A Diachronic Study on the Complementation of the Verb *Caution* in American English

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Tämä pro gradu -tutkielma käsittelee englannin kielen verbin *caution* komplementaatiota. Erityisesti keskitymme tarkastelemaan amerikanenglannin komplementaatiotyyppejä viimeiseltä kahdelta vuosisadalta. *Caution* on luokiteltu englannin kieliopissa objektikontrolliverbiksi (*object control verb*). Yksi syy siihen, miksi kiinnostuin tekemään tutkielman juuri tästä aiheesta, on mahdollisuus tutkia, jättääkö joku muoto noudattamatta Bachin periaatetta (*Bach's generalization*).

Koska tämä tutkielma käsittelee *caution*-sanan komplementaatiota autenttisella kielellä, käymme tutkielman ensimmäisessä osassa läpi, mitä tarkoitetaan englannin kieliopissa sanalla komplementaatio, vertaamme kontrolliverbejä suhteessa *raising*-verbeihin ja käymme läpi periaatteita, jotka ovat huomionarvoisia korpustutkimuksessa. Tutkielman ensimmäisessä osassa on tärkeää myös käydä läpi sanan *caution* semanttiset sekä syntaktiset rakenteet englanninkielisissä sanakirjoissa. Tutkielman toisessa osassa analysoimme yli 800 osumaa verbistä *caution*, jotka ovat peräisin amerikanenglantiin keskittyvästä korpuksesta *Corpus of Historical American English*. Ajanjakso tässä tutkielmassa on 1820-luvulta 2000-luvulle. Päämääränämme oli tutkia näiden osumien syntaktisia ja semanttisia rakenteita.

Tuloksemme osoittavat, että yleisimmin käytettävät tyypit, joita nykypäivän englannissa käytetään, ovat *direct speech clause* ja *to-infinitiivi*. Osumien määrä, jossa *caution*-verbi esiintyy eikä noudata Bachin periaatetta, kasvaa huomattavasti 1990- ja 2000-lukujen aineistossa, jotka ovat viimeisimmät analysoidut vuosikymmenet tässä tutkielmassa.

Vaikka verbillä *caution* on kolme pääasiallista merkitystä, vain yksi niistä on yleinen amerikanenglannissa. *Caution* on kaksoistransitiivinen verbi. Kuitenkin, kun tätä verbiä käytetään pääverbinä, se luokitellaan objektikontrolliverbiksi. Verbin *caution* ollessa pääverbi, sitä seurasi 17 erilaista komplementaatiotyyppiä tässä tarkastelussa. Nykyenglannissa on jo merkittävä kasvu osumien määrässä, jotka eivät noudata Bachin periaatetta (*Bach's generalization*).

Asiasanat: caution, complementation, corpus, object control

Contents

1. Introduction

As Thompson (2002, 125) states, for a long period of the twentieth century, complementation has been the preferable domain of study for a number of grammarians. The researches done on complementation during the last century are far too numerous to list. Nevertheless, some studies written by English historical linguists such as Warner (1982), Fischer (1988, 1989, 1995), Fanego (1990, 1992, 1996a/b/c, 1997, 2004a/b, 2006), Rohdenburg (1995, 1996, 2006), Rudanko (1998, 1999, 2000), Wagner (2002) and Vosberg (2003 a/b, 2004) can be mentioned as recent examples of the works discussing complementation (Fanego 2007, 161). According to Stevenson (2010, 356), a complement is "One or more words, phrases or clauses governed by a verb (or by a nominalization or a predicative adjective) that complete the meaning of the predicate. In generative grammar, all the constituents of a sentence that are governed by a verb form the complement." Thus, the underlined constituents, in the two examples below taken from the *Corpus of Historical American English* and in accordance with the previous definition of complements, represent the complements of the verb *caution*:

- But Dr. Monkkonen and others *caution* **against visions** of a more sylvan past. (Atlanta 1993)
- I must *caution* **the reader that** I write not as an art theorist nor as an art educator. (Arts Educ. 1993)

The main goal of this thesis is to check diachronically the complement patterns embedded under the verb *caution* when this verb is used in a construction similar to the ones demonstrated in the two examples above. The domain of this study is American English, therefore our focus is to investigate the complement patterns of *caution* in authentic data collected from the *Corpus of Historical American English*; hereafter referred to as COHA. The time span of our diachronic study extends from 1820s to 2000s. However, the size of this thesis does not permit a comprehensive analysis for all the hits of the verb *caution* which can be collected from the 20

decades representing the time scope of this study. As a result, our data will be collected only from seven decades. These seven decades are divided into three segments: the first segment includes the decades 1820s - 1840s, the second segment has the decades 1910s - 1920s and the third one consists of the two decades 1990s - 2000s.

The second chapter of this thesis discusses what is meant by complementation, the Valency approach and the differences between complements and adjuncts. Also, in the same chapter I will discuss some of the principles found in the literature of English grammar that are relevant to the study of complementation such as the *horror aequi* principle, the *extraction* principle and the *complexity* principle. *Caution* as a verb is classified as an object control verb. Therefore, the bulk of the third chapter sheds light on argument structure and the differences between control and raising verbs. In the final part of this chapter we put *caution* to some tests used by grammarians to distinguish control verbs from raising constructions.

As Biber (2010, 162) states, there are two types of research approaches done within the bigger method called linguistic corpus studies. The first approach is *corpus based study* in which the researcher uses his corpus findings to analyze the pre-defined linguistic theories or forms. The second type, known as a *corpus driven study*, is utilized to identify or find out the linguistic theories, forms or rules by using large and well constructed corpora. The use of corpora in this latter approach is to elicit or deduct the established linguistic theories or rules from authentic language. More about corpus studies, the merits and demerits of using them are discussed in the fourth chapter. Additionally, in the same chapter I will talk of *normalizing frequencies* as an important principle when using corpus studies and also briefly discuss COHA; the corpus used to collect our data.

The fifth chapter investigates the thematic and syntactic features of the verb *caution* as presented in four English dictionaries and the literature of English grammar. This chapter also sheds

light on Bach's generalization as one of the relevant topics to the study of object control verbs found in the books of English grammar. Furthermore, in the analysis of the corpus data, I will check if there is any token of *caution* which violates this generalization. Finally, the sixth chapter of this study presents an analysis of the complement patterns of 884 tokens of the verb *caution.* These hits are taken from the corpus mentioned above. In the same chapter, we will also go through some general findings trying to answer the main research questions of this thesis, which can be summarized as: (A) What are the complement patterns used with *caution* in American English?(B) What are the evident changes which happened to these patterns in the last two centuries? (C) Is there any complement used with *caution* in authentic language and not mentioned in the dictionaries of English language? (d) Are there any tokens of *caution* which violate Bach's generalization in this sample of American English?

2. Setting the scene: complementation

This chapter discusses some basics concerning the study of complementation. I will start by illustrating what is meant by complementation in traditional grammar before moving on to discussing the same term in the Valency approach. The *horror aequi* principle, the *complexity* principle and the *extraction* principle can have some impact on selecting complements; therefore they are a part of the discussion in this chapter.

2.1 Complementation

'Complementation' in English has been defined by a lot of grammarians who may use different ways to define it. However, their ideas or notions about the term are almost the same. According to Noonan (1985, 42), 'complementation' is, "[T]he syntactic situation that arises when a notional sentence or predication is an argument of a predicated." This definition of the word 'complementation' is used to refer to its meaning in a broad sense. Nevertheless, since this thesis is discussing the complementation of the verb *caution*, the focus will be on the complementation of verbs. Thus, I will adopt here the definition offered by Quirk et al (1984, 344) who define it as the obligatory elements used with a particular verb to make the listener or reader of the language get or understand a particular sense of this verb. Moreover, in this thesis I will use the term *complement* and not 'complementation' when I refer specifically to complements of verbs.

Huddleston and Pullum (2002, 52) termed the elements needed to complete the meaning of a particular verb in a clause structure, *dependents*. Syntactically, *dependents* are subordinate elements. By the term given to them, we can understand that the appearance or use of these elements in any particular structure is determined by the *head* of this structure. The term *head* refers to the obligatory element in a grammatical structure such as a clause or phrase which identifies, as mentioned before, the needed elements to complete its meaning. In the verb phrase,

hereafter referred to as ‘VP’, the head is a verb and is sometimes called the *predicator* in the literature of English grammar (ibid, 24).

In a clause structure where the head is a verb, *dependents* can be either complements or modifiers. The difference between modifiers and complements is that complements are related more closely to the verb than modifiers are. In the next section I will explain more thoroughly the differences between complements and modifiers, or *adjuncts*, as they are sometimes termed in English grammar. The appearance of these complements with a particular verb in one structure relies on the subcategory of the verb. Also, the semantic role assigned to these complements is determined by the meaning of the verb (Huddleston and Pullum 2002, 52). Before discussing, in detail, the semantic roles assigned by a verb to its arguments, we will have a look at the principal types of complements taken by different subcategories of verbs in traditional grammar. The two most significant types of complements are, first, the subject which is called the ‘external complement’ as it is found outside the VP. The second type is the object complement which is known as the ‘internal complement’ because it is found or located within the VP. The external complement is an obligatory element and is found in every canonical clause, whereas the type of internal complement varies according to the category and meaning of the verb, and sometimes is not even permitted at all by some verbs called the *intransitive* verbs (ibid, 52).

It can be understood that, on the one hand, subcategories of verbs permit certain types of complement; but, on the other hand, types of complement lead to the classification of verbs into different categories. Nevertheless, our focus here is to explain the types of internal complements taken by different verbs. In traditional grammar and according to Quirk et al (2005, 1169) there are two general categories of verbs identified in accordance with the type of complement required by these verbs in their clause construction. The first category, as mentioned before, is *intransitive* verbs. Within the group of *intransitive* verbs, we can identify three different subcategories such as the group of *pure intransitive* verbs, and they are verbs that do not require any object complement

e.g. *die, fall* and *arrive*. The second category of *intransitive* verbs includes verbs such as *read* – these verbs are used as transitive and intransitive and have the same meaning in both cases. Finally, the third category has verbs that can be intransitive and transitive but denote different meanings e.g. *open*.

The second general category of verbs requires complements and these are *transitive verbs*. Within this group of *transitive verbs*, we can recognize some subcategories as well. First, we have the *copular* verbs e.g. *seem* and *become*, which permit either a subject complement or a predication adjunct and the deletion of these elements can lead to a change in the meaning expressed by these types of verbs. Second, we have the *monotransitive* verb group e.g. *catch* and *bring;* these verbs require a finite clause, a nonfinite clause or noun phrase to function as the direct object. Third, there are the *complex transitive* verbs e.g. *presume*; the complements of this group of verbs consist of two elements. The first element is an object, followed by a second element which is not an object. Finally, we have the group of *ditransitive* verbs e.g. *give;* the complement of this group has also two elements. The first element is usually animate and is called the indirect object, while the second one is usually inanimate and is called the direct object (Quirk et al 2005, 1169: 1209). Here, we should remember that within the previous groups of verbs there are other subgroups, and also that some verbs can belong to different subcategories as they can permit or take different types of complements either with the same meaning or with a different meaning. Below we have some examples summing up the way verbs are classified in traditional grammar in accordance with the type of complementation these verbs require:

(1) John has **arrived**. (Pure intransitive complementation)
(2) The girl **seemed** very restless. (Copular complementation)
(3) Tom **caught** the ball. (Monotransitive complementation)
(4) She **presumed** her father to be dead. (Complex transitive complementation)
(5) He **gave** the girl a doll. (Ditransitive complementation)

The previous examples are found in (ibid).

2. 2 Complements in the Valency approach

Apart from the German linguists who consider the *Valency* approach as a conventional strategy to study linguistics, this approach is seen as a recent linguistic method elsewhere (Somers 1984, 507).

The inclusion of the subject argument, as a component in the complements of verbs, is the main difference between traditional approaches and the *Valency theory*. In traditional studies of complementation the subject is not considered as a complement of the verb unless it is extraposed (Quirk et al 2005, 1169). As Herbst (2004, xxiv) points out, the main assumption in *Valency theory* is that the verb has a fundamental status in the sentence, thus it determines and governs the other elements required to complete its meaning and structure of the sentence. These obligatory elements needed to complete the meaning of the verb are called complements. The *Valency theory* also differentiates between the essential elements, called complements, and the optional elements in the sentence structure, called adjuncts. Further discussion of the difference between complements and adjuncts is presented in the following section. The following example found in (ibid, xxv) shows how a sentence like *I put paper and kindling by the fire last night* can be analyzed by using the *Valency theory*:

Structure	**Subject**	**Predicate**			**Adjuncts**
	I	put	paper and kindling	by the fire	last night
Valency	**Complement**	**verb**	**complement**	**complement**	**Adjunct**

Not only does the *Valency theory* pinpoint the complements taken by a verb, noun or adjective and identify them from adjuncts but also it analyzes these complements according to three dimensions. These dimensions are the functional properties of the predicate, its lexical properties and whether the complements are obligatory or optional (ibid, xxv).

2.3.1 Adjuncts and their types

As indicated above, other optional constituents, which are not complements and called *adjuncts*, can be found within the VP. Since the interest here is to analyze the complement patterns following the verb *caution,* it is crucial to understand what is meant by *adjuncts.* Also, it is important to know how to differentiate between these and complements. According to Carter and McCarthy (2006, 502), *adjuncts* are the optional elements in the clause modifying and not completing the meaning of the verb. This characteristic of *adjuncts* is considered to be the main difference between these optional constituents and complements. Therefore, it is always assumed that *adjuncts*, like the constituents *in the summer* and *often* in the sentence ***In the summer*** *we* ***often*** *make our own ice cream,* are peripheral elements in this sentence. Another characteristic of *adjuncts* is their ability to appear in different places in the sentence. For instance, they can be located at the beginning, in the middle or at the end of a sentence. Thus, one of the *adjuncts* in the previous sentence *often* is in the middle of the sentence, whereas the other *adjunct, in the summer,* is in the front position of the same sentence. Moreover, we can change the position of the *adjunct, in the summer,* to be at the end position of the sentence if we say *We often make our own ice cream in the summer.* The mobility of *adjuncts* is considered as one more benchmark used to differentiate between them and complements. Nevertheless, further differences between these two types of constituent in the grammatical construction will be introduced in the next section.

According to Quirk et al (1984, 421), *adjuncts* are optional elements in the sentence albeit if they are used in a sentence they can have different functions. *Adjuncts* can be relevant to the manner, place, time degree, frequency or intensity of the action expressed by the verb. Although different grammarians can use various terms to identify the types of *adjuncts,* in my opinion, a list of lucid examples representing the different functions or kinds of *adjuncts* is found in Pollard and Sag (1987, 134: 135). Pollard and Sag identified 13 types of *adjuncts*. However, the following

examples illustrate only some of these types and not the whole list. The italic constituents in the following sentences are the *adjuncts*:

- Kim left *because/ although Sandy came*. (Subordinate clause)
- *With Kim dead drunk*, it was impossible to make any headway. (Predicative clause)
- She bought it *to play with it*. (Adjuncts of purpose)
- Kim runs *to/ in order to keep fit*. (Adjuncts of rational)
- Butch held forth *for two hours*. (Durative)
- The professor *who Kim wanted to impress*. (Full relatives)
- A friend *to talk to*. (Infinitival relatives)
- *Former/ ardent* communist. (Pre nominal adjectives)

There is no absolute agreement amongst grammarians on the way complements should be differentiated from *adjuncts* (ibid, 135). Notwithstanding, lots of approaches were introduced by grammarians concerning the tactics, techniques or criteria used to recognize the *adjuncts*. For instance, Quirk et al (1984, 421: 423) presents three tests or criteria to identify the *adverbial adjuncts*. One of these benchmarks states, "[A]n adverbial [which] cannot appear initially in a negative declarative clause" is an *adjunct*. Therefore we can use the adverbial *quickly* in a sentence like *Quickly they ate their food*. However, if the same adverbial is used in a negative clause as **Quickly they did not eat their food*; it sounds like bad English. As a result, we can consider *quickly* as an *adjunct.*

2.3.2 Criteria used to identify adjuncts

Of course, the criterion presented above by Quirk et al. is very helpful. Yet, other approaches or techniques are presented by Huddleston and Pullum (2002, 219: 225). According to them, there are seven factors; five of which are syntactic, and two semantic, used to separate complements from adjuncts. The syntactic factors are: licensing, obligatoriness, anaphora, category and position. By licensing they mean, for a complement to appear in a certain structure, it depends on the category of

the verb located as a head of this structure, but it is not the same for an adjunct. In other words, whereas the type of complement is determined by the subcategory of the verb, as was explained in section 2.1, adjuncts are not limited to a certain verb and can appear with different verbs belonging to various subcategories. For instance, the preposition *of* in a sentence like *It consists of eggs and milk* is a complement of the verb *consist* because this preposition is licensed by it, while the prepositions *with* and *without* in *He set out with /without sufficient food* are adjuncts because they are not licensed by the verb *set* and thus we can select any of them in the previous sentence (ibid, 220).

Obligatoriness is the second criterion used to identify complements. Simply, it means that although complements are obligatory to complete the meaning of a verb, adjuncts are not. For example, a look at a pair of sentences like *He perused the report* and *She left because she was ill*, shows clearly that the constituent *the report* is obligatory to complete the meaning of the verb *perused*, therefore it is considered a complement. On the other hand, the constituent *because she was ill* is not obligatory and it can be omitted without changing the meaning of the sentence, thus it is classified syntactically as an adjunct. According to the positioning criterion, although complements have limited places where they can be located in a sentence; adjuncts are more mobile and can be located in different places within the structure. Consequently, the external complement or the subject, for instance, has certain positions within an ordinary sentence or an interrogative form, whereas adjuncts such as the word *yesterday* can be placed in different places within the sentence (Huddleston and Pullum 2002, 221: 226). The previous techniques are just some and not all of the tactics used to identify complements and adjuncts. For further discussion of the differences between adjuncts and complements, some milestone works such as Huddleston and Pullum (2002), Pollard and Sag (1987) and Huddleston (1984), can be checked.

2. 4. Some Principles relevant to the study of complementation

In the literature of English grammar, some general principles are considered influential on selecting certain kinds of complementation. The following three sections discuss some of these principles which can bear on the complements of the verb *caution*. These principles are: the *complexity principle*, the *horror aequi principle* and the *extraction principle*.

2. 4.1The complexity principle

As Rohdenburg (1996, 151) points out, the complexity principle is, "In the case of more or less explicit grammatical options the more explicit one(s) will tend to be favored in cognitively more complex environments." In other words, in case there is a cognitive complexity which can be manifested in different ways such as discontinuous constructions, passive constructions or long subjects (ibid 149), the language user will have the tendency to use a more explicit complement rather than a less explicit one. The following example found in Vosberg (2009, 218) shows explicitly how the *complex principle* works in the English language:

- I did not therefore always **decline**, by pretended loans to assist other men to employ labourers as well as myself, **to act** upon their own designs, and prosecute their own fortune.

Although the *gerundial* and the *to infinitival* patterns are optional complements for the verb *decline*, in the example above this verb selects the latter one because of the complexity of the sentence. The complexity here evolved from the long inserted material between the verb and its complement. According to Rohdenburg (ibid, 219), the verb *decline* tended to select the *to infinitival* complement because this pattern is considered more explicit than the *gerundial* pattern. Because the verbal status is more obvious in the *to infinitival* pattern, it is considered more explicit than the *gerundial* complement which manifests nominal features.

As Rohdenburg (2000, 39: 40) states, in addition to factors such as passive constructions, long subjects and discontinuous constructions which increase the complexity of the sentence, there are other complex linguistic environments. For example, the complexity of the superordinate object, the use of unmarked tenses and compound predicates are also factors that can add to the complexity of a sentence or a grammatical construction.

2.4.2 Horror aequi principle

According to Vosberg (2003, 315), there is a predisposition among the users of English language to avoid immediate sequences of *ing* forms and, though less strongly, of the *to infinitival* forms. In other words, as Rohdenburg (2003, 235) states, in English language, the *to infinitival* constituent will be avoided in the lower clause if the immediate preceding matrix verb of this lower clause has been utilized in the same form. This concept is known in the literature of English grammar as the *horror aequi* principle. Briefly, the *horror aequi* principle is "[T]he widespread (and presumably universal) tendency to avoid the use of formally (near-) identical and (near-) adjacent (non-coordinate) grammatical elements or structures" (ibid, 236).

The *horror aequi* principle is sometimes used as one of the explanations for the changes that happened in the complementation system of the English language during the seventeenth century. During this century some of the English verbs which used to take either a finite complement or the non-finite complement (to infinitive) started gradually to replace them with the *ing* form in order to avoid repeating identical forms in adjacent structures (Vosberg 2003, 305). As Vosberg (2009, 213) points out, these phenomenal changes took place in the complementation system during the Late Middle English period can be called the "Great Complement Shift." Moreover, the *horror aequi* principle with the *cognitive complexity* principle are also used to justify the restriction that some verbs can have in selecting or taking certain complements (Vosberg 2009, 223). Concerning, for instance, the verbs taking *to infinitival* clause as

a complement in its lower or subordinate clause, Rohdenburg (2003, 236) claims that the following two principles show explicitly how the *horror aequi* principle affects the way these verbs select their complements:

- The introduction of the (interpretative) *to infinitive* could be delayed following a *to infinitive*.
- Some other verbal or prepositional alternative might be chosen instead.

In my opinion a sentence like *It was not safe for me* ***to attempt*** ***doing*** *him any good* (Vosberg 2003, 316), illustrates clearly how the *horror aequi* principle bears on choosing certain complements for some verbs. The verb used in the previous example, *attempt*, takes a *to infinitival* clause as its complement. However, because the verb *attempt* itself is used in the infinitival form and is preceded by *to*, the embedded verb *doing* is used in the gerundial form in order to avoid using two identical structures in adjacent environments.

As we will notice below, all the dictionaries used in this thesis to illustrate the semantic and syntactic structure of the verb *caution* state that the *to infinitival* clause is one of the optional complements taken by this verb. Thus, in the analysis of the hits of the verb *caution* derived from COHA, I will try to check whether any of these tokens violates the *horror aequi* principle or not.

2.4.3 Extraction

Extraction is the term used to describe the relationship between the gap after the relative pronoun *which*, symbolized with number[1], and the empty constituent represented by the letter *t* after the word *claim* in a sentence like *The gun (which)* ^{1} *they claimed t* ^{1} *was used in the crime* (Postal 1994, 159). According to Vosberg (2003, 307), there are four major kinds of extraction viz. a- *relative extraction*, b- *comparative extraction*, c- *topicalization* and d- *interrogation*. Adopting the same

symbols used in Postal's instance above, the four examples below taken from Vosberg (2003, 307) demonstrate the four types of extraction:

a- [I]t is the worthy Spencer (whom) [1] I am sure you remember to have often heard me mention *t* [1] in the relation of my private misfortunes. (relative extraction).
b- 'T was her charming face and modest look, that represented to him a thousand more Beauties and taking (Graces) [1] than he remembered ever to have seen *t* [1] in his Unconstant and Faithfuless Mistress. (comparative extraction).
c- [E]ven her acquaintance with the Belfield's [1] she remembered not ever mentioning *t* [1] …. (topicalization).
d- Now, how many [1] do you remember to to have heard named *t* [1] (interrogation).

The verb *remember* is one of the English verbs taking either a *to infinitive* clause or *ing* form as a complement in its lower clause. However, in at least three of the examples above, the verb *remember* selects the *to infinitive* clause. Therefore, it is assumed that extraction has a syntactical influence on choosing between the previous two patterns of complementation, i.e. if extraction is used, English verbs which can take either *to infinitival* or *ing* complements will prefer the former pattern to the latter one. The way extraction affects the system of complementation in English language is summed up below in what is known as the *extraction principle* (ibid, 208):

- In the case of infinitive or gerundial complement options, the infinitive will tend to be favored in environments where a complement of the subordinate clause is extracted (by topicalization, relativization, comparativization, or interrogation etc.) from its original position and crosses clause boundaries.

3. Control and Raising verbs

As a preliminary topic to the discussion of control and raising verbs, I will start this chapter by talking about argument structure and theta theory. Nevertheless, the bulk of this chapter discusses the question of control and raising verbs, the differences between these two categories and finally demonstrates some of the tests used to prove whether *caution* is an object control verb or not.

3.1.1 Subcategorization and argument structure

As Haegeman (1991, 33) states, in traditional grammar verbs were classified according to the principle or rule of transitivity until Chomsky presented the notion of *subcategorization frames.* The *subcategorization frames* approach focuses on putting the verbs in frames. These frames simply show what type of VP, a verb can or must occur in. The following two frames taken from Haegeman (1991, 34) explain how the approach of *subcategorization frames* classifies verbs.

(1) meet: v, [_____ NP]
(2) dither: v,[_____]

According to these two frames, whereas the verb *meet* occurs in a VP which includes a noun phrase, hereafter referred to as 'NP', as its object and so this verb is subcategorized as a verb selecting an NP, the VP of *dither* does not contain an internal NP.

Although the approach of *subcategorization frames* was considerably appreciated in English grammar literature, it can still be seen as another way to categorize verbs depending on the notion of transitivity. Thus, another approach was developed from the works of logicians in the field of natural languages. This approach is known as the 'argument structure'. To understand what is meant by this approach, consider the following examples:

(3) meet: verb; 1 2
NP NP

(4) dither: verb; 1

NP

The examples are taken from Haegeman (1991, 37)

As we can see from examples 3 and 4, not only does the argument structure identify all the required elements or constituents for the complement of a verb, it also shows the types of these constituents which are needed to complete the meaning of this verb in a particular structure. It is important to remember here that the argument structure does not show only the internal complement but also includes the external complement or subject argument. Showing the internal and external complements of a verb is considered the main difference between the approach of *argument structure* and the approach of *subcategorization frames*. Furthermore, I think it is also worth mentioning here that the *argument structure* does not demonstrate or include the optional constituents known as adjuncts.

3.1.2 Theta theory

Improvements have taken place in identifying the arguments selected by different English verbs. One of these improvements is labeled in the literature of English grammar as *theta theory*. In this approach the syntactic structure of the verb (the number of arguments), its thematic structure (the type of arguments) and the semantic relationship between the verb and its arguments are represented in the *theta grid*. Before showing a notation of a *theta grid*, it is important to bear in mind that each verb assigns certain roles to its arguments in accordance with its semantic structure (Haegeman 1991, 43). If we take the verb *kill* as an example in a sentence such as *Maigret killed the burglar*, the verb *kill* in this sense assigns two semantic roles to its arguments. The subject argument (Maigret) is assigned the role known in *theta theory* as *agent*, whereas the object

argument (the burglar) is assigned the role *patient*. The *agent* and the *patient* here are just examples of the 'theta roles' or the thematic roles assigned by verbs to their arguments. Other kinds of theta roles like the roles of *theme, actor, experiencer, goal, source,* etc. can also be assigned by verbs to their arguments depending on, as mentioned, the semantic structure of the verb. Theta roles are also assigned to the clauses since these clauses can behave as arguments for the verbs. For instance, in a sentence like *The police announced <u>that the pig has been stolen</u>*, the underlined subordinate clause can take the role of a theme (ibid 42: 46). After getting a brief idea about the 'theta roles' presented by *theta theory,* we can have a look at one of the *theta grids* found in Haegeman (1991, 43):

(5) kill: verb

Agent (1)	Patient (2)
NP	NP

As indicated before, the theta grid shows the number of arguments, their types and their semantic relationships to the verb.

3.1.3 Theta criterion

According to Primus (2009, 262), a lot of principles or rules that can guarantee an explicit and evident relationship between semantic or theta roles and the grammatical arguments, have been introduced by several grammarians of English language who have been interested in this topic. Some examples of these principles of organizing the way semantic roles are assigned to arguments are: the *Universal Alignment Hypothesis of Relation Grammar* written by Perlmutter and Postal in 1984 and the principle of *Function-Argument- Biuniqueness Condition of Lexical Functional Grammar* by Butt in 2006. Nevertheless, as Primus states, one of the principles asserting a strict and

clear relation between semantic roles and grammatical arguments is the *Theta Criterion* principle which reads as:

- Each argument bears one and only one theta role, and each theta role is assigned to one and only one argument.

So the *Theta Criterion* assures that assigning semantic roles to different arguments in a grammatical structure does not happen arbitrarily. For instance, in a sentence like *Doyle cautions that these hardly prove a planet's existence* (COHA, 1998), the underlined argument is assigned only one role- the agent of the verb *caution*- and it is impossible for this argument to be given another role, so it cannot be, for example, the agent and the patient of the verb *caution* at the same time. Also, due to the semantic role, the *agent* is already given or assigned to the argument *Doyle*, it is impossible to assign this role to another argument in the same structure.

3.2 Control and raising verbs

As Huddleston and Pullum (2002, 1233) state, *caution* is an object control verb. To understand the term *object control*, some other terms viz. *understood subject*, *control verb* and *raising verb* need to be discussed first. Still, in my opinion, before explaining what is meant by *control* and *raise* verbs, I should start by discussing the term *understood subject*. Thus, consider example 6 below:

(6) Pat persuaded Kim [to travel by bus].

According to Huddleston and Pullum (2002, 1193), a huge amount of the non-finite clauses, similar to the bracketed constituent above, lack for or miss their subjects. In example 6 above, although the lower VP includes the verb *travel*, there is no argument mentioned to be assigned the role of *an agent* for this verb. Therefore some grammarians -Huddleston and Pullum are among them- claim, the solution or explanation to this phenomenon is to find an *understood subject*. In the previous sentence *Kim* is assigned the role of a *patient* of the verb persuade, but meanwhile she is the person

who travels by bus. So should we assign two semantic roles to *Kim;* the *patient* of *persuade* and the *agent* of the verb *travel*? In order not to violate the theta criterion: *each argument should be assigned one and only one theta role*; we need to accept the assumption made by some grammarians that there is a null argument or the *understood subject*. In other words and as Carnie (2002, 263) states, we need to accept the notion of the *understood subject*, at least until a better theory comes and brings another explanation.

However, grammarians such as Huddleston, Pullum and Carnie who accepted the notion of the *understood subject*; were challenged by the question: *why is this understood subject silent and null?* According to Carnie (2002, 263), this *understood subject* is silent and null because it appears in a caseless position. Furthermore, as Huddleston and Pullum (2002, 1193) point out, there are three ways to interpret the *understood subject* depending on the type of the verb it occurs with. These three types of *understood subject* are illustrated in the following examples, where it exists with a control verb in example 7a, in 7b the null argument is found with a raising verb, and 7c shows the type known as the non- syntactic or arbitrary understood subject:

7) a- Pat persuaded Kim [to travel by bus]
b- Pat intended Kim [to travel by bus]
c- It was necessary [to travel by bus]

In 7c above, the null argument preceding the clause *to travel* is called a *non-syntactic* understood subject, because it is not linked to a specific antecedent, as we cannot identify who is the traveler (ibid). As Carnie (2002, 255) states, the understood subject is called the *PRO* in case it occurs with controlling verbs. Whereas, in another context in the same work (pg 229), Carnie states that the understood subject is called the *trace* if it exists with a raising verb. In the following two examples, we use the terms: the *PRO* and *Trace*, in order to explain more how the understood subject works within control and raising constructions.

8) a- Liz hoped [PRO] to convince them
b- Liz seemed [t] to convince them

Examples 8a and 8b above are taken from Huddleston and Pullum (2002, 1194) who indicate that in the first sentence the matrix verb *hope* is a *subject control* verb. In the same sentence 8a, it is Liz who tries to convince them so we can, unofficially, say that semantically she has the role of an *experiencer* for the verb *hope* and the role of an *agent* of the verb *convince*. As a result, it is claimed that the PRO or the empty subject of the lower verb *convince* is controlled by the subject of the matrix verb *hope,* and thus it is categorized, as said before, as a *subject control* verb. In sentence 8b, Liz gets its semantic role from the verb *convince*, not from *seem*, as the actual meaning of the sentence can be paraphrased as, "Seemingly, Liz convinced them" (ibid, 1194). In other words, Liz, the agent of the verb *convince,* was raised to be the subject of *seem* and thus *seem* is subcategorized as a *subject to subject raising* verb. When the *agent* of the verb *convince* was raised to the subject argument of the verb *seem*, it left a *trace* in its original place and the word *trace* is abbreviated as *t*.

As Carnie (2002, 256) points out, within the category of *control verbs* there are two subcategories. The first subcategory is called the *subject control* verbs, like the verb *hope* in example 8a above. The other type or subcategory of *control verbs* is called the *object control* verbs. For instance, the verb *persuade* when it is used as a matrix verb in a sentence like *Jean persuaded Brian [PRO] to leave*, is classified as an *object control* verb since the *PRO*, or the agent of the lower verb *leave,* is controlled by the object argument of the matrix verb. *Raising verbs* are also divided into two subcategories. In the previous paragraph, we encountered the first category of *raising verbs* called *subject to subject raising* verbs. The second type of *raising verbs* is called the *subject to object raising* verbs. The verb *want* in the sentence *Jean wants Brian [t] to leave*, is an example of the *subject to object raising* verbs, because in this sentence the understood subject or the

trace is originally the *agent* of the verb *leave* and was raised to the *patient* or the object argument of the verb *want*.

As indicated at the beginning of this section, the verb *caution* is classified as an *object control verb* when it is used in a construction like *the deputy cautioned me not [PRO] to brush against walls or pipes* (COHA, 1922). In this example, the controller of the *PRO*, or the understood subject of the lower verb *brush*, is the object argument of the verb *caution*.

3.3 The differences between raising and controlling verbs

In this section I will discuss some of the semantic and syntactic differences between *controlling* and *raising* verbs. Therefore, in the following paragraphs I will shed light on some of the differences between these two categories of verbs. Nevertheless, I think it is important to indicate that the examples used in the sections below include only object control verbs and subject to object raising verbs.

3.3.1 Dummy objects

As Huddleston and Pullum (2002, 1202) state, the dummy objects, such as the existential *there*, are objects having no independent meaning. They also state that although these dummy objects can occupy the object argument of the *subject to object raising* verbs, they cannot be used as an object for the *object control* verbs. As a result, example 9a below is well-formed because the existential *there* is used within a *raising* construction, whereas 9b sounds like bad English because an *object control* verb like *persuade* cannot have a dummy object:

9) a- Pat intended there to be one student on the board
   b- * Pat persuaded there to be one student on the board

3.3.2 The passivization of the infinitival clause

Control and *raising* verbs differ in the way they behave when their complement clauses are used in the passive form (Davies and Dubinsky 2004, 5). In order to understand how the controlling verbs differ from the raising ones concerning the passivization of its infinitival subordinate clause, consider the following examples found in Huddleston and Pullum (2002, 1202):

(10) a. Pat persuaded Liz to interview both candidates
b. Pat persuaded both candidates to be interviewed by Liz

(11) a. Pat intended Liz to interview both candidates
b. Pat intended both candidates to be interviewed by Liz

It is very evident that the meaning denoted by 10a is different from the meaning of 10b. In 10a, it is *Liz* who was persuaded by Pat, while in 10b, *both candidates* were persuaded. In other words, in sentences 10a and 10b where an *object control* verb is used, the object argument is an argument for this verb and it belongs to the matrix clause. On the other hand, in sentences 11a and 11b where the matrix verb *intend* is a *subject to object raising* verb, these two sentences are synonymous. Sentences 11a and 11b denote the meaning: *Liz interviewed both candidates*. With *subject to object raising* verbs like the verb *intend*, the object argument originally belongs to the lower verb and it is raised to this object argument of the matrix verb. Thus, although we change the object argument in the passive construction of *raising* verbs, this passive denotes the same meaning as its corresponding active form (ibid).

3.3.3 A limit of selection

According to Davies and Dubinsky (2004, 6), another difference between *raising* and *controlling* constructions is known as *selectional restriction*. The following examples taken from Huddleston and Pullum, illustrate what is meant by *selectional restriction* (2002, 1202):

12) a- *Liz persuaded the spotlight to intimidate Pat.
b- Liz intended the spotlight to intimidate Pat.

In example 12a above, the verb *persuade* requires its object to have certain properties in order to denote the right meaning of this verb. *Persuade* selects a sentient being who can be persuaded to fill its object argument. Therefore, when this *selectional restriction* which the verb *persuade* imposes on its object is violated in 12a by using the word 'spotlight', sentence 12a is ill-formed. On the other hand, the *raising* verb *intend* does not have any restriction on its object, thus any NP, suitable for the infinitival complement, can saturate the object argument of *intend*. Furthermore, because *raising* verbs do not restrict their objects, they can even have a dummy object (see section 3.3.1) (ibid).

As indicated above, the previous sections show the difference between *object control* verbs and *subject to object raising* verbs. For further discussion about the differences between *raising* and *control* constructions in general, see (Huddleston and Pullum 2002; Carnie 2002 and Davies and Dubinsky 2004).

3.4 Tests to prove that *caution* is an object control verb

In section 3.2, Huddleston and Pullum state that *caution* is an object control verb when it is used in a sentence like *He cautioned them to avoid the forest at night* (this example is taken from Longman Dictionary 2005, 235). Further discussion of Huddleston and Pullum's comments on *caution* is found below in section 5.4. Nevertheless, in order to decide that *caution*, in the previous structure, is an object control verb and not, for example, a subject to object raising verb, we need to apply some tests, used to differentiate between these two types of verbs.

(1) The test of *thematic roles* from Davies and Dubinsky

As Davies and Dubinsky (2004, 4:5) point out, control and rising verbs have different thematic structures. For instance, if we compare a transitive control verb to a transitive

raising one in a construction analogous to the next example, we will find that the control verb assigns three semantic roles to its arguments while the raising verb has only two roles to assign to its arguments. Therefore, in the sentence *He cautioned them to avoid the forest at night*, we notice that the predicate *caution* assigns three thematic roles. *He* is an agent (the cautioner), *them* is the *patient* of the predicate *caution,* and at the same time the controller of the understood subject of the verb *avoid* in the lower sentence, and finally, *to avoid the forest at night* plays the role of the thing they are cautioned about. Here the predicate *caution,* like other object control verbs, assigns three thematic roles and not only two thematic roles as the subject to object raising verbs do.

(2) The test of *idiom chunks* (the cat is out of the bag) from Davies and Dubinsky

According to Davis and Dubinsky (2004, 8), when the word *cat* is used in the idiom *The cat is out of the bag*, it can be interpreted into two ways. First, it can be interpreted literally so the word *cat* refers to a specific feline (the cat itself) which is out of a particular container (the bag). Second, the word *cat* can be interpreted idiomatically and in this case it denotes that a one-time secret is not any more a secret. The word *cat* refers to this secret. In case the previous idiom is utilized with a raising verb, the word *cat* denotes the literal and the idiomatic meanings as we explained above. However, if the same idiom is used with a control verb, like the verb *caution*, it should denote only the literal meaning. Thus, to embed the idiom chunk *the cat is out of the bag* under the verb *caution* as a matrix verb in the sentence: *He cautioned the cat to be out of the bag,* here only the literal meaning can be understood from the previous sentence. It is clear that the word *cat* does not denote the meaning of a secret as if the same idiom chunk is used with a raising verb.

(3) The test of the *meteorological it* from Davies and Dubinsky

According to Davies and Dubinsky (2004, 7- 8), unlike transitive raising predicates, which accept the *meteorological it* as their postverbal NPs, transitive object control verbs, such as

caution, do not. So sentences like: **He cautioned it to rain today* are considered badly-formed grammatically, because the object control verbs assign a role to their object and this role cannot be filled by a semantically empty element such as *it*.

So the three linguistic tests above prove that *caution* should be classified as an object control verb when it is used in its transitive form i.e. in constructions similar to the sentence *He cautioned them to avoid the forest at night*.

4. Linguistic corpus studies

In this chapter I discuss briefly the history of corpus linguistic studies and how corpora started to be used by some grammarians of the English language. Also, I will talk about some of the advantages and disadvantages of using electronic corpora in linguistic studies. Furthermore, this chapter discusses *normalizing frequencies* as an important principle; a researcher needs to take it into consideration when using electronic corpora for linguistic studies. Finally, in the last section of this chapter, we shed light on COHA; the corpus used in this thesis to collect the tokens of the verb *caution*.

4.1 The beginnings of using corpora in linguistic studies of English language

According to Mair (2002, 105), the invention of the computer has a lot of merits. One of these merits is the great assistance it offers to linguists concerning what is known today as *corpus linguistic studies*. The appearance of the one million word computerized corpora such as the LOB and The Brown, which were collected from written samples of British and American English, respectively, prompted many linguists to conduct their researches using them since the 1960s. More and more corpora differing in size and the source of their content have arisen from the success of the linguistic researches based on the previous two corpora. Nowadays, we have corpora whose sizes range from one million words, for instance *the International Corpus of English*, to several billion words corpora such as the *Corpus of Global Web-Based English*. As I mentioned, the English corpora differ in their sources; in my opinion, today's corpora are collected from almost all the English varieties around the world.

Although a lot of linguists consider the use of the LOB and the Brown in linguistic analysis as a true beginning for this research approach, some grammarians like Svartvik (1992, 7) think that corpus-based linguistic study is an old approach and some masters of English grammar

such as Poutsma and Kruisinga used it a long time ago. He even added that James Murray used four million citation slips to help him when editing the *Oxford English Dictionary*. Still, it is important to indicate; the corpora Svartvik refers to were collected and used manually. On the other hand, the corpora Mair talked about in the previous paragraph, are electronic ones. This electronic corpus is defined as, "[A] large systematic collection of texts stored on computer" (Biber et al, 2007: 24). By using these electronic corpora, linguists are able to conduct an unlimited number of queries so quickly. Nevertheless, according to some linguists, using electronic corpora also has some demerits which affect the work done by these corpora.

4.2 Merits and demerits of using electronic corpora

As Svartvik (1992, 9: 10) points out, using an electronic corpus in linguistic studies has a lot of advantages. First, corpora are indispensable for diachronic studies of languages since we cannot communicate with old generations in order to grasp the features found in their languages, but through corpora we can access samples of how languages were used before. Not only do corpora offer the researchers a massive amount of linguistic materials from different dialects, registers and styles, they also enable anyone in the world to use them easily if they are freely accessible corpora. By offering an accessible compilation of real data, corpora enable linguists to analyze the language more objectively than just relying on introspection and elicitation. These are just some merits of using corpora in linguistics which can be seen also as reasons to justify why researchers need sometimes to use corpora for a linguistic research.

On the other hand, there are some demerits related to using electronic corpora. For instance, there is a big risk in replacing manual and laborious investigation of languages with rapid and automatic electronic corpora. Yet, the most significant drawback of using electronic corpora is that, in most cases, the users of electronic corpora are not the ones who compile them and they might not be aware of the changes happened to the incipient or prime textual material. This gap

between compilers and users of electronic corpora can be clearly realized in the case of spoken materials included in some corpora. Spoken material always needs to be taped and transcribed orthographically. As a result, some changes can occur to the prime material during this process. In case the prime textual material is not available to the users of the corpora, or they are not aware of any changes to it, this may lead to some mistakes in results by using that corpora. Finally, focusing sometimes only on the size of the corpus and considering it as an important indication of its competence can be a misleading belief, and thus is seen as one more drawback of using electronic corpora (Svartvik 1992, 10). According to Svartvik, using electronic corpus is not as safe as it seems to be, and subsequently linguists should be aware of the downsides.

4.3 Types of researches that can be done by using corpora

According to Reppen, Fitzmaurice and Biber (2002, VIII), we can use corpus analysis to investigate two types of research questions. The first type of these research questions tries to investigate the usage of a particular linguistic feature such as: a single word, a grammatical construction or the interaction between particular words and a grammatical structure, etc., whereas the second type of research question investigates the complete features of language varieties. Within this second type of research question we can, for example, study the features of a certain dialect or we can compare a range of dialects to find out the similarities and differences between them. Following the previous classification of research questions done through electronic corpora; this study belongs to the first type, as it will try to check the syntactic and semantic features of the verb *caution* in American English. What's more, the approach used in this thesis is known in the literature of English grammar as a corpus-based approach, since it will depend on the different structures and usages found in a corpus (Biber et al 2007, 4). Nonetheless, as was indicated before, the focus in this thesis will be on the American English by using authentic data collected from *The Corpus of Historical*

American English. More details about the corpus and the material collected from it will be introduced in section (4.5) below.

4.4 Important principles when using electronic corpora

There are some general principles or rules that researchers should bear in mind when they decide to use a corpus analysis for their studies (Biber et al 1998, 263). One of these indispensable principles is that the length of the texts or registers should be comparable if the researcher wants to draw an analogy between these texts or registers, concerning the frequency of certain features. Adopting the model used in (ibid, 263), we will explain the previous principle in an easy way. If a researcher tries to compare the frequency of a particular part of speech or a word in two texts having different sizes; let us say the first text consists of 800 words and the other text has a 1400 words, their results cannot be accurate, since the average of frequency for this part of speech or word is not the same in the two texts, in relation to their sizes. In other words, the frequency of this word will be one unit per 800 words in the first text, but one unit per 1400 words in the second.

To overcome this problem of comparing the frequency of features in texts or registers which vary according to their length, we can use what Biber et al (1998, 263) called *Normalization.* Biber and his colleagues suggested that we can use the following equation for normalizing raw numbers of frequencies in texts that do not have the same amount of words:

The raw number of frequency/ total number of words in the text × the basis chosen for normalization.

The equation is found in (ibid, 263)

If we suppose we found 30 tokens for the verb *caution* in the texts having 800 and 1400 words, and we choose the norming basis per 1000 words, the normalization for the tokens of the verb *caution* in these texts will be as such:

The first text: 30 / 800 × 1000= 37.5 tokens per 1000 words

***The second text*:** 30 / 1700 × 1000= 17.64 tokens per 1000 words

The previous model of normalization shows clearly, that although the raw number of tokens of the verb *caution* is the same in both texts, but because the texts differ in their lengths, *caution* is more frequent in the first text than the second one. Furthermore, we chose 1000 words as a norming basis for our texts as this number is close to the total number of words found in each of them. Choosing the right number as a norming basis is something a researcher should bear in mind if they use normalization, because selecting a very high or low number as a norming basis, compared to the total number of words in a text, can lead to misleading results (Biber et al 1998, 264). Discussing *normalization* is indispensable for this study since it investigates the verb *caution* in American English chronologically by dividing the material taken from COHA to three segments differing in size. Thus, it is important to use the *normalizing principle* in order to make the frequency of the tokens comparable, especially if these tokens are taken from texts that do not have the same size.

4.5 COHA, the source of our tokens

As seen above, the tokens of the verb *caution* analyzed in this paper are taken from COHA. According to Davies (2010), COHA is a 400 million word corpus which includes American English texts from the year 1810 until 2009. These 400 million words are found in more than 100,000 individual texts. These texts cover four main genres; fiction, magazines, newspapers and non-fiction. The source of the texts is not the same since they are collected from different sources viz. Project Gutenberg, Library of Congress classification system and Making of America. An unlimited number of queries is permitted or can be conducted by using the corpus. Examples of these queries are: looking for the changes which happen to grammatical constructions like *get passive* or *have to*, the overall frequency of words and phrases, the changes that might happen to the meaning or usage

of words throughout the time frame of the corpus, searching for stylistic constructions such as *so Adj. as to V* or *be but*, and making lists of words used in a certain period of time more than others, to name but a few.

As mentioned in the previous paragraph, the texts in COHA represent four main genres. The constructors of the corpus struck a balance among these genres across the segments composing the corpus. For instance, fiction forms 48 to 55 percent of the total number of words in each segment. The segments erecting the corpus are decades. Thus, we have 20 decades, starting from 1810s to 2000s. Nevertheless, these decades vary according to the number of words they include. For instance, the decade 1810s includes 1,181,022 words whereas the decade1880s have 20,872,855 words and 1990s consist of 27,877,340 words. The following table shows, in detail, the content of the decades used for this study and the distribution of the main genres in them. Moreover, the total number of words in COHA is also presented in order to get an idea about the overall construction of the corpus:

Decade	**Fiction**	**Popular Magazines**	**Newspapers**	**Non-fiction Books**	**Total**	**Fiction %**
1820s	3, 751, 204	1,714,789	0	1,461,012	6,927,005	0.54
1830s	7,590,350	3,145,575	0	3,038,062	13,773,987	0.55
1840s	8,850,886	3,554,534	0	3,641,434	16,046,854	0.55
1910s	11,935,701	5,694,710	1,489,942	3,534,899	22,655,252	0.53
1920s	12,539,681	5,841,678	3,552,699	3,698,353	25,632,411	0.49
1990s	13,272,162	7,440,305	4,060,570	3,104,303	27,877,340	0.48
2000s	14,590,078	7,678,830	4,088,704	3,121,839	29,479,451	0.49
The total numbers in COHA	**207,633,395**	**97,207,399**	**40,124,656**	**61,266,574**	**406,232,024**	**0.51**

Table1: the content of the decades used in this paper and the total content of COHA

In our analysis of the tokens of *caution*, the previous decades are divided into three segments. The first segment consists of the decades 1820s, 1830s and 1840s (the total number of words in this segment is 36,747,846). The second segment includes only two decades: 1910s and 1920s (the total number of words in this segment is 48,287,663). The third segment has the decades 1990s and 2000s (the total number of words in this segment is 57,356,791). There is a 60- year break between each segment. The amount of words in each of the first five decades of the corpus is lower than the amount of words in the more recent decades, so I included three decades in the first segment in order to make the amount of words in all segments approximately the same.

5. *Caution* in the literature of English grammar

I will start this chapter by discussing the etymology of the verb *caution* before I talk about the semantic and syntactic structures of this verb given by some English dictionaries. The dictionaries used in this thesis are: *Oxford English Dictionary, Oxford Advanced Learner's Dictionary of Current English, Longman Dictionary of Contemporary English* and *the Dictionary of Construction of Verbs, Adjectives and Nouns*. The final part of this chapter shows what some English grammar books have mentioned about *caution.*

5.1 *Caution* in English dictionaries

5.1.1 The etymology of *caution*: According to Partridge (1966, 85), the English noun *caution* was used first and then morphed to the verb *caution.* Both of them arrived to the English language from the Latin word *cauēre.* The word *cauēre* changed during Medieval Latin to be *cavēre* and has two meanings: (a) to take great care (b) to be on guard against. In Medieval Latin, the imperative form was *cave*, the slang form was *cavey*, and the subjunctive form was *caveat*. At that time the English legal noun was *caveat*. Due to the Latin word having the stem *cau* and the root *cauēre,* this word is perhaps similar or has the same qualities as the German word *koeō*, which means 'I understand' or 'I notice'. It can be also similar to the Sanskrit words *ākuvate* meaning 'he intends' and the word *ākūtis* which means 'intention'. The Latin stem and root are also similar to other words found in other languages, especially the Old Saxon word *skawōn*, the Old Frisian word *skāwia* and *scouwōn* from the Old High German: these all mean 'to notice' or 'to observe'.

Whereas, the word *Cauēre* led to the word *cautus*, and means 'on guard', 'wary' or 'prudent', the word *cautious* was influenced by the word *caution*, which probably came to English through the Medieval French *caution*, and has the meaning of 'security'. Although the verb *to caution* was probably influenced by Medieval French, it is derived from the English noun *caution.* According to Onions (1966, 155) the word *caution* was re-adopted from Latin during the sixteenth

century, and it changed into a verb denoting the meaning ‘to warn’ at the beginning of the seventeenth century.

5.1.2 The senses and complements of *caution* in English dictionaries

One of the fundamental criteria which may help us to analyze the tokens derived from COHA, is to investigate the senses and patterns of complements of the verb *caution* illustrated by some English dictionaries. According to some English dictionaries such as the Oxford English Dictionary (henceforth referred to as OED), the Oxford Advanced Learner’s Dictionary of Current English (henceforth referred to as OALD) and the Longman Dictionary of Contemporary English (henceforth referred to as LDOCE), the verb *caution* has few senses. To be more specific, all previous dictionaries indicate that *caution* as a verb has three main senses. Although these dictionaries agree on the number of senses that the verb *caution* has, only the OALD explicitly points out the patterns of complements that are relevant to each sense. However, I will start by discussing the senses found in the OED.

5.1.2.1The senses and complements of *caution* in the OED

Although only two complement patterns of the verb *caution* were mentioned explicitly in the OED, I will try to deduce the rest from the examples given in the dictionary. These two patterns of complementation are *against* and *to with Infinitive.* Nevertheless, the most significant observation, as we will see in the table below, is that the preposition *concerning* followed *caution* in one of the examples. This preposition *concerning* is not mentioned by the other two dictionaries. During our analysis of the data collected from COHA, we will try to find out whether this preposition is still widely used with *caution*, or if it is one of the obsolete patterns. Moreover, in the table below, some patterns of complementation are mentioned more than one time because we want to show all of the instances that represent the different sub-senses of the verb *caution* in the OED. Finally, in case

there are some instances mentioned in the passive form, the patterns of complementation in these instances are deduced from the corresponding active forms of these instances.

The sense	Instances	Patterns of Complementation
†1. *intr*. To give a caution or warning. Obs.	-1641 *J. Jackson* True Evangelical Temper *iii. 166* It was cautioned in the Law not to yoake an Oxe, and an Asse together. - 1678 *R. Cudworth True Intelllect. Syst. Universe pref. sig.* ***^{v}, We have cautioned concerning it, in the book itself	- to + Inf. - concerning+ NP
†2. To provide with a 'caution' or saving clause; to guard. *Obs.*	-1655 *T. Fuller church-hist. Brit. ix. 130* Such Prophesyings...might be ...discreetly cautioned and moderated - 1681 *Bp. G. Burnet Hist. Reformation II. 7* It was added, to caution this, that the person…should do nothing…without advice.	- NP - NP
3. To advise or charge (a person) to take heed; to warn. to caution oneself : to take heed, take precautions. Usual const. *against*, or *to* with *inf*	-1683 *P. Lorrain tr. P. Muret Rites Funeral To Rdr. 4* In…cautioning us against a too late expectation…. - a1694 *J. Tillotson Serm. in Wks. (1696)* I. v. 63 Cautioning us to take heed lest we be overcharged with surfeiting and drunkenness.	- NP+ against+ NP - NP+ to + Inf.

	-1702 *Eng. Theophrastus 113* If a man…do not caution himself against the Snares, etc. - 1845 *R. Ford Hand-bk. Travelling in Spain I. i. 28* Don Quixote cautions Sancho Panza to be moderate in this food - 1857 *H. T. Buckle Hist. Civilisation Eng. I. xiv. 535* He cautions his readers against the common error of looking to antiquity for knowledge	- NP+ against+ NP - NP+ to+ Inf. - NP+ against+ NP

Table 2: senses and patterns of complement of *caution* mentioned in the OED

5.1.2.2 Senses and complements of *caution* in the LDOCE

Three predominant senses of the verb *caution* are mentioned in the LDOCE (2005, 235). According to the LDOCE, *caution* can be used as a transitive or intransitive verb. This dictionary also lists some patterns of complements that, as we will see below, are relevant to certain sub-senses of *caution.* For instance, concerning the first sense of *caution*, the dictionary mentions three examples having three different patterns of complements, thus they will be listed in the column where complement patterns are shown. At the same time, the dictionary mentions three other patterns of complements that are relevant to the same first sense without using them in instances, so these patterns will be shown in the column of senses. The dictionary also added, when *caution* expresses its second sense, most likely it will be followed by *for + ing* as its complement. However, the LDOCE does not mention an instance to illustrate the third sense of the verb *caution*, therefore it does not show clearly what kind of complementation can follow this verb if it is used in its third sense. The following table below shows how the LDOCE presents the verb *caution.*

The senses	The instance	the patterns of complementation
1- [I, T] to warn someone that something might be dangerous, difficult, etc. • *caution somebody against something* • *caution somebody that* • *caution somebody to do something*	-Business leaders are cautioning against hasty action that would hamper flexibility. -Officials were quick to caution that these remarks did not mean an end to the peace process. - He cautioned them to avoid the forest at night.	- against+ NP - that - NP+ to + Inf.
2- [T] to warn someone officially that the next time they do something illegal they will be punished. • *caution somebody for (doing) something*	-She was cautioned for speeding.	- NP+ for + V+ ing
3-to warn someone officially that what they say to a police officer may be used as evidence in a court of law.		

Table 3: senses and patterns of complement of *caution* found in the LDOCE

5.1.2.3 Senses and complements of *caution* in the OALD

The OALD also shows three main senses for the verb *caution.* These senses sound similar to the ones mentioned in the LDOCE. Although it does not mention an instance to illustrate each pattern of complement, the OALD shows explicitly the patterns of complement that are relevant to each sense. Therefore, we will notice, some of these patterns will only appear in the same column under

the sense, and will not be shown in the column where the patterns of complement are mentioned. Again, the instances mentioned by the dictionary in the passive form will be treated as if they were in the active form, to deduce the patterns of complement in them. The table below shows these senses, instances and patterns of complement found in the OALD (2000, 186).

The senses	**Instances**	**Patterns of complementation**
1-To warn somebody about the possible dangers and problems of something. • *NP+ about+ NP* • *NP+ to+ Inf.* • *NP+ that* • *NP+ direct speech* • *only direct speech*	-I would caution against getting too involved - Sam cautioned him against making a hasty decision. - The government cautioned that pay increases could lead to job losses.	- against + ing - NP+ against+ ing - that
2-To warn somebody officially that they will be punished if they do something wrong or illegal again [usually passive]. • NP+ for + NP	-She was not sent to the juvenile court; instead she was cautioned.	- NP
3- (British law) To warn somebody officially that anything they say may be used as evidence against them in a court of law.	-Suspects must be cautioned before any questions are asked.	- NP

Table 4: senses and patterns of complement of *caution* found in the OALD

5.1.2.4 Caution in "Dictionary of Construction of Verbs, Adjectives and Nouns"

In his unpublished dictionary, Poutsma does not refer to any specific senses of the verb *caution*. Still, the dictionary points out four patterns of complements that are corresponding to the transitive form of *caution*. Poutsma in this dictionary does not refer to the intransitive form of *caution*. In my

opinion, one point worth mentioning here is that, according to Poutsma (xviii), when *against+ gerund* is used after the verb *caution,* it denotes what should be avoided. On the other hand, when a *to infinitival* clause follows the same verb, this describes what is recommended. In the following examples taken from (ibid), the underlined constructions articulate the four patterns of complements mentioned by Poutsma:

- Dobbin… cautioned him **about the drink**.
- He cautions his readers **against the common error** of looking to antiquity for knowledge.
- Cyclists are hereby cautioned **against riding** at a pace exceeding 8 miles an hour.
- He cautioned me not **to let** so good an offer pass.

5.2 The senses and patterns of complement used in this study

There are some observations worth mentioning, about the senses and patterns of complement of *caution* presented by the previous three dictionaries: (1) The first two senses mentioned in the OED are obsolete; therefore these senses are not used in our analysis. (2) The third sense listed in table 2 and presented by the OED has the same meaning of the first sense listed in tables 3 and 4, i.e. this sense is equal to the first sense mentioned by the LODCE and the OALD. As a result, in our analysis we will use only three main senses for the verb *caution.* They are the senses presented by the LODCE and the OALD, because these two dictionaries have the same senses for *caution*. (3) The LODCE and OALD state, the second sense listed in tables 3 and 4 above is usually expressed in a passive form .Furthermore, the tokens expressing the same sense usually take *NP+ for + NP* or *NP + for + V + ing* as their complements. The previous observation, specifically, will be one of the things to be checked during our analysis of the corpus material if this sense is at all common in American English. Finally, relying on the four dictionaries, the following table sums up the main senses and complement patterns of *caution* used for our analysis in this study:

The sense	Relevant patterns of complementation
1- To warn someone about the dangers or problems of something.	NP + that; against + ing/ NP; concerning + ing/ NP; about + ing/ NP; to + Inf., Also: only NP; NP + against; NP + about; NP + to + Inf.; NP + direct speech; only direct speech.
2-To warn somebody officially that they will be punished if they do something wrong or illegal again [usually passive].	only NP; NP + for
3- (British law) To warn somebody officially that anything they say may be used as evidence against them in a court of law.	NP

Table 5: the senses and patterns of complements used in this thesis

5.3 How to deal with direct speech clauses

As we noticed in table 4 above, where the senses of the verb *caution* presented by the OALD are shown, the direct speech form is mentioned as one of the complements for the verb *caution*. An important question arises here: should we deal with direct speech structures as a complement to the verb *caution* or not?

As Huddleston and Pullum (2002, 1024) point out, the direct speech structure has the form of a main clause and it is not embedded under another clause. Moreover, the reporting frame, which in our case is the verb *caution*, when it is used in a structure like He or She cautioned, "…", is not a part of a matrix clause and is only a kind of supplement. As a result, in their view it is not proper to analyze the reported speech as a complement for its reporting frame, i.e. the reporting frame- *caution*- has no or a zero complement.

On the other hand, Herbst (2004, xxxı) defines the obligatory complements as, "[T]hose complements needed to form a grammatical sentence with the governing word." According to him, direct speech clauses are classified as obligatory complements[1]. Deleting such clauses from the sentence, as any other obligatory complement, cannot happen without either changing the meaning of the head verb or turning the whole sentence into an ungrammatical one. This thesis adopts Herbst's approach concerning the status of direct speech clauses; therefore they are considered complements for the verb *caution* if they exist in our data.

5.4 *Caution* in some books of English grammar

As far as I know, there are not many researches done specifically on the verb *caution*. While checking some books written on English grammar, only one work explains the characteristics of the verb *caution*. In the following few paragraphs I will discuss what Huddleston and Pullum (2002) say about *caution* as a verb.

In their classification of verbs, Huddleston and Pullum (2002, 300) put the verb *caution* among the dual transitive verbs. According to their classification, *caution* belongs to the subcategory of verbs whose intransitive form lacks the object found in the transitive form of the same verb. However, this group of dual transitive verbs includes a large number of verbs, so it has been divided into many subcategories. The transitive form of the majority of these verbs is considered, semantically, as the basic form. For instance, if we look at two sentences such as: *she read a book* and *she read*, we can recognize that the verb *read* is a dual transitive verb albeit its transitive form is considered as the basic or more common form. Still, for some other dual transitive verbs, the intransitive form is considered semantically as the basic form, as is the case with the verb *smile.* This verb *smile* can be used in two sentences like: *she smiled* and *she smiled a wistful smile.*

[1] Herbst differentiates between obligatory and optional complements. According to him, the optional complements are the elements of the sentence which have the characteristics of a complement; still, these elements can be omitted without changing the sentence into ungrammatical one. According to Herbst the italic parts in the following sentence are optional complements while the underlined ones are obligatory: He wrote *to Winifred Nicholson*, "St Ives is on the edge of Europe and the first English rebuff to those coming from distant parts."

These examples demonstrate clearly that *smile* is a dual transitive verb like the verb *read*, however, the former verb differs from the latter because its intransitive form is the basic or common form.

Nevertheless, the main criterion, used by Huddleston and Pullum (2002, 300: 305) to classify this large number of dual transitive verbs, is: what is the reason that makes the object of the transitive form disappear from the intransitive one? For instance, with some verbs the object is omitted in the intransitive form when the verb is used in different registers. The verb *apply* is one of these verbs. When *apply* is used in an instructive register, it can appear like *apply liberally* (this lotion). Here the object *this lotion* is omitted because it can be identified from the context where *apply* is used. The previous instance is taken from an instruction paper glued to a lotion bottle. For another group of verbs the object is omitted because it is a definite object, such as the word *contest* with the verb *win*. Most people usually say *I won;* it is obvious that the omitted object in this sentence is the word *contest* since it is restricted as an object to certain verbs and the verb *win* is one of these verbs. Yet, to know the type of contest, this can be understood from the context. In other words, for the verb *win* and the other verbs belonging to the same group, their objects are omitted because they are restricted to particular types of verbs and not to a certain type of register like the verb *apply* and its group. In a third group of dual transitive verbs, a reflexive pronoun object is omitted. The verb *shave* in a sentence like *I shaved,* where the reflexive pronoun *myself* is omitted, is a good example of this subgroup. Other reasons also lead to the omission of the object in the intransitive form of other verbs, thus we have more groups of the dual intransitive verbs. Nevertheless, since the verb *caution* is our concern here, this verb is classified with other verbs like the verb *bite* as the group having an omitted human object. Still, the interpretation of this object can be general or specific. When *caution* is used in a construction like *the president cautioned (them),* the omitted pronoun *them* can mean a group of ministers or it can mean the whole society.

5.4.1. *Caution* is a catenative verb occurring in a complex structure

As Huddleston and Pullum (2002, 65: 66) point out, a *catenative* verb is: a verb which occurs in a recursive or repeatable construction. The verb *intend* is a *catenative* verb because it can occur in sentences like *She intends to try to persuade him to help her redecorate her flat*. Moreover, within this recursive structure of the *catenative* verbs, we can identify two different substructures. The first substructure is called a 'simple structure'. *Jill intended to join the army* is a sentence representing a simple structure as the non-finite complement, directly follows the verb *intend*, and there is not an NP to intervene between the higher verb and the non-finite complement. Whenever the complement of a *catenative* verb includes an NP intervening between the verb and its complement, this structure is called a 'complex structure'. The verb *ask* occurs in a complex structure if it appears in a sentence like *She asked me to second her motion.*

Using the following three dimensions, Huddleston and Pullum (2002, 1233) classified the group of *catenative* verbs into different subgroups. The first dimension is where the verb occurs; does it occur in a complex or a simple structure? The second dimension is the semantic status of the verb i.e. is the verb a raising or control verb? The third dimension is the type of the non-finite complement the verb takes when it is used as a matrix verb; does the verb take a *gerundial* or a *to infinitival* complement? According to these dimensions, *caution* as a *catenative* verb belongs to the group of verbs used only in a complex structure; it is an object control verb and takes only an *infinitival complement*. In another words, Huddleston and Pullum claim that *caution*, when it is used as a matrix verb, can appear only in a structure like *So I'll caution you to be particularly careful of what you learn* (COHA, 1998).

5.4.2 *Caution* and Bach's generalization

According to Bach (1980, 302: 304), we cannot omit the NP controlling an understood subject in an object control structure, i.e. the NP functioning as the object of the matrix verb and at the same time the controller of the understood subject of the lower verb should not, or cannot be omitted. The previous hypothesis is summed up in what is known as Bach's generalization. This generalization reads as such, "[A] direct object controller cannot be omitted" (Rizzi 1986, 503). The verb *caution*, when it is used in the matrix position and is followed by either *to + infinitival* or *against + V + ing* patterns, should follow Bach's generalization since it is an object control verb. Thus, according to this generalization, *caution* should be used only in structures such as *Likewise, she cautions* ***parents*** *against rewarding good behavior with a treat* (COHA, 1998). In this authentic example, as it is taken from COHA, the underlined NP has to exist in a structure like this so that *caution* as an object control verb complies with Bach's generalization.

Although Bach's generalization is considerably recognized in the literature of English grammar, one of the most important questions this study will try to answer is: does *caution* abide by Bach's generalization all the time, or will there be some tokens in our data violating this generalization? As was indicated in the introduction; answering this question is one of the essential motivations which encouraged me to investigate the way the verb *caution* behaves syntactically. Still, I will try to discover the answer to this question in the following section where the corpus material is analyzed.

6. Analyzing the corpus material

This chapter is an attempt to provide an analysis to the complements of more than 800 tokens of the verb *caution* derived from COHA. Our corpus data are derived from seven decades out of the 20 decades constructing COHA. These seven decades are divided into three different segments. The first segment includes the decades 1820s - 1840s and represents the beginning of the time span in this analysis. The material of the second segment is collected from the decades 1910s and 1920s. The third segment which represents the end of the time span in this analysis includes the two decades 1990s and 2000s.

6.1 Methodology

Before starting the analysis of the corpus data, some important preliminaries for this analysis should be pointed out. Our focus is on the verbal usage of the verb *caution* when it is used in the phrase structure: NP_1 $Verb_1$ NP_0 [PRO to $verb_2$ …]$_{s2.}$ Hence, we exclude the tokens of the word *caution* in case they have a nominal or an adjectival usage. The analysis within each segment starts by discussing non-sentential complements before I talk about the sentential ones. Furthermore, the syntactic features of each complement pattern are discussed first before moving to the semantic features of the same pattern. If we encounter in our data examples that are in the passive from, these examples are analyzed as they were in their corresponding active form. The *norming basis* of each complement is per 10,000,000 words[2]. This number is selected as a *norming basis* because, as it is shown in table 1, it is the closest to the amount of words found in each segment. Finally, the term 'normalized frequencies' is shortened as NF in the following tables.

[2]- For norming basis see section 4.4 above.

6.2.1 The first segment: 1820s, 1830s and 1840s

In these three decades, 208 tokens of the verb *caution* were found in COHA. However, 22 tokens were excluded from the material since they were used either as nominal or were used in the past participle form and function as an adjective. The following examples represent a sample of the tokens having the nominal form or function as an adjective:

1) a- There that in the hot blood of youth which unfit them as agents in schemes that require the least **grain of either caution** or secrecy (Burton The Sieges, 1838).

   b- I further promise, that when so **cautioned**, I will pause and deliberate upon the course I am about to pursue (Adventures Timothy, 1835).

   c- The next and last chapter is, occupied by remarks and **cautions** upon the new schemes…. (New Eng Mag. 1833).

After excluding 22 tokens, we are left with 186 tokens to be analyzed. 184 of these 186 tokens denote the first sense listed in table 5 where we show the senses and complements used as bases for our analysis. More details about the two tokens indicating a different sense will be given when we analyze the pattern *NP* below. For all these 184 tokens to denote only the first sense, it is consistent with what OALD and LODCE state, that senses 2 and 3 in the same table are common only in British English and are not common in American English. However, the other two senses that are not present in this segment are related to the police and judiciary system which was not as organized as it is during the more recent decades of American history. This, perhaps, can be the reason why the other two senses are not present in the data of this segment. The patterns of complement follow these 186 tokens are shown in the table below:

	caution	cautions	cautioning	cautioned	**Total**	**%**	**NF**
NP(only)	**7**	**-**	**1**	**8**	**16**	**8.60**	**4. 35**
NP+ against+ NP	**15**	**2**	**3**	**31**	**51**	**27.41**	**13.87**
NP+ about+ NP	**-**	**-**	**-**	**2**	**2**	**1.07**	**0.54**
NP+ as to+ NP	**1**		**1**	**1**	**3**	**1.61**	**0.81**

NP+ of+ NP	**3**	**-**	**-**	**-**	**3**	**1.61**	**0.81**
NP+ on+ NP	**1**	**-**	**-**	**1**	**2**	**1.07**	**0.54**
NP+ respecting+ NP	**-**	**-**	**-**	**2**	**2**	**1.07**	**0.54**
on+ NP	**1**	**-**	**-**	**-**	**1**	**0.53**	**0.27**
against+ NP	**-**	**-**	**-**	**1**	**1**	**0.53**	**0.27**
NP+ to+ inf.	**20**	**2**	**13**	**27**	**62**	**33.33**	**16.87**
NP+ against+ V+ ing	**14**	**-**	**2**	**14**	**30**	**16.12**	**8.16**
NP+ that	**2**	**2**	**-**	**2**	**6**	**3.22**	**1.63**
NP+ Wh-clause	**1**	**1**	**-**	**-**	**2**	**1.07**	**0.54**
NP + direct speech	**-**	**1**	**-**	**1**	**2**	**1.07**	**0.54**
NP+ from +V + ing	**1**	**-**	**-**	**-**	**1**	**0.53**	**0.27**
NP+ about+ V + ing	**1**	**-**	**-**	**-**	**1**	**0.53**	**0.27**
to+ inf.	**-**	**-**	**-**	**1**	**1**	**0.53**	**0.27**
Total	**68**	**8**	**20**	**91**	**186**	**100**	**50.61**

Table 6: the patterns of complements of *caution* found in the first segment

6.2. 2 Non-sentential complements

The first nine patterns of complement in the previous table represent the tokens followed by a non-sentential complement. The examples including a non-sentential complement are 81 examples or 43.54 percent of the 186 tokens analyzed in this segment.

The largest number of non-sentential complements is found in the pattern *NP + against + NP* with 51 examples. 12 examples out of these 51 sentences are in the passive form, as shown in 2a below. Apart from one token only, a [+ human] word occupies both the agent and patient arguments of the verb *caution.* If we paraphrase the sentence *It looks like the vain repetitions of the heathen, against which the Lord's prayer is intended to* ***caution*** *us* (New Eng Yale Rev 1843), we will get the meaning; *the Lord's prayer intends to caution us against the vain repetitions of the heathen*. Thus, the previous sentence is the only example where a [- human] NP occupies the agent argument of the verb *caution*. On the other hand, the previous example is not the only one where 'against' is "pied piped", because the same phenomenon occurs in three other

examples. Finally, it is worth mentioning that two examples having a stranded preposition, as a result of relative extraction, were found in the data of this segment as well. As Hoffmann (2005, 258) states, a preposition is *pied piped* when it is moved by a WH-relativizer to the initial position of a clause, while a preposition is considered stranded when "it appears without an adjacent complement." Regardless, the two sentences having stranded prepositions are, in my opinion, significant because a stranded preposition was considered and even taught at schools as a grammatical mistake during the nineteenth century (Huddleston and Pullum 2002, 627). One of the two sentences where the preposition is stranded reads as such; *I have given a practical illustration, of what I **cautioned** you **against**, in the last page* (COHA: Randolph A Novel 1823). The following three examples, one example taken from each decade, represent *NP + against + NP* pattern when it is used with the verb *caution* in this segment of our data:

2) a- This led her to inform me that **she** had been **cautioned against me** (Logan A Family History 1822).
b- I must here **caution the young planter against** the very improper **manner** of planting trees (American Fruit Garden 1839).
c- [W]e should esteem it our first duty to **caution them against it**…. (Am Whig Rev 1848).

The second pattern we will discuss in this group, occurs when an *NP* only represents the complement of *caution*. In this segment we have 16 tokens taking only an *NP* as their complement. In 14 examples of these 16, the agent of *caution* is a [+ human] element. To be more specific, this agent in most of the examples is a singular pronoun viz. *I, he* or *she*, and in a few sentences it is a proper noun. In my opinion, these 14 examples having a [+human] word in both the subject and object arguments of the verb *caution* clearly reflect the sense of the verb *caution* which denotes an influence practiced by an animate *(agent)* on another animate (*patient).* In two examples, as shown in 3b below, *caution* is followed by only an NP, because a conjunction follows this *NP*. While in another two examples, as we will see in 2c below, an adjunct comes after the object *NP* of *caution*. Finally, example 3a illustrates one of the 10 sentences that end with an *NP* only.

3) a- I thought we might have some such enemy, and **cautioned my friends**. (Paul Perril Merchants 1847).
b- I should have **cautioned** you **but I am not fit to be your guide and counselor** in affairs of this nature. (Redwood A Tale Volume1, 1824).
c- She looked at Pericles, and saw that he **cautioned** her, **by raising the rose toward his face,** as if inhaling its fragrance. (Philothea 1836).

Also, it is noticed that two tokens of the current data are followed by an NP only as their complement; still they do not denote any of the senses presented by the dictionaries consulted in this thesis. Moreover, the sentences including these two tokens do not have the same phrase structure of an object control verb viz. NP_1 $Verb_1$ NP_0 [PRO to $verb_2$ …]$_{s2}$. One of these tokens is used in the sentence *I should **caution** **the weakness** I have produced* (Philothea 1836). In my opinion, *caution* here denotes the meanings *to be aware of* or *to avoid*, and does not behave in accordance with the phrase structure of the object control verb shown above.

Although they are not mentioned in the dictionaries above as optional complements for *caution*, the two prepositions *as to* and *of* are present in our data. Each one of the previous prepositions is found in three examples where they are followed by an *NP*. The subject and object arguments of *caution* in all of these six examples are filled by [+ human] NPs. According to Huddleston and Pullum (2002, 626), *as to* should be analyzed syntactically as a compound preposition, and it can be followed by either an interrogative clause or an *NP*. The three examples including the preposition *as to*, in this segment, are consistent with what Huddleston and Pullum state; as they license an *NP* after them. Frequently, the prepositional word-group *as to* can replace the preposition *about* in some structures (Poutsma 1904, 181), which is also the case in our three examples. I think that the following two examples 4a and 4b show clearly how the preposition *as to* indicates the same meaning of *about*, whereas the instance 4c includes a token of *caution* followed by the pattern *of + NP*:

4) a- Mrs. Hollister attended them to the door in person, **cautioning her guests as to the safest manner** of leaving her premises (Pioneers 1845).

b- [T]hat she scarcely thought it necessary to **caution her as to her conduct** during her absence (Western Clearings 1845).
c- [I] would only **caution thee of thy quick spirit** (Choice 1832).

Unlike the prepositions *as to* and *of*, which are not mentioned in any of the dictionaries consulted above for the senses of *caution*, the preposition *about* is presented in all of these dictionaries as a possible complement for *caution*. Two examples including the pattern *about + NP* are found in this segment. In these two sentences, as in the examples where the preposition *as to* is used, no material is inserted between the object of *caution* and the preposition *about*. The agent and patient arguments of *caution*, in both sentences where *about + NP* is used, have a [+ human] NP. The sentence *Le Beaux laughed at the angry heat Charles displayed, but, at the same time,* ***cautioned him about Cilagu***, is one of two sentences which demonstrate how the pattern *about + NP* is used with *caution*.

The pattern *respecting + NP* is also found in two examples. As we will see below, example 5a is significant, since it is the only sentence in this segment, thus far, having a [- human] word in the subject and object arguments of *caution*. The context of this sentence indicates that the words "Evening Post" and "the Democracy", the agent and the patient arguments of *caution*, are newspapers. Furthermore, example 5b below shows one more example of a *pied piping* preposition with a relative clause:

5) a- The **Evening Post** misled by Buffalo misrepresentations charged Windt with being a recipient of Whig patronage… and **cautioned the Democracy respecting him** (History Loco-foco 1842).
b- Of the young woman, **respecting whom** he had been **cautioned ….** (Margret A Tale Real 1845).

The last pattern in the group of non-sentential complements is the preposition *on + NP*, which is found in three examples. In one of these three instances, the preposition *upon* replaces the preposition *on*. Nevertheless, neither *on* nor *upon* is mentioned in the dictionaries above as

optional complements for *caution*. Example 6a below is one of the tokens taking the pattern *on + NP* as a complement, while 6b represents the sentence where the preposition *upon* is used instead of *on*:

> 6) a- He had taken the liberty to **caution the general on this subject** (Wilderness Braddocks 1823).
> b- [G]overnor Harrison made an appeal to them through the Delawares, in which he forcibly pointed out the unhappy results…and **cautioned the friendly tribes**, **upon the dangers** to which they would be subjected (LifeTecumseh His 1841).

6. 2. 3 Sentential complements

Sentential complements appear in the second half of table 6. Precisely the last eight patterns which follow 105 tokens, or 56.45 percent of the 186 tokens found in this segment, represent the sentential complements. The *to infinitival* pattern forms the biggest number among the group of sentential complements found in the decades 1820 - 1840. This pattern follows 62 tokens of the verb *caution*, and all of them indicate only, as I mentioned before, the first sense found in table 5 above. The following two examples show how the *to infinitival* clause is used as a complement of the verb *caution*:

> 7) a- He **cautioned** them **to keep** their own secret, and he should certainly not betray them (Ohalloran The Insurgent 1824).
> b- I think of the pistareen, and want very much to **caution** the little fellow **not to pass** for more than he is worth (Wreaths Friendship 1849).

Apart from six tokens out of the 62 taking the *to infinitival* pattern used in the passive form, 56 tokens are found in an active construction. However, these six tokens having the passive construction are analyzed as they were in their corresponding active form. In some passive constructions, the subject of *caution* is not mentioned clearly. Yet, the context of the whole sentence indicates that it is an animate or, to be more specific, it is a human being(s) who can be described as an agent of the verb *caution*. In general, 59 tokens, out of the 62 tokens taking the *to infinitival* complement, have a [+ human] element, which was either mentioned clearly or deduced from the

context, as their agent. On the other hand, only three tokens have a [- human] NP occupying the subject argument of the verb *caution*. One of these three examples where the agent of *caution* is a [- human], NP is mentioned in example 8 below:

8) [B]ut **the latest letter** had not forgotten to **caution** Mr. Horner not **to betray** the intimacy, so that he was in honour bound to restrict himself….(Western Clearings 1845).

One more notice, I think worth mentioning here, is that 17 examples, out of the 62 tokens followed by a *to infinitival* clause as its complement, are negated by the particle *not*, as was shown in 7b and 8 above. In my opinion, it is the pre-assumption the speaker has in mind that the addressee is about to do something dangerous or wrong, which leads this speaker to caution them not to do it, i.e. to avoid it. For instance, in sentence 8 above, Mr. Horner is cautioned to avoid betraying the intimacy. It follows, in my opinion, when the particle *not* precedes the *to infinitival* pattern and this negated clause is embedded under the verb *caution* in a construction similar to example 8, this pattern denotes what should be avoided. As a result, I think Poutsma's assumption concerning the complements of *caution* can be slightly modified. According to Poutsma, a *to infinitival* clause, as a complement of *caution,* indicates what is recommended[3], while the pattern *against + ing* indicates what should be avoided. In my opinion, Poutsma's assumption can be modified as such: when a *to infinitival* clause follows *caution*, this complement indicates what is recommended, however, if the *to infinitival* complement is in the negative form, it denotes what should be avoided. Nevertheless, it is important to note that my previous claim about the negated *to infinitival* complement of *caution* is not incompatible with Poutsma's assumption, and it is just a suggestion to expand this assumption in the way I explained above. In addition to exhibiting instances where the particle *not* is used with the *infinitival pattern*, examples 7b and 8, also demonstrate two cases where the *horror aequi* principle is violated. In these two examples, we can

[3] For more details about Poutsma's assumptions concerning caution complementation, see section 5.1.2.4 above

see that the *to infinitival* pattern is used in two adjacent structures as it is utilized with the matrix and the lower verbs.

According to Smith (2009, 364), the *to infinitival* pattern denotes a 'hypothetical' and 'future orientation' meaning. We usually warn or caution people about something dangerous which might happen to them in the future if they do something contrary to our warning. Therefore, I think, what is stated by Smith can explain why, so far, we have the biggest number of sentential complements represented by *to infinitival* clauses. Another explanation for this large number of *to infinitival* pattern in this segment is presented by Dirven (1989, 120), who states that verbs which reflect causation or influence other people prefer to take the *to infinitival* pattern and this pattern can be preceded by an *NP*. Dirven did not mention the verb *caution* in his list of verbs denoting influence on other people, nevertheless, *caution* is classified as an object control verb and these verbs, according to Sag and Pollard (1991, 66), indicate the same meaning of 'influencing'. Hence, this verb prefers to take a *to infinitival* clause as its complement.

With 30 instances, the pattern *against + ing* comes second after the *to infinitival* pattern. Only three tokens are used in the passive form; one of them is shown in 9a below. Both the subject and object arguments are occupied by a [+ human] NP in all 30 examples. One significant observation about the 30 examples including the pattern in question, is that there is no insertion at all found between the NP functioning as the object of *caution* and the preposition *against*. Furthermore, the meaning denoted by each of these 30 examples is consistent with Poutsma's claim that the pattern *against + ing* describes what should be avoided. Three examples are mentioned below to elucidate how *against + ing* can be embedded in a lower clause with *caution*:

9) a- [T]he king had **cautioned** **the chancellor** **against** **engaging** rashly in his defence (North Am Rev 1823).
b- [I] would **caution** **you** **against attempting** any of those…. (Book Sports 1834).
c- He was not aware that **the servants** had been **cautioned** **against** **admitting** strangers….(Partisan Leader 1836).

The third sentential pattern found in this segment is *that*-clause. This pattern follows only six tokens. One example of these six has the passive form. Again, all of the tokens have a [+ human] element as its agent and also a [+ human] element as its object. I think it is normal for the verb *caution* to have a human being element to occupy its agent and patient arguments in these six examples, to comply with Dirven's notion (1989, 131: 133). As Dirven points out, "That-clause denotes a mental construct, i.e. a proposition." Hence, he concluded that the verbs taking *that*-clause for complementation, are the verbs indicating communication and influence on the addressee. All six examples taking *that*-clause in this segment reflect the same idea, since they denote either the idea of a judgment or influence made by the speaker about/or on the addressee. The following two examples can show how *caution* behaves when it is followed by a *that*-clause:

10) a- I would only **caution** my young friends, **that should they ever practice** this sporty….(Book Sports 1834).
b- [A]nd Albert had been **cautioned** **that Carrel was too moderate** (Edmond Dantès 1844).

Although it is found in only two examples, the *wh-construction* is the fourth sentential complement to be present in this segment. One of these two examples has a [+ human] word filling the subject and object argument of *caution*. On the other hand, in example 11 below, which shows one of the sentences having a *wh-construction* as a complement of *caution*, the subject argument is a [- human] NP. Moreover, none of the dictionaries consulted above for the semantic and syntactic features of *caution* mentions the *wh-construction* as an optional complement for this verb. As was just indicated, example 11 below shows one of the sentences where the complement of *caution* is a *wh-construction*:

11) If it doesn't tell us what to do, it always **cautions** us **what not to do** (Philothea 1836).

Another pattern of the sentential complements found in two examples is the *direct speech clause*. In these two examples, in addition to the *direct speech clause,* the object argument of *caution* is filled by an NP. This pattern is shown in the OALD as one of the possible complements of the verb *caution.* Furthermore, as was pointed out above, Herbst (2004, xxxı) sees the *direct speech* construction as a complement for its head verb. Therefore, because this thesis follows Herbst's approach, these constructions are classified here as a complement of *caution*. In both examples where the *direct speech* clause is used with *caution*, a [+human] NP occupies the subject and object argument of this verb. The following sentence shows how a *direct speech* construction is used as a complement of *caution*:

12) "Don't take too much," she **cautioned him**. (Oak Openings 1848).

The patterns NP + *from* + *ing* and NP + *about* + *ing* are represented in this segment by one example for each. The agents and patients of *caution* are a [+ human] word in the two sentences including the patterns in question. Example 13a below shows the sentence including the pattern *about* + *ing*, while example 13b represents the instance where the pattern *from* + *ing* is embedded under *caution*:

13) a- If I could see his wife, I sh'd **caution her about lettin'** him climb mountains too much. (Oak Openings 1848)
b- [A]s he has declared that he " should be proud of them; " except to **caution them**, as gentlemen, and as literary men, who know how to understand the sensitiveness of literary men, **from repeating**, that Mr. Neal…. (Randdolph A Novel 1823).

6. 2. 4 *Caution* and Bach's generalization

14) I **caution to work** steady, so as to break the whole of the eyes upon the young wood…. (Practical Treatise1848).

In the previous example, although *caution* has the sentential complement *to work steady*, its object argument, which should control the lower clause, is not saturated. Therefore, example 13 above is the only one found in this segment violating Bach's generalization. I think it is also important to point out, according to the date of example 14 above in COHA, this example is found only two years before the end of the first half of the nineteenth century. In this sentence, the subject argument of *caution* is filled by a [+ human] word.

6. 3. 1 The second segment: 1910s and 1920s

327 tokens are collected from these two decades. However, 12 tokens have the nominal and adjectival forms and so are excluded. As a result, only 315 tokens are left to be analyzed in the current segment. Examples 15a and 15b below show some instances of the tokens having the nominal and adjectival forms:

15) a-[T]he president had shown **much caution** the night before, even in regard to Squire Hexter. (When Egypt Went Broke 1921)
b- He was as **cautions** as a fox, and would not be caught napping. (Isobel Romance Northern 1913).

Unlike all of the tokens in the previous segment which denoted only one sense, few tokens in the current segment, as we will see in the details below, indicate the second and third senses shown in section 5.2 above. The table below represents an overall description of the complements that followed the 315 tokens found in this segment. Some of the patterns below include bracketed elements. The bracketed elements are due to the fact that some of the instances including this pattern have this element, while in other instances which have the same pattern, this bracketed element does not exist:

	caution	cautions	cautioning	cautioned	**total**	**%**	**NF**
NP	**5**	**-**	**3**	**17**	**25**	**6.7**	**5.17**
(NP)+ against+ NP	**10**	**1**	**1**	**3**	**15**	**4.8**	**3.10**
NP+ about+ NP	**4**	**-**	**-**	**1**	**5**	**1.6**	**1.03**
zero	**3**	**-**	**-**	**1**	**4**	**1.2**	**0.82**
NP+ to+ NP	**1**	**-**	**2**	**2**	**5**	**1.6**	**1.03**
NP+ concerning+ NP	**-**	**-**	**-**	**1**	**1**	**0.3**	**0.20**
NP+ as to+ NP	**1**	**-**	**-**	**-**	**1**	**0.3**	**0.20**
For + NP	**-**	**1**	**-**	**-**	**1**	**0.3**	**0.20**
(NP)+ direct speech	**-**	**-**	**-**	**163**	**163**	**52.4**	**33.75**
NP+ to+ inf.	**5**	**3**	**9**	**51**	**68**	**21.8**	**14.08**
NP+ against+ V+ ing	**1**	**1**	**-**	**9**	**11**	**3.5**	**2.27**
(NP)+ that	**3**	**1**	**1**	**4**	**9**	**2.8**	**1.86**
NP+ about+ V + ing	**2**	**-**	**-**	**2**	**4**	**1.2**	**0.82**
against+ v+ ing	**-**	**-**	**1**	**1**	**2**	**0.6**	**0.40**
in+ v+ ing	**1**	**-**	**-**	**-**	**1**	**0.3**	**0.20**
Total	**36**	**7**	**17**	**255**	**315**	**100**	**65.23**

Table 7: the patterns of complement of *caution* found in the second segment

6.3.2 Non- sentential complements

The current segment has 25 examples where *caution* is followed by only an *NP* as its complement. 21 of these sentences have a [+ human] NP to occupy the agent and the patient arguments of *caution*. Only two sentences are in the passive form, out of the 25 instances having the current pattern. In 11 examples, *caution* has only an *NP* as its complement, because a conjunction comes after this *NP*, while in six examples the complement *NP* precedes an adjunct and the other four sentences just end with an *NP*. All 21 examples represent the sense: *To warn someone about the*

dangers or problems of something. Examples 16a, 16b, and 16c below, respectively, illustrate the previous three types that led *caution* to have only an NP functioning as its complement:

16) a- Eventually he had **cautioned him**, **but** so late and in such a manner that his words....(Murder Point 1910).
b- Mrs. Milo had scented something wrong and was **cautioning the boys in a whisper** (Apron-Strings 1917).
c- Mme. Valerius places her finger to her lips quickly to **caution him**. (Mov: Phantom-Opera The 1925).

Again in this segment, four tokens are followed by an NP only as a complement; however they are used in a construction which differs from the complex structure described by Huddleston and Pullum in section in 5.4.1. The sentences including these four tokens have only a direct object and there is not a lower clause embedded under the matrix verb. The subject argument of *caution* in all four examples is occupied by a [+ human] NP. Furthermore, these four tokens denote the senses to *be aware of* or *to avoid* as shown in example 17 below:

17) The oculist still **cautioned moderation**, but otherwise dismissed him as fully recovered. (Philip Dru Administrator 1912).

The pattern *NP + against + NP* is one of the patterns that are present in the current segment and in the previous one. None of the 15 instances representing this pattern in this segment are in the passive form. Nevertheless, the NP functioning as an object of *caution* exists only in 10 sentences, and in the other five examples this NP is omitted. The five sentences where the object of *caution* is missed do not violate Bach's generalization, since we do not have a sentential complement, i.e. there is no lower verb embedded in the subordinate clause. The agent argument and the patient one, when the latter exists, are occupied by a [+ human] NP in all 15 instances. In my opinion, the pattern *against + NP*, or any other non-sentential complement, should be preferred in these 15 sentences, because they do not manifest any cognitive complexity (see section 2.4.1). For instance, none of these sentences is in the passive form; also, no words or phrases are inserted

between the matrix verb and the object NP when this NP is used. Therefore, the non-sentential pattern *against + NP* is used, and there is no need for a sentential complement[4]. In example 18a below, the object argument of *caution* is filled by an *NP*, whereas example 18b lacks this *NP*. At the same time, these two examples explain our claim about the complexity of the sentences where just a nominal form follows *against*:

18) a- I **caution** **my readers** **against** too **great expectations** of Allied victory…. (Rev Reviews 1916).
b- Then again I **caution** **against** **risks** …. (Shield Silence 1921).

The patterns *NP + about + NP* and *zero* complement are represented in this segment by five and four examples respectively. In four out of the five sentences where the pattern *NP + about + NP* is used, the verb *caution* has a [+ human] NP in its subject and object arguments. In the fifth sentence having the same pattern, the object argument of *caution* is occupied by a [- human] word. Moreover, in one of these five sentences *And there is **one thing that** I have to remember to **caution** **Donald** **about*** (Her Fathers Daughter 1921), there is an extraction of the relative type, which results in a stranded preposition.

The other four sentences having the pattern *NP + about + NP* do not manifest any cognitive complexity, hence it is expected that they include a non-sentential complement. All of the other nine tokens followed by the two patterns in question denote the sense; *to warn someone about the dangers or problems of something*. One more instance of the pattern *NP + about + NP* is shown in the sentence 19a, while sentence 19b presents an instance where *caution* has a zero complement and a [-human] NP as its subject. The other three sentences including a zero complement for *caution* have a [+human] word or NP as an agent of *caution*, and none of them is in the passive form:

[4] In these sentences against is followed by NP. According to Vosberg (2009, 219), the nominal category is less explicit than the sentential one. Because the sentences in question do not manifest any cognitive complexity, they may not require to include an explicit complement and a less explicit complement is preferred

19)a- [H]e **cautioned the superintendent about noises**….(Housetops 1916).
b- The very feeble educations which are all most of us can boast tend to **caution** rather than to acclaim (New Republic 1923).

The pattern *NP + to + NP* is found in five sentences. Two of these five sentences are in the passive form. Again, these two examples represent a violation to the complexity principle because the passive form is a factor that increases the cognitive complexity of the sentence. However, in the two sentences in question, like example 20a below, a less explicit complement (to + NP) is used instead of the more sentential and explicit alternative (to+ infinitive). The subject and object arguments of *caution* in all of the five sentences are filled by a [+ human] NP; because even in the passive instances the context of these sentences indicates that the subject is a human being. All of the five tokens followed by the current pattern indicate the sense: *to warn someone about the dangers or problems of something.* The examples below demonstrate two of the sentences having the pattern *NP + to + NP*:

20) a- [A]nd for several days past I had been **cautioned to gentleness** and had played apart….(Atlantic 1917).
b- The young woman laid a finger on her lips, **cautioning O'Higgins to silence**. (Ragged edge 1922).

The patterns *NP + concerning + NP*, *NP + as to + NP* and *for + NP* are represented by one example for each. Although the object NP of *caution* is dropped in the example where the pattern *for + NP* is used, the context of the sentence indicates that the addressee in this sentence is a [+human] entity, so I can say that a [+human] word occupies both the agent and the patient arguments of *caution* in all three examples. As we will notice in example 21a below, there is a relative extraction used with the preposition *concerning*. Hence, I will again argue that a more explicit complement could have been used in this example. None of the three patterns in question is mentioned in the dictionaries consulted above for the semantic and syntactic structure of *caution*. Again, only the sense: *To warn someone about the dangers or problems of something* is denoted by

the sentences including the current three patterns of complementation shown in the following three instances:

21) a- [A] **thing concerning which** one guest and another occasionally **cautioned newcomers**. (Twelve Men 1919).
b- You are not angular, you do not vibrate nor do you **caution men and women as to war** and liberation (Play: Saints Singing 1922).
c- She gets to her feet in surprise when Peggy enters. Peggy **cautions for silence**, and looks into the kitchen. (Mov: Weavers Life 1917).

6.3.3 Sentential complements

The last seven patterns listed in table 7 above represent the sentential patterns found in this segment. These patterns follow 258 tokens out of the 315 ones derived from the material of these two decades. In other words, 81.90 percent of the complements found in this segment are sentential.

It is very obvious from table 7, the pattern *(NP) + direct speech,* with 163 examples, forms the biggest number among the group of sentential patterns. Only 14 examples include the pattern *NP + direct speech,* i.e. in these 14 sentences there is an NP in the object argument of *caution*. On the other hand, in 149 examples there is not an NP to fill the object argument of *caution,* therefore in these sentences *caution* is followed only by a *direct speech* structure. All 163 tokens are found in the form *cautioned.* A [+ human] NP, which is intuitive, occupies the agent argument of *caution* in 162 examples. But, in the sentence*: Look out; don't scare it," cautioned the older animals* (Famous Modern Ghost 1921), as we see, the agent of *caution* is a [- human] NP. Nevertheless, the previous example includes a [- human] agent because the sentence is taken from fiction, and as it is known in this sphere animals are allowed sometimes to talk. For the 14 examples where *caution* has an object NP, this NP is a [+ human] word in all of them. In all 163 examples, the *direct speech* clause precedes the verb *caution*. I am not sure whether this is something relevant to the way data was registered in the corpus, or this is how *caution* behaves when it is used with a *direct speech* structure. Finally, apart from one example which indicates the sense: *to warn*

somebody officially that anything they say may be used as evidence against them in a court of law, all the other tokens denote the first sense shown in table 5 above. Example 22a below presents one of the sentences where *caution* is utilized with the pattern *only a direct speech,* 22b illustrates the pattern *NP + direct speech* and 22c is the instance where *caution* denotes the third sense mentioned in table 5:

22) a- "Don't touch that crest," **cautioned** Ferguson (Copy-Cat Other Stories 1914).
b- "Better not be too literary in public," his wife **cautioned him** (Vehement Flame 1922).
c- "She must understand that anything she says can be used against her," **cautioned** the detective (Steve Steam Engine 1921).

The pattern *NP + to + inf.* is embedded in the lower clauses of 63 tokens. This number is almost analogous to the number of tokens followed by the same pattern in the previous segment, which is 62 tokens. In all the examples having the *to infinitival* pattern of the current segment, a [+ human] word or NP occupies both the agent and patient arguments of the verb *caution*. 20 tokens, out of the 63 followed by the *to infinitival* pattern, are in the passive form. Example 23b below presents one of the tokens having the passive structure. The lower clause has the negative form in 17 instances; the particle *not* is used in 15 examples while the other two clauses are negated by using the adverb *never*. The two styles of negating the lower clauses are demonstrated in examples 23c and 23d below. Example 23e exhibits the only construction found in this segment which violates the *Horror aequi* principle:

23) a- Sid Todd **cautioned Dave to let** his horse walk. (Dave Porter At Star 1910).
b- [A]nd the reader is **cautioned to remember** this…. (Cave Gold A Tale 1911).
c- [H]e claimed pleasure at having the boy…but **cautioned us never to allow** him to be nicknamed. (Atlantic 1919).
d- In the meantime I would **caution Congress not to give** away national rights…. (New Republic 1925).
e- Grace thanked him and rode over to her companions **to caution them to be** sparing of the water. (Grace Harlowes Overland 1921).

According to Rohdenburg (1995, 378), the negation of a clause creates some complexity. He also adds that a construction is considered complex if it is in the passive form. The more explicit patterns of complementation are preferred in the constructions manifesting cognitive complexity (see section 2. 4.1). I think this explains why the *to infinitival* pattern is favored here; especially since, as mentioned above, 20 tokens are in the passive form and also there are 17 lower clauses which are negated either by the particle *not* or *never*. Furthermore, I think examples 23c and 23d underpin what I claimed before – when a negative *to infinitival* clause is embedded under the verb *caution*, it denotes what should be avoided. Finally, all 63 tokens found with the *to infinitival* pattern denote the sense: *to warn someone about the dangers or problems of something*.

Although the pattern *NP + against + V + ing* is found only in 11 examples, it comes third after the patterns *direct speech* and *to + infinitive* in the group of current sentential complements. All the 11 examples have a [+ human] word in the agent and patient arguments of *caution*. Only three tokens of *caution* have the passive form; one of them is shown in example 24b below. Again, the sense *to warn someone about the dangers or problems of something* is the only one denoted by all of the 11 examples having the pattern *NP + against + V + ing*. The following are two of the 11 instances where the pattern *NP + against + V + ing* is used with *caution*:

24) a- Other physicists **caution us against drawing** too close analogies….(Harpers 1913).
b- Traders and others are **cautioned against harboring** the fugitive…. (Wild Justice Stories 1921).

Nine instances only represent the pattern *(NP) + that* in this segment. The object argument of *caution* exists in eight sentences, and only one sentence lacks this NP. The passive form is utilized in three examples. The complementizer *that* is structurally represented in all of the examples, except for one sentence where the word *that* is omitted. Example 25b below, where the complementizer *that* is left out, is in the passive form. The passive form is one of the factors that increases the complexity of a sentence. Thus, an explicit complement should be used in this case

(see the complexity principle in section 2.4.1). However, *that* is not structurally represented in this sentence, therefore it is considered as a violation of the complexity principle. Seven tokens denote the sense; *to warn someone about the dangers or problems of something,* while two tokens denote the sense: *To warn somebody officially that anything they say may be used as evidence against them in a court of law.* One of these two tokens denoting the latter sense is shown in example 25a, this same example also shows one of the three tokens of *caution* which are in the passive form and example 25b demonstrates the sentence where the complementizer *that* is omitted. Finally, 25c represents one of the sentences where *that* is structurally represented:

25) a- You are hereby **cautioned** **that** anything you say may be used against you. (Within Law 1913).
b- Men were **cautioned** they would be shot should they divulge the process. (Story Porcelain 1919).
c- A certain prudent man, when he felt himself to be in love, hung a little bell round his neck to **caution** **women** **that** he was dangerous. (New Republic 1924)

In all of the four instances including the pattern *NP + about + V + ing*, the subject and object arguments of *caution* are a [+ human] NP. Also, as we will see in example 26 below, all of the sentences having the pattern in question denote the sense *to warn someone about the dangers or problems of something:*

26) [A]nd mother Marshal forgot to **caution** **father** **about** **going** at too high speed. (Witness, 1917).

6.2.4 *Caution* and Bach's generalization

0.9 percent of the tokens found in this segment violate Bach's generalization, since we have three examples where the object NP of *caution,* and the controller of the lower verb, is not saturated. Table 7 which shows the patterns of complement found in this segment indicates that, whereas two of these tokens are followed by the pattern *against + V + ing*, one token only has the pattern *in + V + ing* as its complement. The latter pattern is itself a significant one because it is not mentioned in

any of the four dictionaries used in section 5.1.2. Moreover, this is the first example found, so far, having this pattern among almost 500 tokens analyzed in the current segment and the previous one. Also, this sentence with the pattern *in + V + ing*, is one of the sentences that indicate the meaning 'to caution or warn oneself' – this meaning is a part of the third sense presented by the OED. The content of sentence 27c below can be paraphrased as *every officer should caution himself when they try to approach the dangerous murder Burke*. Nevertheless, it is important to point out that the word *caution* in example 27c can also be analyzed as a noun. In other words, the context of the example in question does not show clearly whether *caution* is a verb or a noun. All the tokens which violate Bach's generalization in this segment are shown in the following three examples:

27) a- [A]nd when they were ready to cast them the professor **cautioned against making** any casting with the molds in any position. (Wander Island Boys 1914).
b- Conservative observers are **cautioning against adding** to long holds…. (Wall St Jrnl 1928).
c- Burke is a very dangerous murder…Advise police **caution in approaching** him…. (Time 1929).

6.3.1 The third segment: 1990s and 2000s

The total number of words that constitute the material or content of these two decades in COHA amounts to 57,356,791. Compared to the number of words found in the previous segments, the current segment has the largest number of words. Hence, I think it is acceptable to find the highest number of tokens in the material of this segment. From my search for this verb in the material of the current two decades, 404 hits of *caution* were retrieved. However, not all the 404 hits have the verbal form, as 21 tokens have either the nominal or adjectival form. These 21 tokens are excluded from our analysis because, as indicated above, our focus here is to analyze the complement patterns of the verb *caution*. Leaving out 21 tokens, and with a very simple mathematical operation, this leaves us with only 383 instances that are left to be to be analyzed. Nevertheless, before discussing

the patterns of complement for these 383 tokens, we can consider the following two examples, which are samples of the tokens having nominal and adjectival forms:

28) a- With a little extra care and **caution** you should be able to avoid hurting yourself. (BackpackingInNineties 1995).
b- But any attempt to ascribe high moral purpose to all of America's actions would have invited the theologian's **cautioning** words. (USNWR 2003).

	caution	cautions	cautioning	cautioned	**total**	**%**	**NF**
NP	3	5	4	7	19	4.96	3.31
(NP)+ against+ NP	6	8	1	8	23	6.00	4.00
(NP)+ about+ NP	3	1	2	4	10	2.61	1.74
NP+ of+ NP	-	-	1	-	1	0.26	0.17
(NP)+ direct speech	5	56	-	83	144	37.59	25.10
(NP)+ that	24	45	4	45	118	30.80	20.56
NP+ against+ V+ ing	-	2	-	7	9	2.34	1.56
NP+ to+ inf.	9	4	2	17	32	8.35	5.57
NP+ about+ V + ing	-	-	-	4	4	1.04	0.69
NP+ for+ V+ ing	1	-	-	1	2	0.52	0.34
NP+ from+ V+ ing	-	1	-	1	2	0.52	0.34
against+ v+ ing	6	5	-	5	16	4.17	2.78
to+ inf.	1	1	-	1	3	0.78	0.52
Total	58	128	14	183	383	100%	66.77

Table 8: the patterns of complement of the verb *caution* found in the decades 1990s and 2000s

6.3.2 Non-sentential complements

The first four patterns in the above table, which follow 53 tokens, represent the non-sentential complements found in this segment. In other words, 13.83 percent of the tokens analyzed in this segment are followed by non-sentential complements.

In 19 instances the complement of *caution* is an *NP* only. Of these 19 instances, 14 tokens are used in the construction analyzed in this thesis, while the other five are used in an

irrelevant construction. Concerning the 14 sentences having the relevant construction, precisely six of them end with just the NP which represents the object of *caution*, while in eight sentences an adjunct comes after this object, and as a result *caution* has an only NP as its complement. Two instances are in the passive form. All the tokens again denote the sense: *to warn someone about the dangers or problems of something.* Example 29a demonstrates one of the sentences that just ends with an *NP*, which functions as an object for *caution*, whereas 29b represents the sentences where an adjunct follows the object argument of *caution*:

29) a- [S]he feels turning to hard little words in her mouth when she tries to **caution her only child**, her baby. (Fantasy Sci. Fi. 1994).
b- He **cautions Merrick with a discreet look**, then shakes a pill from a bottle. (Mov: Island The 2005).

As was pointed out, another five tokens have an NP as their complements, but they are used in a different construction from the one in question here which is [[NP_1] [$verb_1$] [NP0] [[PRO] [$verb_2$]…]$_{s2}$]$_{s1}$. These five tokens of *caution* indicate the meaning *to avoid* or *to be aware of*. Example 30 below clearly illustrates the kind of construction the five tokens in question have, and what sense these tokens denote:

30) - By now, "said Fentriss" I should be unbearable to live with, but the birds **caution** modesty (Omni 1995).

Only five sentences, out of the 23 ones including the pattern *against + NP*, have an NP to occupy the object argument of the verb *caution*, whilst in 18 sentences this object argument is omitted. A [+ human] NP fills the object argument in the five sentences having this argument. Also, a [+ human] word or NP occupies the subject argument of the verb *caution* in all of the 23 sentences. On the other hand, for the 10 sentences including the pattern *about + NP*, only three of them lack the object argument of *caution*, and the other seven sentences have an *NP* to function as

an object for *caution*. Apart from one sentence having a [- human] word as a subject of *caution*, a [+ human] word occupies the subject argument in nine sentences and the object argument when it exists. Only one sentence out of the 10 instances having the pattern *about + NP,* is in the passive form. *To warn someone about the dangers or problems of something* is the only sense denoted by all 23 sentences where the pattern *against + NP* and the pattern *about + NP* are used. Examples 31a and 31b represent the sentences that have the pattern *against + NP*, whereas examples 31c and 31d demonstrate the tokens followed by the pattern *about + NP*. Finally, example 31e below shows the sentence including the latter pattern but has a [- human] word as an agent of *caution*:

31) a- Bristol suggests that they do when he **cautions cultural analysts against optimism**. (Critical Matrix 1994).
b- White House aides **cautioned against expectations** of a breakthrough…. (AP 2001).
c- [A]nd a constable had to **caution him** twice **about his conduct**. (Medusa Stone 2000).
d- Design purists **caution about oversimplification** of the era. (Bazaar 2003).
e- The voice in her ears **cautioned her** incessantly **about sunburn**…. (Fantasy Sci. Fi 2000).

With only one sentence, the pattern *NP + of + NP* is present in this segment. As it is clear from example 32 below, this pattern denotes the sense: *to warn someone about the dangers or problems of something*.

32) By seven o clock the hostess would be **cautioning new arrivals of a forty minute wait**…. (Aftermath Novel 2006).

6.3.3 Sentential complements

The last nine patterns in table 8 above represent the sentential complements. These nine patterns come after 330 tokens out of the 383 found in this segment.

Analogous to the previous segment, the *direct speech* clauses form the largest number of sentential complements in this segment, with 144 instances including this pattern. In 122 instances, seen in example 33a, a *direct speech clause* is only used with *caution.* However, in the

other 22 sentences, in addition to the *direct speech clause, caution* is followed by an NP functioning as its object. The latter pattern is demonstrated in example 33b below. The agent arguments and the patient arguments, when they exit, are occupied by a [+ human] NP in all of the 144 examples. All of the 144 tokens, analogous to examples 33a and 33b, denote the sense *to warn someone about the dangers or problems of something*

33) a- But, he **cautions**, " it can be a complex problem to have easy money at the same time you're rebuilding the society." (Chicago 1995).
b- " Don't mention this to anyone else," I **cautioned** her. (FantasySciFi 2007).

The pattern *(NP) that* follows 35.75 percent of the tokens having sentential complements in this segment, as it is found in 118 of the 330 sentences including sentential complements. The data of this segment clearly shows that there is a great transformation in the frequency of the pattern *(NP) that.* Since the normalized frequency of this pattern in the first, second and third segments is respectively 1.63, 1.86 and 20.56.

Furthermore and akin to example 34a below, only 17 examples out of the 118 sentences which include the pattern *(NP) that,* have an NP to fill the object argument of the verb *caution*, whereas, as it is shown in example 34b below, in the other 101 sentences this object argument of the verb *caution* does not exist. In all 17 sentences having an object argument for *caution*, this argument is a [+ human] word or NP. Yet, in 114 instances and except for four sentences, the subject argument of *caution* is filled by a [+ human] word. One of the four sentences where a [- human] word functioning as a subject of *caution*, is shown in example 34c below. Also, only four instances, out of the 118 instances in question, are in the passive form. All the 118 tokens denote the sense: *to warn someone about the dangers or problems of something*.

34) a- I would just like to **caution the readers that** fasting is best done under the guidance of a physician. (Total Health 1998).
b- [A] Russian nuclear energy specialist…**cautions that** subtle performance differences might arise when…. (Pop Science 2006).

c- It **cautioned** **that** the voluntariness inquiry has always taken into account evidence ….(No Equal Justice 1999).

Unlike the pattern *(NP) that*, which follows a larger number of tokens in this segment, when comparing the previous two segments, the pattern *NP + to + Inf*. has a remarkable decrease in the number of tokens it follows in this segment. Thus, the normalized frequency of this pattern in the data of the current segment is 5.57, while the normalized frequency of the same pattern in the first and second segments is respectively 16.87 and 14.08.

The particle *not* is used in 13 sentences out of the 32 having the pattern *NP + to + Inf*. in the current segment, whereas one sentence only has the negative form which uses the adverb *never*. The subject argument of the verb *caution* is a [+ human] NP in 30 sentences, while in two sentences the same argument is occupied by a [- human] word. However, the NP which occupies the object argument of *caution* is a [+ human] in all 32 sentences. Only three sentences out of the 32 having the pattern in question are in the passive from. In addition to having the same pattern of complement, all 32 tokens also denote the sense: *to warn someone about the dangers or problems of something*. Examples 35a, 35b and 35c, respectively, demonstrate: one of the sentences having the pattern *NP + to + Inf*. with a [+ human] word occupying its subject argument, and one of the sentences where the same pattern is used but with a [- human] NP as a subject of *caution*. On the other hand, example 35c illustrates one of the sentences where the lower clause is in the negative form.

35) a- I've been working with people, religious leaders around the world, and a lot of them have **cautioned** **me** **to stay** away from prayer and theology. (San Fran 1997).
b- [T]he faint yellow glow of a town in the near distance **cautioned** **him** **to wait** for morning before going further. (Driftless 2008).
c- But despite the acclaim paid to winners, health experts **caution** **consumers** **not** **to put** too much faith in such lists. (USA Today 1999).

Although there are nine sentences only including the pattern *NP + against + V + ing* in the material of the current segment, we cannot say that there is a significant decrease in the frequency of this pattern throughout the three segments. In the current segment there are also 16 tokens taking the same pattern as their complement, but missing the object argument of *caution*, which shall be analyzed separately in section 6.3.4 below. In other words, the pattern *against + V + ing* exists in 25 sentences in the current segment, with a normalized frequency of 4.35. The normalized frequency of the same pattern is 8.16 in the first segment, while its normalized frequency is 2.67 in the second one (if we add the three tokens analyzed in section 6.2.4). Therefore, I can say that even if there is a decrease in the normalized frequency of the pattern in question between the first and third segments, it is a slight decrease. Regardless, six sentences, out of the nine including the pattern *NP + against + V + ing* in the third segment, have a [+ human] NP in the subject and object arguments of the verb *caution*. Furthermore, the context of the three sentences which are in the passive form and having the same pattern indicates that the subject arguments of *caution* in these sentences are also a [+ human] NP. Nevertheless, all of the nine tokens followed by the pattern *NP + against + V + ing*, analogous to examples 36a and 36b below, denote the sense *to warn someone about the dangers or problems of something.*

36) a- Pet owners are **cautioned against telling** a caller what a caller what a lost pet is named or what it looks like. (Farriers Lane 1993).
b- [T]he new Soviet foreign minister, A. Bessmertnykh **cautioned the Americans against destroying** Iraq…. (Arab Studies 2001).

The last three patterns present in the category of sentential complements in this segment are*: NP + about + V + ing, NP + for + V + ing* and *NP + from + V + ing*. The pattern *NP + about + V + ing* is found in four instances; all of them are in the active form. Apart from one sentence where the subject argument of *caution* is filled by a [- human] word, the subject and object arguments of *caution* are occupied by [+ human] NPs in the other three sentences. The patterns *NP + for + V + ing* and *NP + from + V + ing* are represented by two instances for each. All four

sentences including the last two patterns are in the active from. Also, a [+human] NP fills the subject and object arguments of *caution* in all of the four sentences. *To warn someone about the dangers or problems of something* is the only sense expressed by the eight sentences, including the three patterns discussed in this paragraph. The examples below demonstrate the sentences having the three patterns in question:

37) a- Her father had always **cautioned her and her sister about shedding** tears for answered tears. (Illumination 2009).
b- The top people at NASA and the Pentagon had been **cautioning him from becoming** too evangelical on this particular aspect of Celeste. (Little Green Men 2000).
c- But the elders of the Mormon church… **caution her for failing** to heel more closely to their idea of a Mormon woman. (Denver 1995).

6.3.4 *Caution* and Bach's generalization

The number of tokens where Bach's generalization is violated increased remarkably in this segment. 19 tokens or 5.02 percent of the 378 tokens analyzed in this segment miss the object argument. 16 tokens out of these 19 are followed by the pattern *against + V + ing*, and the other three precede the pattern *to + inf.*

Like example 38a below, 15 sentences out of the 16 which include the pattern *against + V + ing* have a [+ human] NP in the agent argument of *caution*. The only instance having a [-human] word as a subject for *caution* is shown below in example 38b. All the instances with the current pattern are in the active form. On the other hand, the agent argument of all the tokens preceding the pattern *to + inf.* is a [+ human] NP. Moreover, as shown in example 38c below, none of these three instances is in the passive from. Overall, of all the 19 instances, whether they have the pattern *to + inf.* or the pattern *against + V + ing,* denote the sense *to warn someone about the dangers or problems of something.* More instances having either of the two patterns are shown in examples 38d and 38e below:

38) a- [S]ome experts **caution against equating** the banking industry's problems with the thrift disaster. (Time 1990).
b- And anyway, the book **cautions against changing** over from a conventional garden that include…. (CS Monitor 1993).
c- In Bryan's approach, I would just **caution to go** slowly in establishing urban service areas which are …. (Denver 2000).
d- [P]rofessor at the University of Pennsylvania… **cautions not to put** too much stock in SAR figures. (Consum Rep 2001).
e- Erdman Palmore, professor emeritus at the Duke Center for the Study of the Aging, **cautions against thinking** advanced age is synonymous …. (Atlanta 2007).

In my opinion, another important question arises when we look at the five examples above and other examples violating Bach's generalization in this thesis. Do the examples which violate Bach's generalization also contravene Rosenbaum's *Minimal Distance Principle* or not? According to Rosenbaum (1970, 26), the controller, or the initiative noun phrase as Rosenbaum calls it, of a complement phrase whose subject is deleted (the PRO), should be the NP having the least distance to this complement phrase. In other words, to clarify Rosenbaum's principle, in a sentence like *John defied Bill to go*, the controller of the complement *to go* is the NP (Bill) and not the NP (John); because the former NP (Bill) is the nearest one to the constituent *to go* (ibid 25). Thus, if we apply Rosenbaum's principle to the example 38a above, the controller of the lower verb *equate* should be the NP (*some experts);* because this NP is the closest one to the embedded verb in this case. However, to assume that the NP (*some experts)* is the controller of the complement phrase *against equating*, this would mean that *caution* is a subject control verb and not an object control verb, since *some experts* is the subject argument of *caution*.

Yet, the answer to the previous argument is presented by Rizzi (1986, 501: 502). According to Rizzi, there are two claims that can be made about the missing object argument of object control verbs like *caution*. One of the claims which can solve the argument arose in the previous paragraph, is to assume that the missing object [of *caution* as an example of object control verbs] exists because it is a part of the lexical meaning of *caution*, i.e. always when we practice cautioning, there is an entity to be cautioned. However, "this missing object… is structurally

realized as a phonetically null element" (ibid, 501). Briefly, Rizzi claims that although the object argument of *caution* is not phonetically realized in sentences 38a - e, this argument exists because, as I mentioned, it is a part of the semantic structure of the verb *caution*. Thus, we can even assign a thematic role to it. If we agree with Rizzi's assumption that the object argument of *caution* exists, this object NP is then the nearest to the subordinate clause *against equating;* so it is the controller or the initiative NP of the verb *equate* in this clause. Therefore, Rizzi's claim can explain how *caution* is used as a matrix verb and has a sentential complement in its lower clause, but it misses its object argument. In other words, Rizzi's claim can assert that such constructions do not contradict *Bach's generalization* and Rosenbaum's *Minimal distance principle*. In my opinion, also, for Huddleston and Pullum to classify *caution* as a verb that can be used in the intransitive form whose object is deleted because this object is intuitively understood as a human being object – this should also support Rizzi's claim that the object argument can be deleted because it is a part of the semantic structure of *caution*.

6.5 General findings

Looking for the verb *caution* in COHA, 939 tokens were collected from the material of the seven decades selected to be analyzed in this thesis. Nevertheless, 55 hits were excluded because they are utilized in the nominal and the adjectival forms. Hence, only 884 tokens are found to be relevant to our analysis. The 884 tokens are divided as such: 186 tokens represent the first segment (decades 1820s - 1840s), 315 tokens represent the second segment (decades 1910s - 1920s) and 383 tokens represent the third segment (decades 1990s - 2000s). In this section, I will try to present a summary of our findings about the complements of the verb *caution* found in these three segments. However, to do that, we first need to have a look at the table below which shows in a descending order all of the 17 patterns of complements found in our analysis. It is important to remember that the prepositional patterns shown in the table below include the sentential and non-sentential patterns.

For instance, the preposition *against* in the following table refers to the patterns: *against + NP* and the pattern *against + V + ing*. Also, in figure 1, where the normalized frequencies of the patterns are shown, the prepositional patterns include the sentential and non-sentential patterns which follow these prepositions:

	The pattern	Number of instances					The pattern	Number of instances			
		1st segment	2nd segment	3rd segment	Total			1st segment	2nd segment	3rd segment	Total
1-	**Direct Speech**	**2**	**163**	**144**	**309**	**10-**	**Of**	**3**	**-**	**1**	**4**
2-	**to+ Inf.**	**63**	**68**	**35**	**166**	**11-**	**from**	**1**	**-**	**2**	**3**
3-	**against**	**82**	**28**	**48**	**158**	**12-**	**for**	**-**	**1**	**2**	**3**
4-	**that**	**6**	**9**	**118**	**133**	**13-**	**on+ NP**	**3**	**-**	**-**	**3**
5-	**(only) NP**	**16**	**25**	**19**	**60**	**14-**	**Wh-clause**	**2**	**-**	**-**	**2**
6-	**about**	**3**	**9**	**14**	**26**	**15-**	**respecting**	**2**	**-**	**-**	**2**
7-	**zero**	**-**	**4**	**-**	**4**	**16-**	**in**	**-**	**1**	**-**	**1**
8-	**to+ NP**	**-**	**5**	**-**	**5**	**17-**	**concerning**	**-**	**1**	**-**	**1**
9-	**as to+ NP**	**3**	**1**	**-**	**4**		**Total**	**884 instances**			

Table 9: a summary of all the patterns of complement found in our analysis

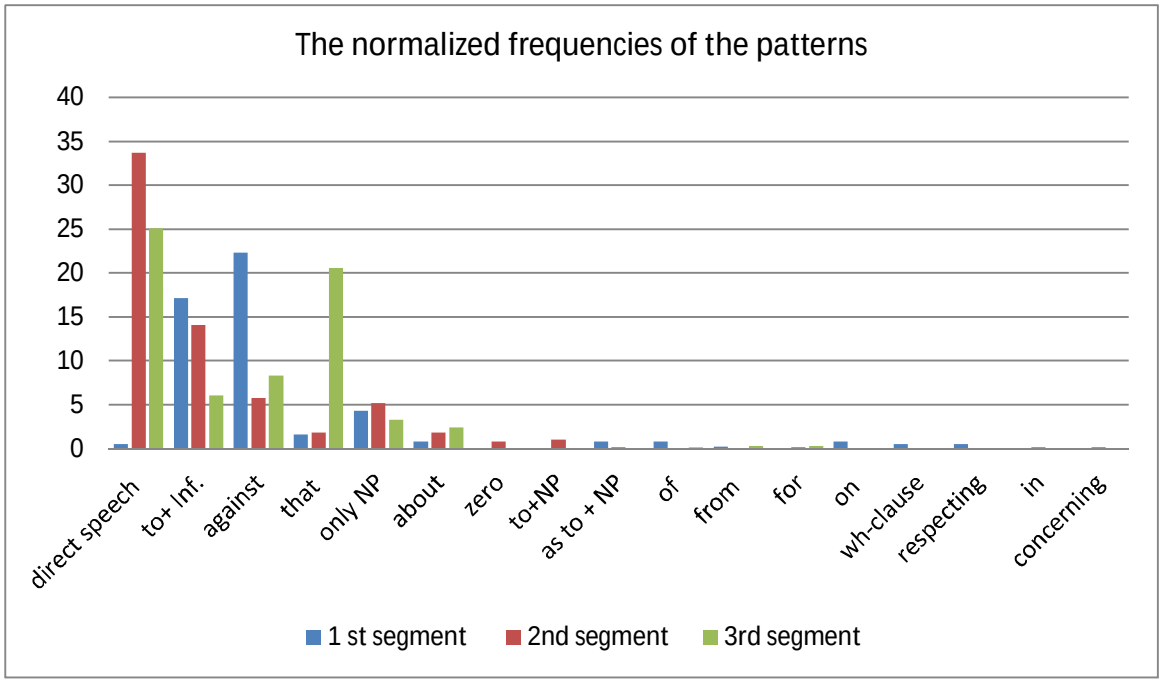

Figure 1: the normalized frequencies of each pattern in the three segments

- The table above shows clearly that the *direct speech* clause is the most common pattern of complement following *caution*, since it comes after 35.35 percent of the tokens analyzed in this thesis. However, the most significant observation about the *direct speech* pattern is – this pattern is found after only two tokens with a normalized frequency of 0.54 in the data of the first segment, which covers the period from 1820s to 1840s of the nineteenth century. Yet, in a significant development, the normalized frequency of the same pattern became 33.75 per 10 million words in the second segment (it followed 163 out of 315 tokens analyzed in this segment), and in the third segment its normalized frequency is 25.10 (it follows 144 out of 383 tokens found in the third segment). The second and third segments are taken from some decades of the twentieth century. According to the previous numbers, *direct speech* clauses were not a prevalent pattern of complementation for the verb *caution* during the nineteenth century, but the same pattern is used frequently with *caution* in the data of the twentieth century.

- Unlike *direct speech clauses*, at least in our data, there is a gradual decrease in the use of the pattern *to + Inf*. with *caution* starting from the old decades to the modern ones. The *to + Inf.* pattern follows 63 of the 186 tokens found in the decades 1820s - 1840s, and its normalized frequency is 17.14 in this segment. On the other hand, only 68 of the 315 tokens found in the decades 1910s - 1920s take *to + Inf.* as its complement, with a frequency of 14.08, and in the third segment its frequency is 6.10 (it follows 35 of 383 hits of this segment).
- Again, I think it is important to remember that here I am talking about the preposition *against* and not the pattern *against + V + ing*. Generally, as the figures in the table above and its normalized frequency indicate, the preposition *against* is used more frequently in the three decades representing the nineteenth century (the first segment), than in the decades of the twentieth century, i.e. the second and third segments. In a chronological order of the three segments, the normalized frequency of this pattern is respectively 8.16, 2.67 and 4.35. Nevertheless, as we can see, the frequency of the pattern in question started to increase again in the third segment compared to the second one which means, in my opinion, this preposition is still used with *caution* in present day English.
- During the analysis of our data, two significant points stood out about the pattern *that*-clauses when it is used with the verb *caution*. (1) This pattern is significantly frequent in the data of the third segment, compared to the data of the first two segments. In the third segment, the normalized frequency of *that*-clause is a 20.56/10 million words, while its frequency in the first and second segments is respectively 1.63 and 1.86/10 million words. (2) In most of the sentences where the pattern *that*-clause is used, the object argument of *caution* is left out. Precisely, 102 sentences out of the 133 ones including the pattern *that* in all three segments, do not have an object argument for the verb *caution*.

- If we look at the normalized frequencies of the two patterns *to + Inf.* and *that*-clause, we will find that the way these two sentential patterns used or behave with the verb *caution* contradicts what Vosberg (2009, 212: 213) considered to be one of the linguistic developments that happened to the system of complements during the phenomenon "Great Complement Shift." According to Vosberg, a part of what he called the *Great Complement Shift* is, "[The] *to-infinitives* began to replace *that*- clauses after many verbs that had previously been confined to a finite clause." However, the normalized frequency of the *to-infinitival* pattern decreases remarkably in the third segment data compared to the first and second ones. On the other hand, the normalized frequency of *that*-clauses increases significantly in the third segment, although these clauses are not so frequent in the first and second segments. Therefore, as figure two below shows, *that*-clauses are still widely used with the verb *caution* in present day English, and they are not replaced by the *to infinitival* pattern as is predicted by the *Great Complement Shift.*

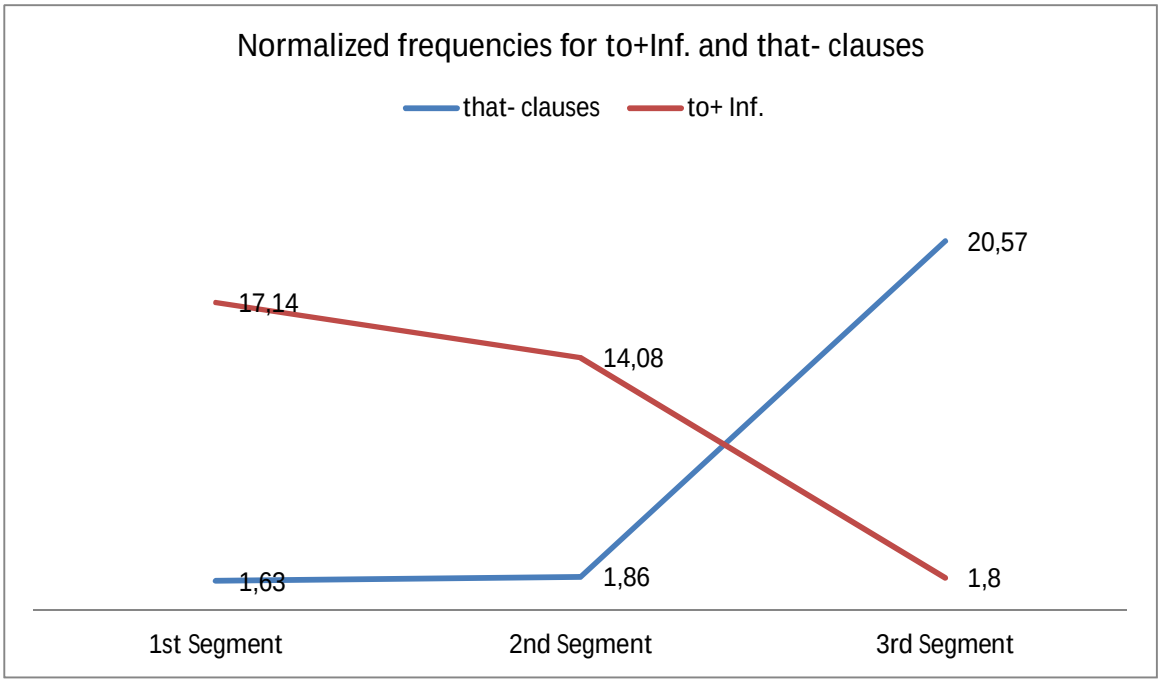

Figure 2: the normalized frequencies of the patterns *to + Inf.* and *that-clause*

- The number of sentences, where the pattern *(only) NP* is used, represents different percentages compared to the total number of instances found in each segment. This pattern forms respectively 7.56 percent, 6.75 percent and 3.70 percent of the total number of tokens found in the first, second and third segments. However, I cannot say that there is a great change or shift in the number of instances representing the pattern *(only) NP* in the data of the three segments. Also, the normalized frequencies of the same pattern in the three segments (4.35, 5.17, 3.31) do not include any significant changes.
- The numbers in table 9 above and the normalized frequencies of the preposition *about* indicate that the instances including this preposition are small in the three segments. The normalized frequencies of this preposition in the first, second and third segments are, respectively, 0.81, 1.86 and 2.44. Therefore, I can claim that this preposition is not used frequently with *caution*, at least, in this sample of American English investigated in this study.
- Although patterns and prepositions such as: *wh-clause*, *zero complement*, *to + NP*, *as to*, *of*, *from*, *respecting*, *in*, and *on* are not mentioned in the dictionaries consulted in this thesis for the possible complements of the verb *caution*, each one of the previous complements is found in a few instances. Apart from the prepositions *of* and *from* which are present in the third segment with one and two instances respectively, the other patterns and prepositions were found only in the first and second segments. In other words, the normalized frequencies and the numbers of instances where the previous patterns and prepositions are found, indicate that they are not widely used with *caution*, particularly in modern decades. This can be the reason, in my opinion, why most of the patterns and prepositions in question are not mentioned in the English dictionaries as possible complements for *caution*.
- Only one token violating Bach's generalization was found in the data of the first segment, but this number increased to three tokens in the data of the second segment. However, the

same generalization was violated 19 times in the data of the third segment. These 19 tokens which contravene Bach's generalization represent 5.09 percent of the hits taken from the decades 1990s and 2000s. Yet, the important question is: does this increase in the number of tokens which disregard Bach's generalization represent a linguistic development of *caution*? In other words, do the users of English language nowadays tend to leave out the object argument of *caution* even if the lower clause includes a sentential complement? Also, if we do a research on another object control verb, will we find a remarkable number of tokens of this verb also violating Bach's generalization? I think further research needs to be done to answer these questions. Before leaving this point, I would like to point out that there are two reasons which led me to ask the previous questions. First, all 19 instances violating Bach's generalization - in the third segment - are taken from magazines such as *Time* and *Washington Post,* i.e. they are not taken from spontaneous speeches or texts. However, it is noteworthy that four of the 23 examples violating Bach's generalization are quotations. Second, in a short paper on American English using the Corpus of Contemporary American English, done by the same author, it was noticed that in this corpus there is also a sizable number of tokens of the verb *caution* violating Bach's generalization.

- The distribution of the 23 examples violating Bach's generalization in accordance with their patterns indicates that one instance is found in the pattern *in + V + ing*, four are found with the pattern *to + Inf*. and 18 have the pattern *against + V + ing*. Perhaps different grammarians can have various ways to explain this big gap between the numbers representing the patterns *to + Inf*. and *against + V + ing*. Nonetheless, the explanation offered in this study is adopted from Wood (1956, 11: 12). According to Wood, one of the differences between the *to-infinitival* construction and the *gerundial* one is, although the former construction does not refer to a specific agent, it usually points to or suggests one, while the latter indicates the activity in general without attaching it to a certain agent or

occasion[5]. Thus, since *against* is always followed by a *gerund*, at least in the constructions violating Bach's generalization, it may be easier to drop the initiative NP (the object NP of *caution*) of the PRO in this construction, because the focus is more on the event or activity itself and not on the agent. On the other hand, because the *to - Inf.* construction usually implies an agent, the users of English language are intuitively careful to refer to this agent, so they mention the initiative of it or the object NP of *caution*. As a result, I think it may be easier to leave out the object NP of *caution* with the complement *against + V + ing* than to leave out the object NP of *caution* with the *to +Inf.* complement.

- The analyses of the two patterns *to + Inf.* and *against + V + ing* in this sample of American English go along with Poutsma's claim about these two complements of *caution*. In this study, as in Pousma's unpublished dictionary (see section 5.1.2.4), when the *to- infinitival* pattern is used with *caution*, it indicates what is recommended. Also, the pattern *against + V + ing*, when it is embedded under *caution*, in the data analyzed in this study, it denotes what is avoided. However, in my opinion, Poutsma's statement or claim about the previous two patterns can be extended to differentiate between the affirmative and negated *to- infinitival* patterns when they are used with *caution*. It is noticed in this study that when the negated *to- infinitival* pattern follows *caution*, it also denotes what is avoided like the pattern *against + V + ing*. For instance, in *Greenspan **cautioned** the group **not to rush** to revive the economy until they had time to….* (Time 2001), the underlined negated *to- infinitival* complement denotes the same meaning as the preposition *against*. If the meaning in the previous sentence is paraphrased, we get the meaning *Greenspan cautioned the group to avoid reviving the economy until they had time….* Therefore, I think the negated *to- infinitival* pattern should also denote what is avoided. Even in the sentences: (a) *I warned her **to stay** indoors* (b) *I warned her **against** staying indoors*, used by Huddleston and Pullum (2002,

[5] As wood (1956, 11) states, when we say *To lie this is wrong*, we usually think of an agent who can be anyone. On the other hand, when we say *Lying is wrong*, the focus is more on the activity itself in a general sense, without pinpointing a certain doer to this activity.

1184), to compare between the *infinitival* pattern and the preposition *against*, the two grammarians state that sentence [b], where against is used, denotes the meaning "I warned her not to stay indoors." In other words, and according to Huddleston and Pullum, *against* denotes the same meaning as *not to* when it is used with the verb *warn*; *warn* and *caution* denote similar senses. Furthermore, the construction used in the two sentences above is the same construction as an object control verb. As a result, I think the analysis given by Huddleston and Pullum about *against* and the negated *to- infinitival* pattern supports the claim made in this study – that these two complements, when they are used with the verb *caution,* denote what is avoided.

- 870 of our tokens denote the sense: *to warn somebody about the danger or problems of something*. On the other hand, only three tokens denote the sense *to warn somebody officially that anything they say may be used as evidence against them in a court of law.* Thus, our findings in this thesis match with what is stated by the *OALD* and the *LODCE,* that the last two senses in table 5 are not common in American English.
- Our data also includes 11 tokens used in the construction: NP_1 verb NP_2. As noted before, this construction differs from the construction where *caution* is used as an object control verb. Moreover, all of the 11 tokens in question denote the sense *to avoid* or *to be aware of,* and these senses are not mentioned in any of the dictionaries consulted in this thesis for the semantic features of *caution*. *[B]ut the birds **caution** modesty. (Omni 1995)* is one of the sentences where *caution* is used in an irrelevant construction to the one analyzed in this thesis.

7. Conclusion

As indicated above, the goal in this study was to examine the patterns of complements of the verb *caution* in American English from the 1820s – 2000s. A number of significant remarks can sum up our analysis of the 884 hits of the verb *caution* retrieved from COHA.

First of all, 521 of our tokens had the form *cautioned*, which implies clearly that the verb *caution* is used more frequently in this form than the other ones. Second, the patterns *Direct Speech clauses, to + Inf., against + V + ing/NP and that*-clause, in a descended order, are the most common patterns used with *caution* in our sample. Although *direct speech clauses* have the highest pattern in numbers embedded under *caution* in our sample of American English with 309 instances, this pattern was used only two times in the data of the nineteenth century. Still, the number of instances where the previous pattern exists increased significantly in the data representing the twentieth century and the first decade of the third millennium. The same can be said about *that*-clauses except that this pattern was not used frequently with *caution* even until the beginning of the twentieth century. The great change in the usage of the pattern *that*-clauses takes place only in the two decades 1990s and 2000s.

Third, the number of instances violating Bach's generalization also increased remarkably in the data taken from the most recent decades in our sample, i.e. 1990s and 2000s. Among the 383 instances analyzed in these two decades, 19 examples do not observe Bach's generalization. Most of these 19 tokens which violate Bach's generalization are followed by the pattern *against + V + ing*. Nevertheless, the most important question is: can we consider this as a linguistic development in the usage of the verb *caution*? Thus, in present day English we will have more contexts where *caution* lacks its object NP, even though it is followed by a verb clause which requires a controller like the patterns *to + Inf.* and *against + V + ing*. I think further research needs to be done in this area.

Our fourth and last observation is that the two senses of *caution*: *to warn somebody officially that they will be punished if they do something wrong or illegal again* and *to warn somebody officially that anything they say may be used as evidence against them in a court of law* are not common in American English. On the other hand, most of the hits of *caution* analyzed in this thesis denote the sense: *to warn somebody about the danger or problems of something.*

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