard?” (Crain and Lillo-Martin 1999, 216-218). This can be modified into an indirect question: “John said what Mike heard.”

Therefore, any verb that can introduce a long-distance question can also introduce an indirect question, but the reverse is not necessarily true. The explanation must then be in force features in the head of CP. According to Carnie, this is because the long-distance question has the +WH feature in C position of the main clause; the indirect question has it only in the embedded C. For this reason, WH movement goes into different nodes, explaining different kinds of questions (Carnie 2012, 317-326). Again, these structures are selected by verbs from the main clause (Rizzi and Bocci 2017).

Besides the words mentioned already as occurring in front of the embedded question, another is *whether*. Heny analyzes it as containing WH features (1998, 222-223). However, its use indicates a polar question instead of a WH question. Here is an example: “I do not know whether that is true.” Like *if*, it represents +Q –WH features.

Another interesting point is the embedding of the double question. As already described, this means the question has two WH words, such as: “Who knows what?” (Crain and Lillo-Martin 1999, 204-205). If that example were imbedded, there are right and wrong applications of movement within the whole sentence. Here is an incorrect application: “What do you wonder who knows?” Instead, *what* would have to remain in the embedded clause. The only way it can be fronted within the embedded clause is actually with emphasis on *who*; the context would be in a conversation in which someone asked someone else what a third person bought, and the other person who was asked then asks for clarification of who the other person was talking about. The last example can be modified to demonstrate this: “You wonder what who knows?” Here is another result of incorrect application of transformations: “Who do you wonder knows what?” Therefore, neither WH word can exit the embedded clause.

That example involves a main-clause verb used exclusively for questions, so that a long-distance question cannot be formed with it (Crain and Lillo-Martin 1999, 216-218). However, the same issue can be found replacing it with a different verb allowing a long-distance question. The verb *say* has been used as an example of such a verb. Here is an embedded double question with that verb: “You said who knows what.” This restructuring of the sentence as a long-distance question is incorrect: “Who did you say knows what?” Therefore, double questions can be embedded, but not transferred to a long-distance question. The –WH feature in the main clause allows double questions in the embedded clause; the +WH feature in the same node does not, since neither WH word can move into its specifier.

A different type of structure is seen in languages allowing multiple topics and a focus. First of all, these same components of the main clause occur also in the imbedded clause. In Italian, for example, the complementizer *se* is used specifically to indicate an imbedded question. The embedded WH question has a separate node lower in the structure and drawing movement just of the WH word. The topics and the focus come mostly between these positions. Japanese is an example of a language with a similar structure, but with the reversed order (Rizzi and Bocci, 2017).

One other structure for the embedded interrogative in English is the WH-infinitive. It is a type of nonfinite clause containing a DP with WH features moved to the front, even of the infinitive marker.  An example is in this sentence: “Mary asked which way to go” (Landau 2013, 71-72). This seems to be another structure with WH features in the head of the embedded CP, which then draws movement of the DP with WH features to the specifier. Though an infinitive can be a TP, this structure involves an imbedded CP.

Earlier, anaphora was discussed in the context of an imbedded declarative (Crain and Lillo-Martin 1999, 150). It is also relevant in the context of imbedded interrogatives. Here is an example where it is allowed in the polar question type: “John will tell us if he wants to go.” Here is an example where it is allowed in the WH question type: “John knows what he wants.” Principle C prevents anaphora when the DPs are switched, such as in these sentences: “He will tell us if John wants to go”; “He knows what John wants.”

**Embedded imperative**

A single language tends to have fewer options for embedding an imperative than for the other forces. First, there are several options in English. One option is a quote, such as: “Your boss said, ‘Hurry up.’” This structure is very similar to a direct command, except that the person who made the command has his words repeated by someone else. The quote therefore has an introduction. Another form of the same idea is this: “Your boss said that you should hurry up.” This is less like the direct command, though the meaning is the same as the form with the quote. However, there is a structure borrowing features from both of these two, but that is not allowed. An example is this: “Your father said that hurry up” (Kaufmann 2014). Therefore, Pro requires a very specific configuration in such a clause.

The infinitive, however, can be used in a few configurations. First of all, Pro can be seen in this configuration: “Your boss said to hurry up.” Pro is allowed both because of the infinitive and because the second person meaning of the imperative is understood. One related structure is a little bit different: “Your boss told you to hurry up.” There is technically still Pro in the infinitive, but the subject is present as the object of the verb *tell*. This is because the verb is transitive. While this and other verbs can select

the imperative, there is also the option for the embedded clauses they introduce to be declarative. Selection of force is therefore not always a matter of a one-to-one relationship between the phrase in the main clause and the force in the embedded clause. The structure of the embedded clause is needed to clarify its force. Something about the last example is that the direct object can be a pronoun of any number and person, so that the imbedded imperative is not confined to second person.

Therefore, the addressee of an imbedded imperative does not have to be the addressee in English. A similar point is seen in some languages that have inflections just for the imperative. For example, Germanic languages other than English include such inflections for the imbedded clause (Kaufmann 2014). This is not to say, however, that all languages with such inflections include them in this type of clause.

Of course, there are also languages with an imperative particle. Japanese uses this in the subordinate clause. Furthermore, the subject may or may not be expressed directly. Likewise, Korean uses its jussive in such a clause in addition to the complementizer (Kaufmann 2014). The same is true with all its jussives. This fact supports the analysis of the jussive as the head of its own phrase since it is separate from the overt complementizer (Zanuttini, Pak and Portner 2012, 1242-1246). Yet, force can take the form of a particle, depending on the language, in the head of CP (Rizzi and Bocci 2017). The Japanese particle may take this pattern instead of being a jussive. Again, this is not to deny that it could be a jussive.

As a result, the jussive is not just a projection of CP. English has already been shown as a language in which the imbedded imperative takes a distinct structure. Since languages often have differences between imperatives in main clauses and subordinate

clauses, a projection of CP in the main clause could be absent in the imbedded clause. Since Korean has the same jussive in both, it is more than a projection of CP and thus the head of its own phrase, especially since the embedded jussive is separate from the complementizer (Zanuttini, Pak and Portner 2012, 1242-1246).

Embedded imperatives are similar to those of the main clause in lacking an overt subject. Sometimes this is through repetition of the same structure from the imperative main clause. Other times, distinct structures include the infinitive in a particular configuration. Depending on the language, finiteness may or may not be involved. The structure has already been shown to confirm the jussive as the head of its own phrase.

**More about embedded clauses**

In short, embedded clauses have force manifested in ways both similar to and different from the main clause. The configurations involved vary from language to language. As the direct quote was mentioned specifically as a way to embed an imperative, it does the same thing with declaratives and interrogatives. Since such a clause is a CP, force is contained in its head just like the main clause. The other structures involved depend on this force head. Furthermore, some complementizers are used with a particular force, while others have a more general use for embedded clauses. Sometimes the particle from a main clause verb can be the same for embedding the force.

There are some important generalizations about imbedded clauses. First of all, the examples that have been given here show that there are different sets of verbs that can be used in a main clause to introduce imbedded clauses. Each force has different

verbal structures that can be used to introduce it in a clause. Second, the imbedded clauses have distinct structures. For example, there are particular complementizers for the declarative and the polar question. WH questions replace the complementizer with WH movement. The imperative maintains the non-finite structure in such a clause with structures such as an infinitive or a particle with a complementizer, depending on the language. Two selections occur in such sentences: VPs in the main clause for embedded force; embedded force for structures within its clause (Rizzi and Bocci 2017).

**Conjunctions and force**

One more related idea is coordination between two forces, as a type of compound sentence (Carnie 2012, 209). One combination that can occur is imperative and declarative. It has to be in that order, because the reverse is ungrammatical. Here is an example of the incorrect order: “I will pay and fix my stove.” The correct order is seen in this revision of the same sentence: “Fix my stove and I will pay you.” The structure indicates a condition and its result. The condition is an action on the part of the addressee. While the result in the last example was an encouragement to the behavior in the imperative, the opposite can be used in the same structure. This type constitutes a “dare” instead of a true encouragement in the imperative part. It indicates to the addressee that they can take a particular action if they want to, but there will be consequences. Here is an example: ”Do that again and I will punish you.” It is a structure in which the imperative takes a different meaning (van der Wurff 2007, 4-5).

The examples above had *and* as the conjunction. Another conjunction, *but* allows a wider range of structures. First of all, it allows a declarative followed by an imperative, which was ungrammatical in the example above. Here is an acceptable example: “I

know you are tired, but don't sit down yet." It also allows the reverse, such as: "Don't be offended, but I need to leave now." Furthermore, it allows the interrogative for the later clauses, unlike *and* as the conjunction. Here is an example starting with the declarative: "I know we need to get there, but why are you in that much of a rush?" Here is an example starting with the imperative: "Excuse me, but why are you running?" The contrast indicated by the conjunction *but* thus allows more types of difference between the two clauses. Most of the examples could be made into complex sentences by removing *but* and placing *though* in front of the declarative clause along with other changes to the grammar. This would maintain the sense of contrast. It is only in the last example above that that cannot be done, because it is not really about contrast. The imperative acts primarily as a preface to the interrogative and serves purposes such as getting someone's attention. The later clause carries the real meaning of the sentence.

This use of conjunctions is important because it is another way that clauses of different forces can occur together in a sentence. Limits, such as different conjunctions allowing different combinations of forces, must be due to some kind of selection. It is unclear whether the conjunction selects what forces can be before and after it, or the force of the first clause selects what goes after it. The important point is that a CP composed of two CPs connected by a conjunction only allows certain combinations for the daughter nodes. This is the last form of selection of interest to the argument.

# Chapter 9- Potential Feature [+WH –Q]

The way that the WH feature has been described so far, it is possible only in conjunction with +Q. While this defines WH-questions, the words selected by this question type occur in some structures not interrogative in nature. Clauses of this type, such as those to be described here, must represent +WH –Q as a feature. This issue is important in understanding force features in head of CP.

**Exclamatives with this feature**

As mentioned before, exclamatives can comprise forms of the declarative or the interrogative. Therefore when transformations typical of the interrogative appear in exclamatives, it is often as a type of interrogative. Here is an example representing a polar question: ‘Won’t you have fun!” However, some WH structures have properties of interest. Examples include “How kind you are!” and “What a kind man you are!” The second one represents the interesting configuration *what a* (Beijer 2002).

These examples are important because they show configurations of WH words without their being questions. First, *how* is in the adjective phrase, apparently as its specifier. Then, *what* is in a DP, clearly as the specifier of the determiner. While WH words have been shown earlier as often filling the head of DP or an adverbial phrase of some kind, these specific configurations here have such words as projections instead and specifically as specifiers. Curiously, the phrase in which each occurs is then moved to the front of the sentence, showing a WH feature in the head of CP. However, inversion does not occur because of –Q. This must then be an instance of +WH –Q.

Another similar structure using *what* is worth discussing as well. An example is this: “What nerve you have!” (Beijer 2002). This looks similar to the kind of structure in which the WH word fills head of CP. However because it does not trigger inversion, the head of DP must not be the positon that it fills. It seems to fill the specifier instead, similar to its use in “What a kind man.” In this case though, the head of DP is null. In short, the use of *what* in a DP has different configurations depending on whether it is a question or an exclamative. The question has it in head of DP and the exclamative has it in the specifier. The later position must again be selected by the +WH –Q feature.

Therefore these types of exclamatives can be analyzed as declaratives with WH features. It is the first type of structure in which WH features occur outside of questions. As in questions, the WH feature in head of CP selects the same feature in other categories. The exact configurations of the categories with WH features are selected in different ways depending on the Q feature, whether + or -. For example, a DP can have its head with WH features in a question, but those features instead in its specifier in a declarative. Such configurations are part of the selection differences between + and – in the Q feature.

**Embedded declaratives and imperatives**

It was mentioned in Ch. 5 that French relative pronouns, *que* and *qui*, are used in a declarative sentence to connect a subordinate clause to the main clause when a particular DP has a part in both (Ollivier and Beaudoin 2004, 285-286). Both clauses can be declarative in such a structure. This can be better understood through consideration of some equivalents in English. First of all, *who* can act as a relative pronoun, in which case it does not denote a question. An example is this sentence: “I

know the person who wrote these songs." The word *that* can play the same purpose, even filling the position of *who* in the previous example. Unlike *who*, it can take the place of a thing in addition to a person. Another word, *which*, can take the place only of a thing. This is an example: "The book which I am holding is old." The word *where* can fill a similar role, though it is different. The point can be seen in this example: "The restaurant where I ate yesterday is closed today." The word takes more of an adverbial role, since the DP to which it refers is treated as if part of a prepositional phrase within the subordinate clause. Since none of these uses of these words are interrogative, they do not carry the +Q feature. They must be +WH –Q.

A related set of structures is the *–ever clause*, with the stated suffix added to the WH words. It is a type of embedded clause. An example of how it connects to the main clause is this: "I am meeting this person, whoever it is" (Loberger and Welsh 2002, 191). Like other WH words, they move to the front of the clause, filling the complementizer.

However, the clause can be imbedded in a different way. Here is a similar example: "Whoever I am meeting is already here." In this case, the WH word is part of both clauses. There is clearly a transformation by which it occurs only once in PF. It is still fronted in the subordinate clause, which is followed by the rest of the main clause. More is to be understood from an alternate coding: "I am meeting whoever is here." The WH word is still fronted in the subordinate clause, but the direct object position in the main clause keeps it from being fronted there. To summarize from these examples, the WH word of this kind keeps its position in the main clause while being fronted in the subordinate clause; the other parts of the clauses then move around the configuration of this word. Within the same class, *whatever* takes the same configurations as *whoever*.

Structures are similar, but not the same, for *wherever* and *whenever*. From earlier discussions, it should not be surprising that these have adverbial roles in the imbedded clause. They occur in similar configurations as two words already discussed from this class. For one such configuration, the –ever clause again remains separate from the main clause. These two examples each present one of the words of interest: “Wherever you go, I miss you”; “Whenever you are ready, I am waiting.” However, the words also have configurations in which they act as the subject of the main clause. Here are some examples: “Wherever you want to eat is fine with me”; “Whenever you finish will work.” Such a configuration allows the WH word to play a nominal role in the main clause and an adverbial one in the subordinate clause. The transformation still causes the word to occur only once in the sentence in phonetic form.

These two are not the only adverbials of the class; *however* follows some of the same basic patterns. An example given earlier for the latter adverbial instead expresses potential: “However great the need is” (Burrow and Turville-Petre 2005, 53). In other words, while *however* can occur in the same configurations as *whenever* and *wherever*, it also has a unique configuration with an adjective. The Adj P in which it occurs is fronted in the clause. It is a specifier of the adjective.

The last word of the class is *whichever*, with still a different set of patterns. Like the shorter word from which it is derived, it occurs with a noun, thus forming a DP. Here is an –ever clause with such a DP separated from the rest of the sentence: “Whichever car you take, I will take the other.” Here is an example of the other configuration: “I will give you whichever shirt you want.” This shows the DP in object position, but it can also be in subject position.

There are some important generalizations about these words with the –ever suffix. First of all, they always occur in sentences with a subordinate clause. Second, their fronting within the subordinate clause means that there cannot be a complementizer already taking that position. As mentioned earlier, Landau gives some examples of finite clauses filling nominal positions such as the subject (2013, 238-241). These –ever clauses seem to have the same configuration, but representing WH features. They comprise a CP filling a position such as specifier of TP in place of a DP. This also explains why the adverbials of the category, such as *whenever*, can be fronted while they seem odd in a nominal position. While the examples used have had declarative main clauses, the structures also work with imperative main clauses.

Such clauses can also fill adverbial positions. When they are fronted, the embedded CP fills the specifier of the main CP. When they end the sentence, their position would be in the VP as complement. They can also be in a PP as a complement. These do not necessarily constitute embedded questions; they could be another example of +WH –Q. Furthermore, they are in a form unique to the imbedded clause.

This is not to deny that there are sometimes +Q features in such clauses. This is because there are configurations in which the –ever suffix is added to the WH word in a simple question. Here is an example: “Whatever gave you that idea?” The suffix here has an emphatic purpose, giving a meaning comparable to the exclamative. It is a question asked out of surprise. It is another example of exclamatives having the interrogative feature. Again, the configuration does not require an exclamative feature in head of CP. As exclamatives in the declarative often transfer structures common to

embedded clauses into the main clause instead, this exclamative in the interrogative transfers an –ever clause to a main clause.

In embedded imperatives, WH words are confined to infinitives. One example is a WH question with an imbedded imperative, such as this: “What did John tell you to do?” From earlier analyses described, the WH word clearly starts in the imbedded clause in the derivation, and here it is the imperative. However, the CP with its head containing WH features is the main clause. A slightly different structure can be seen in modifying the last example: “John told you what to do.” Though the main clause is declarative, it is unclear whether the embedded clause is imperative or interrogative. It could be a feature Imp +WH. Though a detailed analysis is not of interest here, it is notable that Reis and Rosengren analyze some different uses of WH features in the imperative in German (1992).

The structures from this section show that English has the embedded question as a structure separate from some related structures. It has been shown earlier that French has WH question words matching some other kinds of words. Therefore it is another language in which imbedded questions are to be distinguished from similar structures. This is important because it shows force features as having another possible configuration besides those described earlier; it introduces the configuration +WH –Q.

**Pronoun selection**

As mentioned before, WH features in head of CP select such features in usually one other functional category. Something interesting about such features in embedded clauses is a pronoun in a particular configuration. The features of such a pronoun are

part of selection. More specifically, they are not part of an interrogative clause. Rather, they comprise another type of declarative with WH features.

The basic structure of interest is called *copy raising*, meaning left-dislocation of a DP within the embedded clause. It is movement into specifier of CP. The WH word used is *which*, as a form of selection. The type of selection of primary interest is for the *controlled pronoun*, defined by a transformation providing it for the original node of the left-dislocated DP. This can best be understood with an example: “The boat which I am not sure if it will float or sink, John said it can be fixed.” There are two controlled pronouns in this example. The part before the comma is left-dislocated from the rest of the sentence, with *it* marking the original position. Within that left-dislocated part, *the boat* is further dislocated with *it* marking the original position in that clause. In short, controlled pronouns occur both in main clauses and in embedded clauses (Landau 2013, 116). Copy raising can also be seen with embedded declaratives without WH features, such as in this example: “It surprises me that you would say that.” The controlled pronoun selection has some different features from that with WH features, for example: it involves right-dislocation instead of left-dislocation; its position is within a main clause instead of an embedded clause.

**General features of +WH -Q**

None of the sources references analyze these structures as +WH –Q. The analysis of these features is an original part of the argument. This means that WH features in certain configurations do not require the +Q feature. This is important to understand for features in head of CP.

# Conclusion

## Summary

Many ways have been shown so far as to how force features are distinguished. The point now is to take a general perspective of what those features do. The argument has been that those features in head of CP draw movement and select other functional categories. The interest is now in some general ideas of how they do so.

First of all, there are several functional categories that are selected. Again, WH features in the head of CP select like features in DPs or adverbials. This is seen most in WH questions but also in some declaratives, such as exclamatives. Such structures can be seen in a main clause or an embedded clause. Another point about DPs is that they can be overt or covert, depending on the language and the configuration. According to Zanuttini, Pak and Portner, the imperative force specifically selects the covert, or null, option for the subject in all languages (2012, 1231-1232).

This last point relates to another functional category: the Finiteness P. The reason for null subjects in the imperative is often because the force selects the –Finiteness feature. The other forces select + Finiteness; null subjects, when they occur, then depend on other features (Speas 2001). Null subjects in those forces then require the imperative to select other functional categories to distinguish it, since any force can have null subject. One option is selection of Imp in the Mood P, matching the feature in the head of CP. Another is selection of the jussive or other particle.

Second, the head of CP draws particular movements. While the WH features in head of CP have been shown as selecting like features in other functional categories,

the same head also tends to draw such categories to its specifier. Such movement has been shown in simple questions, long-distance questions, and embedded questions. Such questions and polar ones have been shown as involving inversion in some languages, with tense moving to C with or without the verb (Crain and Lillo-Martin 1999, 196). With licensing often required for movement, the WH word has this condition met in the specifier of the head with WH features (Carnie 2012, 329).

In subject-prominent languages, such as English, the head and specifier of the CP are nodes for a word or phrase to move as a topic in the declarative. Elements moving there tend to be DPs or PPs. While topic-prominent languages have a special position for topics, the comparable emphasis of a phrase through fronting in subject-prominent languages requires C and its specifier (Rizzi 2017).

German and Dutch allow such phrases to be fronted in those positions. Yet they also have the special CP DEM, with its specifier as a position for demonstrative pronouns standing for a dislocated phrase and as the head of a special CP as complement of the main CP. It is only in the declarative that demonstrative pronouns and other DPs move there in both languages. It is only Dutch that has the imperative operator, while both have the interrogative operator. The head of the main CP then selects whether the specifier of CP DEM has an interrogative or imperative operator or is open for movement of a demonstrative pronoun or any DP. Furthermore, DPs moved there can be deleted; in Dutch, that happens only in the declarative (Barbiers 2007).

This concept of interrogative and imperative blocking some movements is important in some other contexts. For both of these forces, special words and phrases

have been described already as expressing them. Interrogative particles directly represent the feature in C, though the same feature can also select adverbials and semi-particles (Bailey 2013). These three options express the force when word order would not be sufficient, due to free word order or null subject parameters. Jussives have already been seen as selected by the head of CP; it is debatable whether all imperative particles are jussives or only some do while others directly represent the head of CP. The important conclusion is that particles in C position prevent movement of other sentence elements to that node. Force features therefore impose limits on movement.

**Significance**

While the analyses that many authors have made using the perspective of generative grammar have been used as sources here, my identification of selection and movement as major properties of the head of CP is my original conclusion based on information from the sources. Therefore I have sited many sources describing specific examples of selection and movement for each force. Another idea that I have described through integration of different sources is that different parameters influence the different structures of force across languages. Of course the X' parameters were the most important because they are central to word order. Other parameters discussed extensively have also been about word order, particularly V2 and free/strict word order. The result is an addition to the discussion of how parameters influence force.

The most original part of the discussion is the consideration of +WH-Q as a feature in the head of CP. In the sources describing the +WH feature, it is always as a type of question. The original analysis here is based on the fact that not all uses of WH

words match the interrogative use. This was seen in the last chapter, first because the use of these words in exclamative structures is often different from their use in questions, and second because of –ever clauses and similar clauses. It is an addition to the analysis of features in head of CP. A related idea mentioned briefly was Imp +WH.

The thesis in general adds to the generative approach to analyzing language. It is an extensive discussion of the ways that force is distinguished in phrase structure rules and that transformations expand the differences. Of course it is by no means exhaustive, but it discusses several major types of selection and movement seen across languages. It is intended that this argument should inspire future research. This is most likely to occur in the case of the argument made here that +WH -Q is a type of feature. Its description in the context of English and French here has the potential to open the analysis of similar features in other languages. This was discussed in the last chapter in the context of embedded declaratives. Further research can be done in this context.

Besides language research, another practical application of this argument is in teaching language. For example, indirect questions are taught in English, but the analysis here of +WH –Q as a feature can be applied in separating indirect questions from similar structures such as –ever clauses. Furthermore, the analysis here of WH words as relative pronouns can be separated from their use in indirect questions. In other words, teaching of English can include instruction in different functions that WH words can take, as well as the different terms for these functions such as *interrogative pronoun*, *relative pronoun*, or *-ever clause*.

One final point is limits of the argument; in the research, information was found about ideas that were not included in the argument. For example, two articles not used described different ways that languages relate morphemes to words. These are ideas that have been described extensively in literature. They are not subjects for original analysis in this argument; nor are they relevant to the argument. Furthermore, many ideas described briefly in this argument have been the topic of much more extensive research than what was mentioned. Examples include voice and other areas of verb forms which have been researched and described in much more detail than what was given in this argument.

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