

**You Heard the New Theory?:
A Syntactic Analysis of Null Subjects and Null Auxiliaries in English**

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ABSTRACT

The following investigation of null subjects and null auxiliaries in English has two principle goals. First, it seeks to describe the occurrence of null subjects and null auxiliaries in English sentences. Second, it proposes a set of rules which attempt to account for the appearance of sentences which lack overt subjects or auxiliary verbs in English. This analysis focuses on the syntactic conditions which license these deletion processes, noting that these elements can only undergo deletion only if they have also undergone movement to the left periphery.

However, syntactic considerations alone cannot fully account for the distribution of null subjects and null auxiliaries. Semantic considerations (including information structure) and phonological considerations frequently play significant roles as well. This account of syntactically driven deletion via movement to the left periphery is, in many ways, similar to the account of VP ellipsis put forth by Johnson (2001). The analysis developed here accounts for the vast majority of the English data. Furthermore, it lays down clear predictions for the availability of null subjects and null auxiliaries outside of English, both in languages which are typologically similar and in those which are quite different.

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I would like to express my most sincere gratitude to each of the members of my committee, without whose suggestions and advice this work would not resemble its current state. I would especially like to thank my chair, Sara Rosen. Her guidance and support have been invaluable in the completion of this project.

DEDICATION

To Mom

TABLE OF CONTENTS

Chapter 1. CP Truncation in Informal English	1
1.1. Null Subjects, Null Auxiliaries, and Other Deletion Processes.....	1
1.2. The Analysis: Deletion through Movement to the Left Periphery	9
1.3. Toward a Unified Analysis	18
1.4. Summary	20
Chapter 2. Aux Drop	22
2.1. Introduction.....	22
2.2. Auxiliary Movement.....	23
2.3. The Factative Effect.....	27
2.4. Aux Drop and Negation	35
2.5. Summary	39
Chapter 3. Subject Drop	42
3.1. Introduction.....	42
3.2. Null Subjects and Rich Verbal Morphology.....	44
3.3. Null Subjects and Topic Prominent Languages.....	47
3.4. Cross-Linguistic Topic Behavior	49
3.5. The Distribution of Null Subjects in English.....	56
3.5.1. Subject Drop with Auxiliaries.....	59
3.5.2. Subject Drop and Negation	63
3.5.3. Subject Drop in Interrogatives	66
3.5.4. Subject Drop in Negative Interrogatives.....	68
3.6. Summary	70

Chapter 4. Subject + Aux Drop	72
4.1. Introduction.....	72
4.2. Applying the Analysis	73
4.3. Subject + Aux Drop in Declaratives- Why Doesn't it Conform?.....	78
4.4. Summary.....	85
Chapter 5. Further Issues	88
5.1. An Overview of the Open Questions	88
5.2. Passives	88
5.3. Copulas	90
5.4. Beyond English.....	92
5.4.1. Subject (Topic) Drop	92
5.4.2. Aux Drop	94
5.5. Summary and Conclusion.....	95
Appendix: Progressives and Perfects as Statives	97
References	105

Chapter 1. CP Truncation in Informal English

1.1. Null Subjects, Null Auxiliaries, and Other Deletion Processes

The purpose of the following thesis is to propose a syntactic explanation for the disappearance of subjects and auxiliaries in spoken English. In other words, I hope to provide a syntactic operation which can take the sentences in (1) as input and produce the sentences in (2). Throughout the paper, all judgments are my own, unless otherwise noted.

- (1) a. Have you seen the new kung-fu movie yet?
b. Are you going to the prom?
c. Will I see you on Sunday?

Did John get any work done yesterday?
d. He washed the car.

- (2) a. Seen the new kung-fu movie yet?
b. You going to the prom?
c. See you Sunday?

Did John get any work done yesterday?
d. Washed the car.

Note that the truncated sentences produced in (2) must follow a strict set of rules. For example, if the interrogative sentences in (1) undergo subject deletion without corresponding auxiliary deletion, the result is highly ungrammatical, as seen in (3).

- (3) a. *Have seen the new kung-fu movie yet?
b. *Are going to the prom?
c. *Will see you on Sunday?

What set of properties make the sentences in (2) acceptable while disallowing the sentences in (3)? This is the fundamental question which this analysis attempts to answer.

Before proceeding any further, subject drop and auxiliary drop should be considered within the larger framework of syntactic phenomena which license deletion. Operations such as VP ellipsis and TP sluicing cannot account for the sentences in (2), as the deleted material does not belong to the appropriate category. However, the operations which produce elided sentences and sluices could also apply to the truncated sentences in (2). Many researchers, including Fiengo and May (1994), have argued that elements which undergo deletion must have a structurally isomorphic antecedent. This hypothesis accounts for much of the VP ellipsis data. In the following examples, the bracketed VP in (4) can be elided while the bracketed VP in (5) cannot.

- (4) a. Bill jumped in the pool before Ted [jumped in the pool].
b. Bill jumped in the pool before Ted.

- (5) a. Bill jumped in the pool before Ted [jumped in the hot tub].
b. *Bill jumped in the pool before Ted.

The only possible interpretation for (5)b is that Ted jumped in the pool, not the hot tub. Ellipsis is blocked because the bracketed VP in (5)a has no isomorphic antecedent.

The data in (2) is problematic for the isomorphic antecedent requirement. Consider the structure of a sentence like (2)a above.

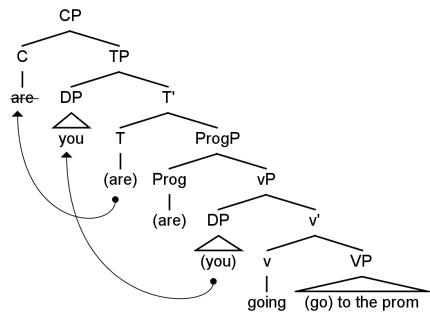


Figure 1- 1

Material which is ultimately deleted from the surface form appears in strikethrough text. The deleted material in Figure 1- 1 (the auxiliary *are*) has no isomorphic antecedent in this structure. Merchant (2001) takes a closer look at sluicing data to challenge the notion that a structurally identical antecedent is required in operations of syntactic deletion.

- (6) a. Decorating for the holidays is easy if you know how.
 b. *Decorating for the holidays is easy if you know how [decorating for the holidays].
 c. Decorating for the holidays is easy if you know how [to decorate for the holidays].
 Merchant 2001
- (7) a. I'll fix the car if you tell me how.
 b. *I'll fix the car if you tell me how [I'll fix the car].
 c. I'll fix the car if you tell me how [to fix the car].
 Merchant 2001

The sluices in (6)a and (7)a cannot be formed from the ungrammatical structures in (6)b and (7)b, even though the sentences contain isomorphic antecedents for the sluiced material. Instead, the truncated sentences must be constructed from the well-formed sentences in (6)c and (7)c. Critically, these structures do not contain a TP which is structurally identical to the TP undergoing deletion. This evidence suggests

that strict isomorphism cannot account for operations such as ellipsis and sluicing either.

In place of the isomorphism constraint on deletion, Merchant proposes “the e-giveness constraint”. Under this revised constraint, two phrases need not be structurally identical for deletion to occur, so long as the two phrases entail each other semantically.

- (8) a. They arrested Alex₁, though he₁ thought they wouldn't.
b. *They arrested Alex₁, though he₁ thought they wouldn't [arrested Alex₁].
c. They arrested Alex₁, though he₁ thought they wouldn't [arrest him₁].
Merchant 2001

The elided VP in (8)a does not have an isomorphic antecedent, as seen in the ungrammatical (8)b. Although the antecedent VP in (8)c is structurally distinct, it is semantically identical since *him* and *Alex* are coreferential. Therefore, ellipsis is possible. The principle goal of the present investigation is to place subject drop and auxiliary drop within the greater framework of syntactic deletion operations such as VP ellipsis and TP sluicing. In doing so, this analysis necessarily must consider the syntax of truncated sentences. Even so, the semantic and pragmatic constraints on deletion operations must not be overlooked.

While this thesis ultimately hopes to show that the process regulating the deletion of subjects and auxiliaries in English sentences is connected to operations such as ellipsis and sluicing, it is prudent to point out some important differences between subject/auxiliary deletion and other deletion processes at the outset of the analysis. There are two differences which are immediately apparent after even a cursory evaluation. First, the phrases which undergo deletion in ellipsis and sluicing

constructions must have a semantically identical antecedent within the sentence they appear in (at least in the cases considered so far). The cases of subject and auxiliary drop considered so far have not had such antecedents- subject and auxiliary drop seem to be able to occur “out of the blue”.

If a semantically identical VP antecedent does not appear in sentences which have undergone ellipsis, the elided phrase cannot be reconstructed. Such cases result in sharply ungrammatical sentences- without some context, the listener is left with no idea as to what the elided VP contains.

- (9) a. *Dana [read the book].
b. *Karen [~~planted flowers~~].
c. *The man on the moon [~~likes green cheese~~].

In the examples considered so far, however, null subjects have appeared in sentence initial position without any antecedent. Considered in isolation, such sentences are flatly ungrammatical, just like the VP ellipsis sentences in (9).

- (10) a. *~~[Sam]~~ washed his car.
b. *~~[Anna]~~ cleaned her room.
c. *~~[She]~~ walked to the store.

Subjects which undergo deletion require a semantically identical antecedent so that they can receive the correct interpretation, just as elided VPs do. If the subjects in (10) appear as the second subject in a biclausal structure, deletion becomes perfectly acceptable.

- (11) a. [Sam]₁ washed his car and [~~he~~]₁ will drive to California.
b. [Anna]₁ cleaned her room and [~~she~~]₁ should do her laundry.
c. [A girl I know]₁ walked to the store and [~~she~~]₁ might buy groceries.

The overt appearance of the modal auxiliaries in (11) rules out the possibility that these sentences consist of conjoined VPs which share an external argument. In (11)a,

the pronominal subject *he* must be base generated within the embedded TP. It has undergone deletion due to the appearance of a coreferential antecedent.

A closer inspection of the data reveals that the semantically identical antecedent which is absent in sentences like (9)-(10) does not need to appear within the same sentence as the deleted element. The preceding discourse can also serve to give the deleted element its reference.

- (12) a. Karen [read the book]₁. Dana did [~~read the book~~]₁ too.
b. Dana [planted flowers]₁. Karen did [~~plant flowers~~]₁ too.
- (13) a. Who [preached the sermon]₁? Marshall did [~~preach the sermon~~]₁.
b. Who [visited Greece]₁? Donna did [~~visit Greece~~]₁.
- (14) a. Did [Sam]₁ get any work done yesterday? [~~He~~]₁ washed his car.
b. Has [Anna]₁ done anything about the mess in her house? [~~She~~]₁ cleaned her room.

It is interesting to note that the restrictions on what serves as an acceptable antecedent for deletion are not identical for VPs and subjects. The following examples, which appear to be parallel to the acceptable constructions in (12) are ungrammatical.

- (15) a. *[Sam]₁ washed his car. [~~Sam~~]₁ drove to California.
b. *[Anna]₁ cleaned her room. [~~She~~]₁ did her laundry.

The sharp contrast between (12)a and (15)a provides an interesting avenue for future research. Providing a slightly different context helps (15)a significantly.

- What happened to Sam?
(16) [Sam]₁ washed his car. [~~Sam~~]₁ drove to California too.

At any rate, it is sufficient for the present purposes, to note that the semantically identical antecedent required by deletion processes is not required to appear in the same sentence as the actual deleted material.

In discussing the licensing of null subjects, it is also important to note that some null subjects do not seem to have an antecedent even in the preceding discourse. It is not at all difficult, for example, to imagine the following situation: a man notices a complete stranger struggling to light a cigarette with a light that is empty. The man says to the stranger:

(17) [~~Do you~~] need a light?

As the two men have never met before, let alone had a conversation, it is not possible that the second person pronoun has been reconstructed from an overt realization in the preceding discourse. The second person pronoun seems to be universally available for the recovery of subjects in interrogatives, as this phenomenon is not isolated to the sentence in (17). Each of the following questions with a second person subject is acceptable “out of the blue,” where no overt antecedent is possible.

- (18) a. [~~Are you~~] going to the store soon?
b. [~~Have you~~] been to the store yet?
c. [~~Did you~~] go to the store already?
d. *~~[Am I]~~ going to the store soon?
e. *~~[Has she]~~ been to the store yet?

Note that interpretations other than second person are not possible in questions, as shown by (18)d-e. Though it is somewhat harder to construct examples, first person pronouns also seem to be universally available in answering questions.

- Why is the house unlocked?
(19) a. [~~I~~] don't have a key.
b. *~~[You]~~ don't have a key.
c. *~~[He]~~ doesn't have a key.

The response in (19)a is a suitable answer to the prompt, even though the first person has not appeared overtly in the discourse. The responses in (19)b-c, on the other hand, are not possible.

Although this analysis ultimately will argue that null auxiliaries are deleted from English sentences by the same process that deletes subjects, it is important to note that auxiliaries are not recovered in the same way that elements such as subjects (DPs) and VPs are. This is not terribly surprising, given the fact that auxiliaries are functional heads while DPs and VPs are lexical phrasal constituents. Dropped auxiliaries do not require antecedents of any sort- in fact, antecedents do not facilitate the licensing of auxiliary drop.

- (20) a. *Rufus [has]₁ driven to the theater and he [~~has~~]₁ seen the movie.
 b. *Joanna [is]₁ listening to music and she [~~is~~]₁ eating dinner.
 c. *Greta [will]₁ drive to she store and she [~~will~~]₁ buy groceries.
 d. *Kurt [should]₁ visit the shop and he [~~should~~]₁ fix my bike.

However, auxiliary drop is acceptable even without antecedents with some auxiliaries.

With other auxiliaries, deletion is never possible.

- (21) a. [~~Has~~] Rufus driven to the theater yet? *have*
 b. [~~Is~~] Joanna listening to music now? *be*
 c. [~~Do~~] you want to eat dinner? *do*
- (22) a. *~~[Will]~~ Greta buy groceries soon? **will*
 b. *~~[Should]~~ Kurt visit the shop today? **should*
 c. *~~[Can]~~ you dunk a basketball? **could*

It seems that deleted auxiliaries are not recovered by reference to semantically identical antecedents like deleted VPs, TPs, and subjects. Rather, there seems to be a class of auxiliaries which can delete even without an antecedent, and a second class which can never be deleted. The first class consists of auxiliary *do*, progressive *be*,

and perfect *have*. The second class contains modal auxiliaries such as *will*, *should*, and *can*. I will return to the distinctions between these two classes of auxiliaries with respect to auxiliary drop in Chapter 2.

1.2. The Analysis: Deletion through Movement to the Left Periphery

To provide a syntactic analysis for dropped subjects and auxiliaries in English, I assume the structure of the left periphery proposed by Rizzi (1997). Rizzi argues that the canonical complementizer position should be split into two distinct functional heads. The lower of these projections, FiniteP (FinP), selects for either a finite or non-finite TP and takes TP as its complement. The English complementizer *and for* appears in Fin. The upper projection, ForceP, marks clause type. According to Rizzi, there are distinct force heads which appear for declarative and for interrogative sentences. However, these complementizers have no overt lexical forms in English. Sandwiched between these complementizers are the topic and focus phrases. Rizzi motivates the ordering seen here by considering Italian sentences which contain multiple topic and/or focus constructions. As long as topic and focus appear between ForceP and FinP, their specific hierarchy is not critical to this analysis. A generic tree illustrating the structure Rizzi proposes appears below.

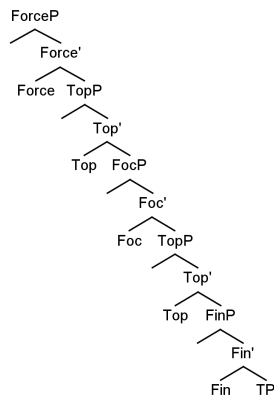


Figure 1- 2

In this thesis, I assume that auxiliaries which have undergone subject auxiliary inversion have been drawn to the Force head by an uninterpretable feature on the lexically null force head which appears in interrogative sentences. This assumption is not an arbitrary one; the availability of T-to-C movement is dependant on clause type (interrogative, declarative, etc.), not on finiteness. It is therefore reasonable to assume that T-to-C movement occurs to check an uninterpretable feature of the interrogative force head. Once the auxiliary has moved, the feature can be interpreted. Furthermore, I assume that subjects (which normally appear in Spec TP in English) can move to Spec TopP. These assumptions yield four logical possibilities for the structural relationship between subjects and auxiliaries. They are:

1. The subject remains in Spec TP and the auxiliary remains in T. (As in (23)a)
2. The subject moves to Spec TopP and the auxiliary remains in T. (As in (23)b)
3. The subject remains in Spec TP and the auxiliary moves to C. (As in (23)c)
4. The subject moves to Spec TopP and the auxiliary moves to C. (As in (23)d)

These four structural possibilities, however, result in only two distinct linear orders.

Topic subjects which have moved to the left periphery appear in capital letters.

- (23) a. You are going to the store.
 b. YOU are going to the store.
 c. Are you going to the store?
 d. Are YOU going to the store?

The structures of the sentences in (23) are given below. DECL indicates a declarative force head, while Q indicates an interrogative force head. Evidence that pronominal subjects in English are topics and that they can move to the left periphery will be considered in Chapter 3.

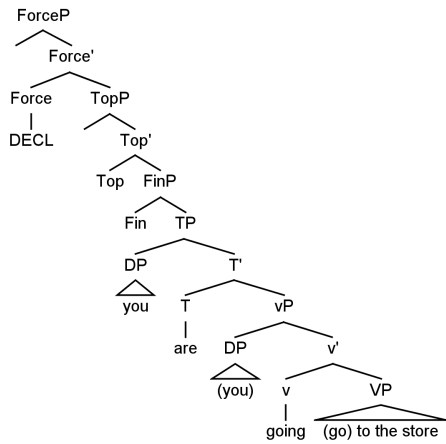


Figure 1-3 Sentence (23)a
Neutral Declarative

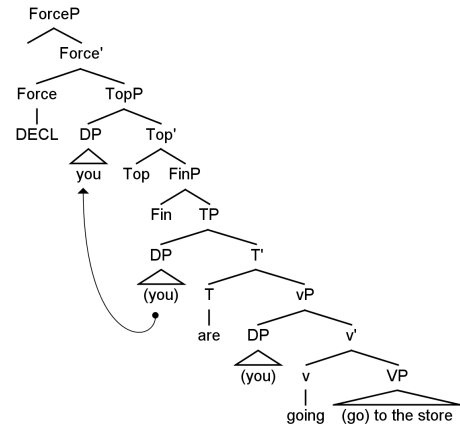


Figure 1-4 Sentence (23)b
Topic Marked Declarative

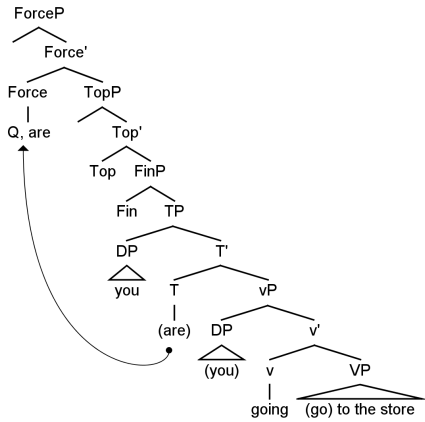


Figure 1- 5 Sentence (23)c
Neutral Interrogative

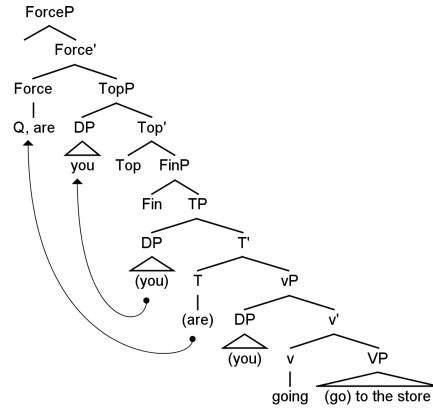


Figure 1- 6 Sentence (23)d
Topic Marked Interrogative

I propose that when subject and auxiliary drop occur in English, the entire tree above TP is deleted before the sentence is sent to spellout. I will refer to this process as “CP truncation”. Any material which has moved to the left periphery will not be pronounced when CP truncation occurs. Any material which remains below TP, however, must be pronounced. The forms in (23), in which CP truncation has not applied, demonstrate only two linear orders; in declaratives subjects precede auxiliaries while subject auxiliary inversion occurs in interrogatives. The four distinct structural possibilities indicated in figures 1- 3 through 1- 6 above, however, yield four distinct sentences after CP truncation occurs. Elements which have moved to the left periphery must be deleted by CP truncation. This material appears in brackets and strikethrough text.

- (24) a. You are going to the store.
 b. *~~[YOU]~~ are going to the store.
 c. ~~[Are]~~ you going to the store?
 d. ~~[Are YOU]~~ going to the store?

Although (24)b is ungrammatical in isolation, there are specific discourse conditions under which it is acceptable; the progressive auxiliary *are* must receive contrastive stress. These discourse conditions are discussed in detail in Chapter 3. At this point it is helpful to introduce terminology which will be used throughout this paper in discussing sentences like those in (24). When neither the subject nor the auxiliary has moved to the CP layer (and therefore cannot be deleted by CP truncation) as in (24)a, the sentence will be referred to as a “neutral” sentence. If only the subject has moved to the left periphery, as in (24)b, the term “subject drop” will be used. If, as in (24)c, only the auxiliary moves into the CP layer, the sentence will be referred to as an “aux drop” sentence. Finally, if both the subject and auxiliary move to the left periphery, seen in (24)d, the sentence will be called a “subject + aux drop” sentence. The trees below indicate the structure of the TP for the sentences in (24). Note that the material which remains in TP and does not move to the left periphery corresponds exactly with the material which is pronounced in these examples.

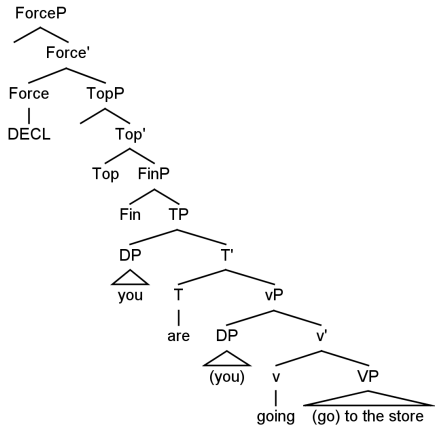


Figure 1- 7 Sentence (24)a

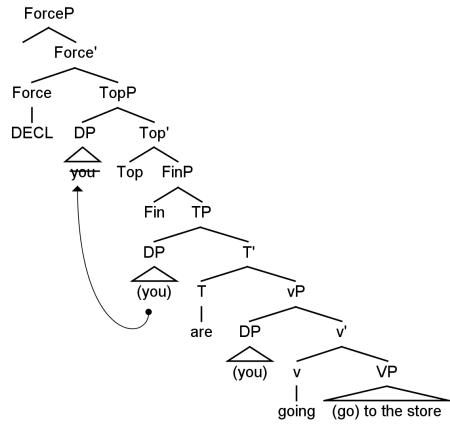


Figure 1- 8 Sentence (24)b

Neutral

Subject Drop

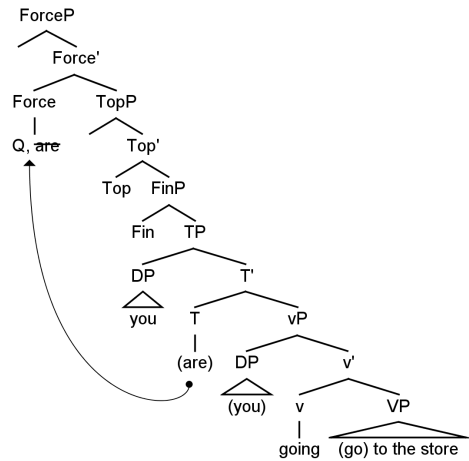


Figure 1- 9 Sentence(24)c
Aux Drop

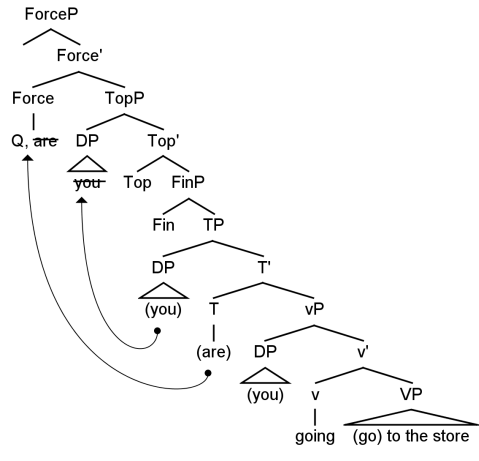


Figure 1- 10 Sentence (24)d
Subject + Aux Drop

Although to this point grammatical sentences produced by the application of CP truncation have been the focus of this paper, it must be noted that applying CP truncation often results in sharply ungrammatical sentences. There are many conditions which block CP truncation in English. First, for example, CP truncation

only occurs in matrix clauses. This is true whether or not an overt complementizer appears in the Fin position. Aux drop can be ruled out independently, as subject auxiliary inversion cannot occur in embedded clauses.

- (25) a. Bill knows that she **can** swim a mile.
b. *Bill knows **can** that she swim a mile.
- (26) a. Ted said that she **will** come to the party.
b. *Ted said **will** that she come to the party.

Since the auxiliary cannot move into the left periphery in embedded clause in Standard English, it cannot be deleted through CP truncation. It is somewhat surprising, however, that subject drop is also blocked.

- (27) a. Bill knows that **she** can swim a mile.
b. *Bill knows that **she** can swim a mile.
- (28) a. Ted said **she** will come to the party.
b. *Ted said **she** will come to the party.

Even with appropriate discourse conditioning, (27)b and (28)b are unacceptable. The failure of (27)b is easily explained, as the application of CP truncation deletes an overt complementizer which cannot be recovered. In (28)b, no overt complementizer appears. However, subject drop is still blocked. While there is no immediately obvious solution to this problem, there are several possibilities which could be considered. CP truncation may be a syntactic operation which is restricted to matrix clauses. Alternatively, it is possible that the phonology only allows the deletion of material when it appears on the left edge of the sentence. In the present analysis I put these questions aside to focus on the availability of CP truncation in matrix clauses.

Even within matrix clauses CP truncation is frequently blocked. This can often be attributed to overt elements appearing in the left periphery which cannot be

recovered after they have been deleted. Wh- words moved to the left periphery, for example, cause significant problems for CP truncation. Whether the wh- element in the left periphery is the subject, a non-subject argument, or an adjunct, the resulting sentence is ungrammatical if CP truncation applies.

- (29) a. [Who is]_{CP} winning the race?
 b. *[Who is]_{CP} winning the race?
 c. *~~[Who is]~~_{CP} winning the race?
- (30) a. [Who do]_{CP} you like?
 b. ?[Who ~~do~~]_{CP} you like?¹
 c. *~~[Who do]~~_{CP} you like?
- (31) a. [When do]_{CP} you eat dinner?
 b. ?[When ~~do~~]_{CP} you eat dinner?
 c. *~~[When do]~~_{CP} you eat dinner?

When CP truncation occurs, all of the material in the CP must be deleted as shown by the examples in (29)-(31)b. When the entire CP is deleted in (29)-(31)c, the result is still ungrammatical. Sentences created by CP truncation are subject to full interpretation. If something in the left periphery cannot be recovered (or assigned an interpretation in some other way), CP truncation is blocked. Wh- words like the ones above lack antecedents. Therefore, semantic material which they carry cannot be recovered. This accounts for the unacceptable (29)-(31)c. The trees below detail the structure of (29)a and (30)a, in which CP truncation cannot take place.

¹ For many speakers, (30)b and (31)b are considerably better than (29)b. For these speakers, aux drop is consistently more acceptable with object and adjunct wh-words than with subject wh-words. This is an interesting pattern which I have no account for.

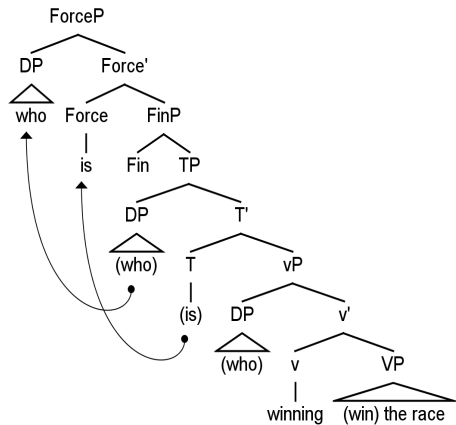


Figure 1- 11

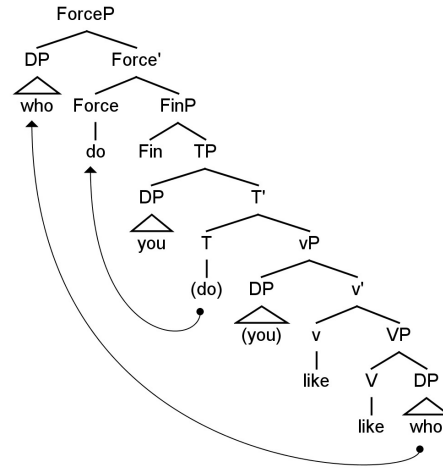


Figure 1- 12

As discussed earlier, modal auxiliaries also block the application of CP truncation.

The examples in (21)-(22) are repeated here.

- (32) a. [~~Has~~] Rufus driven to the theater yet?
 b. [~~Is~~] Joanna listening to music now?
 c. [~~Do~~] you want to eat dinner?
- (33) a. *~~[Will]~~ Greta buy groceries soon?
 b. *~~[Should]~~ Kurt visit the shop today?
 c. *~~[Can]~~ you dunk a basketball?

Again, this can be attributed to material which appears in the left periphery, but which cannot be recovered if CP truncation is applied.

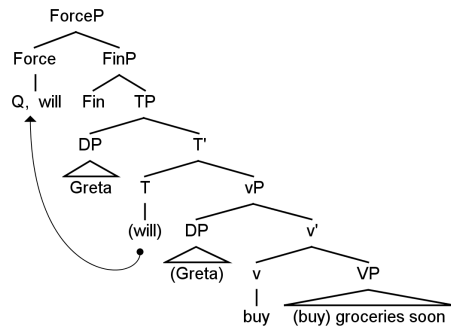


Figure 1- 13

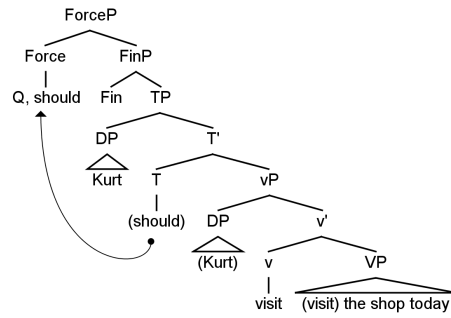


Figure 1- 14

The asymmetry between the auxiliaries in (32) and the auxiliaries in (33) can be accounted for by considering the semantics of both groups of auxiliaries. Auxiliaries which cannot be deleted have semantic content which cannot be recovered, while the deletion eligible auxiliaries *do*, *be*, and *have* do not. The distinctions between the two groups will be further considered in Chapter 2.

1.3. Toward a Unified Analysis

As previously stated, the ultimate goal of this paper is to consider subject and auxiliary drop within the greater framework of syntactic deletion processes, such as VP ellipsis. To this end, the work of Johnson (2001) provides useful insights. Johnson proposes that VP ellipsis may in fact be a form of topic drop; he argues that the elided material must move to a topic position in the left periphery before it can be deleted. To support this hypothesis, Johnson first considers the environments where VP ellipsis occurs and looks at the material which is elided.

- (34) a. José Ybarra-Jaegger eats rutabagas, and Holly does [~~eat rutabagas~~] too.
 b. José Ybarra-Jaegger ate rutabagas, and Holly has [~~eaten rutabagas~~] too.
 c. José Ybarra-Jaegger is eating rutabagas, and Holly is [~~eating rutabagas~~] too.

Johnson 2001

He then compares sentences which have undergone ellipsis to sentences which have undergone VP fronting. The fronted VPs, he argues, have undergone movement from their base generated position to a topic position in the left periphery.

- (35) a. Madame Spanella claimed that...
 b. *Eat rutabagas*, Holly wouldn't *t*.
 c. *Eaten rutabagas*, Holly hasn't *t*.
 d. *Eating rutabagas*, Holly shouldn't be *t*. Johnson 2001

Johnson notes several important similarities between the structures in (34) and those in (35). To begin, the material which is deleted in (34) is exactly identical to the material which is fronted in (35). Both elided VPs and traces of fronted VPs must be governed by an auxiliary. If no auxiliary is present in the antecedent VP in ellipsis constructions, the auxiliary *do* must govern the ellipsis site, as in (34)a. Based on this evidence, Johnson suggests that elided VPs are traces of movement to the left periphery, proposing the following structure for a sentence such as (34)a:

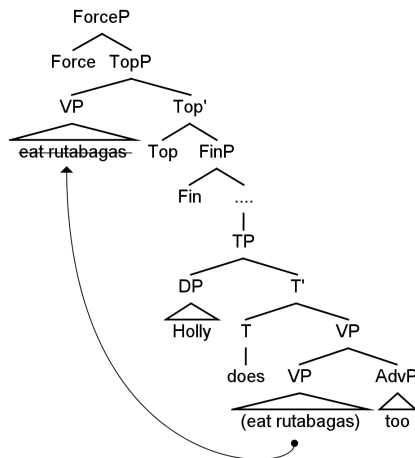


Figure 1- 15

More specifically, according to Johnson, elided VPs can be analyzed as VPs which have undergone movement to a topic position in the left periphery. This draws

striking parallels to the present analysis, in which subjects must move to a topic position in the left periphery in order to be deleted by CP truncation. When CP truncation occurs, the VPs are deleted (along with the rest of the material in the CP), leaving only the trace of movement where the VP was base generated.

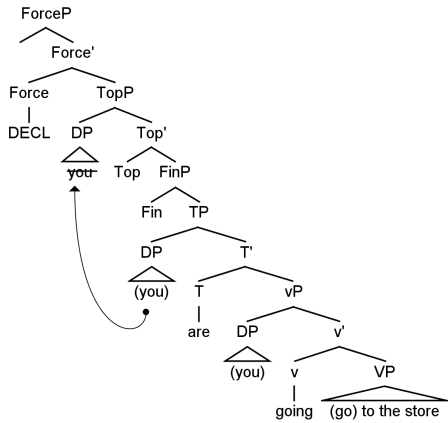


Figure 1- 16 Subject Drop

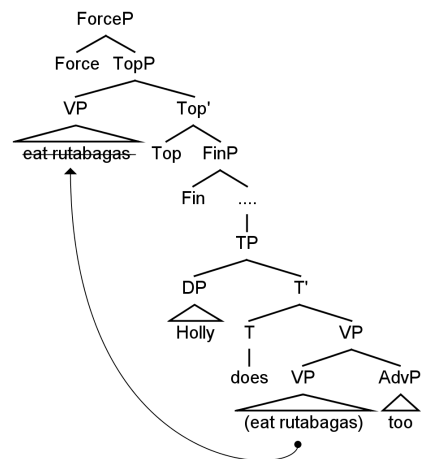


Figure 1- 17 VP Ellipsis

So long as the VP has an antecedent which permits reconstruction (and the rest of the material in the CP can be recovered) the deletion is acceptable. Johnson's proposal provides encouraging evidence that a single syntactic process (such as CP truncation) could be responsible for a broad range of deletion processes. After a more thorough investigation of the phenomena surrounding null subjects and auxiliaries in English, this analysis will return to the possibilities presented by a unified theory of syntactic deletion through CP truncation.

1.4. Summary

This introductory chapter has considered the distribution of null subjects and null auxiliaries in English. The patterns in the data are consistent with a syntactic

analysis of deletion through CP truncation. There are several conditions which affect the availability of dropped subjects and auxiliaries. First, dropped elements must move to the left periphery, either through topicalization or through T-to-C auxiliary movement. Second, sentences are subject to Full Interpretation after CP truncation has occurred. If a sentence created by CP truncation is not fully interpretable, the result will be ungrammatical. The remainder of this thesis takes a more detailed look at each of the three categories of sentences which can be created by CP truncation. Chapter 2 considers aux drop sentences, Chapter 3 looks at subject drop sentences, and Chapter 4 analyzes structures which have undergone subject + aux drop. Chapter 5 presents a summary of the conclusions drawn by this analysis, as well as considering some questions which might be answered in further research efforts.

Chapter 2. Aux Drop

2.1. Introduction

As already demonstrated, for many speakers of English, auxiliary verbs do not obligatorily appear in all interrogative sentences. Consider the following sentences and their aux-less counterparts:

- (1) a. Have you finished your homework?
b. You finished your homework?
- (2) a. Are you watching the game?
b. You watching the game?
- (3) a. Do you like ice cream?
b. You like ice cream?

However, the deletion of auxiliary verbs frequently results in ungrammatical sentences.

- (4) a. Will you go to the store?
b. *You go to the store?
- (5) a. Should you feed the dog?
b. *You feed the dog?
- (6) a. Can you read the book?
b. *You read the book?

There are two fundamental questions which any analysis of dropped auxiliaries must address. First, it must explain what specific conditions license null auxiliaries.

Second, it must account for the asymmetries between the aspectual (progressive and perfect) auxiliaries and auxiliary *do* in (1)-(3) and the modal auxiliaries in (4)-(6).

In this chapter, I propose that the disappearance of auxiliaries in interrogative sentences is dictated by syntactic phenomena. Specifically, the movement of auxiliaries from T to Force in interrogatives feeds CP truncation. Only auxiliaries

which have been moved to Force are candidates for deletion. Section 2.2 lays out this proposal in greater detail, focusing specifically on the class of auxiliaries which can be deleted from English sentences (perfect *have*, progressive *be*, and *do*). Section 2.3 deals with the semantic interpretation of aux-less sentences through what Fitzpatrick (2006) calls the “factative effect”. Section 2.4 considers the role which negation plays in aux-less interrogatives. Finally, Section 2.5 briefly summarizes the present account for aux-less sentences.

2.2. Auxiliary Movement

As discussed in the previous chapter, the analysis relies heavily on the well attested pattern of subject auxiliary inversion in the formation of interrogative sentences in English.

- (7) a. You have written your thesis.
b. **Have** you written your thesis?

- (8) a. You are drinking soda.
b. **Are** you drinking soda?

Typically, the difference in word order between (7)a and (7)b is attributed to the movement of the auxiliary verb from T to a complementizer position. For this analysis, I assume that auxiliaries in T move to Force, as in the structures below.

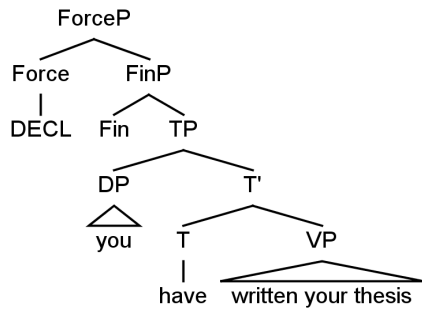


Figure 2- 1

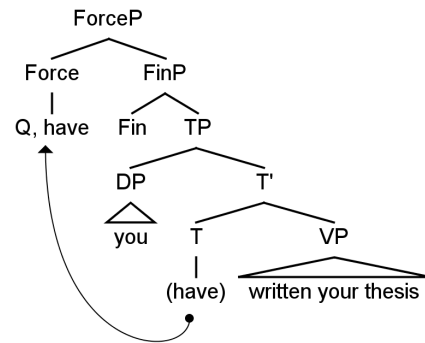


Figure 2- 2

In addition to distinct word orders, sentences such as (7)a and (7)b also differ with respect to the availability of auxiliary drop.

- | | | | |
|------|----|---|---------------|
| (9) | a. | *You have written your thesis. | Declarative |
| | b. | [Have] _{CP} you written your thesis? | Interrogative |
| (10) | a. | *You are drinking soda. | Declarative |
| | b. | [Are] _{CP} you drinking soda? | Interrogative |

A theory of CP truncation can account for the discrepancy between (9)a and (9)b.

Quite simply, auxiliaries which have moved to Force as a result of subject auxiliary inversion can be deleted, while auxiliaries which remain low in T cannot. Note that in (9)b and (10)b, the material which is pronounced coincides with the material that appears in TP. The deletion of auxiliary verbs in English is dependant on the movement of deleted auxiliaries to the CP layer.

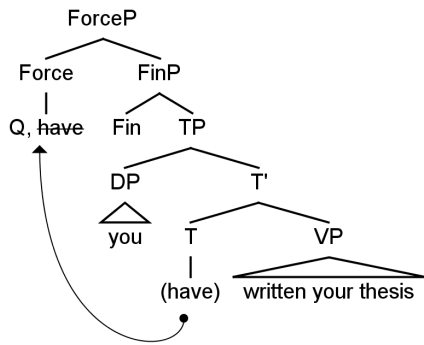


Figure 2- 3

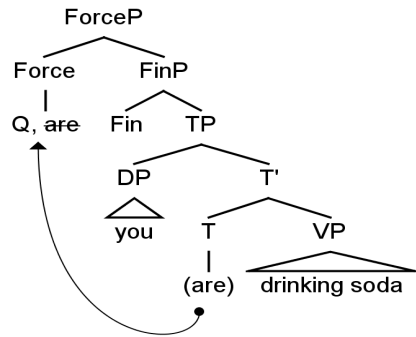


Figure 2- 4

English auxiliaries undergo movement to Force only in interrogative contexts, with a few notable exceptions. Subject auxiliary inversion can also take place in exclamative and irrealis clauses.

- (11) a. Never **have I** seen such a tree!²
 b. Man, **have you** got a problem!
 c. Only if you leave **do I** stay.
 d. **Had you** been here earlier, you could have seen the Great Pumpkin.

When aux drop applies to the forms in (11) ungrammatical sentences result, with the possible exception of (11)d.

- (12) a. *Never ~~have~~ I seen such a tree!
 b. *Man, ~~have~~ you got a problem!
 c. *Only if you leave ~~do~~ I stay.
 d. ?~~Had~~ you been here earlier, you could have seen the Great Pumpkin.

Several of these sentences can be ruled out due to material which seems to be in the left periphery and which cannot be recovered after deletion. The sentences with modal auxiliaries in (4)-(6), for example, are similar to the sentences in 0 in that both resist aux drop. I will put sentences of this type aside for now and return to them

² The irrealis clause is also problematic because negation appears to the left of the auxiliary, which according to this analysis, moves to Force, the left most position in the sentence. I have no account for this at this point.

after a more thorough discussion of the specific conditions which license (and block) aux drop.

The few exceptional cases aside, auxiliaries must remain in their base generated T position in declaratives, while they must move to Force in interrogatives. This syntactic difference between interrogatives and declaratives accounts for varying behavior of aux-less sentences in declarative and interrogative sentences in the preceding examples. Simply put, auxiliaries cannot be deleted from any position except Force in English sentences. This rules out sentences like (9)a and (10)a. Since these are declarative sentences, there is no T to C movement. The auxiliary which remains in its base generated position is not eligible for deletion. However, T to C movement by itself cannot provide a complete account for the availability of aux-less sentences. In previous examples containing modal auxiliaries, including (4)-(6), it has been shown that many auxiliary structures cannot undergo aux-drop, even when they have undergone T to C movement in interrogative sentences.

Auxiliary structures can be divided into two groups with respect to their behavior in aux drop constructions. The first group consists of the progressive auxiliary *be*, the perfect auxiliary *have*, and auxiliary *do*.

- (13) a. ~~Are~~ you watching the game tomorrow?
b. ~~Are~~ you working at the mill?
- (14) a. ~~Have~~ you been camping lately?
b. ~~Have~~ you heard any good rumors?
- (15) a. ~~Do~~ you like pina coladas?
b. ~~Did~~ you win the blue ribbon?

Auxiliaries of the first type are universally acceptable with aux drop, as in (13)-(15).

The second group consists of modal auxiliaries such as *will, should, could, may, might, would*, etc.

- (16) a. *~~Will~~ you help me with my homework?
b. *~~Can~~ you go to the store with me?
c. *~~Should~~ I eat this jar of pickled eggs?
d. *~~Would~~ you loan me your truck?
e. *~~Might~~ I ask a favor of you?

The second group of auxiliaries behaves very differently from the first with respect to the availability of aux drop. The problem for the present analysis is that there are no obvious structural differences between the sentences in (13)-(15) and those in (16) that could account for this asymmetry. If the syntax cannot account for the unacceptable forms in (16), perhaps an investigation of the semantics of dropped auxiliaries will prove more fruitful.

2.3. The Factative Effect

Critical to this investigation of the semantics of aux-less sentences is what Fitzpatrick (2006) calls the “factative effect”. The factative effect is based on work such as Déchaine’s (1991) study of “bare” sentences in Haitian Creole. “Bare” sentences are simply sentences which lack overt tense marking. The factative effect refers to the tense interpretation which a sentence receives when it appears without any overt tense marking. In the following Igbo sentences, the morpheme glossed – FACT is what Fitzpatrick calls a “factative” morpheme; it specifies a finite T but does not specify either past or non-past tense. Fitzpatrick proposes the factative effect to

account for sentences such as (17), in which the factative morpheme does not receive a consistent tense interpretation.

- (17) a. O ri -ri akpu ahun
 3sg eat -FACT bread the
 “S/he ate the bread”
- b. O cho -ro akpu ahun
 3sg want -FACT bread the
 “S/he wants the bread”
- (Fitzpatrick 2006)

While (17)a must be interpreted as a past tense sentence, the structurally and morphologically similar sentence in (17)b must receive a present tense reading.

Similar inconsistencies in tense interpretation surface in a variety of typologically diverse languages. Consider, for example, Haitian Creole.

- (18) a. Pyè van bèf yo
 Pye sell cattle DET
 “Pye sold the cattle”
- b. Siká dà wǒ
 Sike prepare paste
 “Sike prepared the paste”
- c. Sisi renmen chat mwen
 Sisi like cat 1SG
 “Sisi likes my cat”
- d. Lili tùn Kòkù
 Lili know Koku
 “Lili knows Koku”
- (Fitzpatrick 2006)

Again, these sentences lack overt tense specification, and the interpretation of tense varies between past in (18)a-b, and present in (18)c-d. On the basis of Déchaine (1991), Fitzpatrick argues that the sentences in (18) have a “dummy” finite T which is not specified for tense. He further argues that the tense interpretation which a

sentence will receive is completely predictable based on the type of predicate which the sentence contains. Sentences with non-stative (eventive) predicates, such as (18)a-b receive past tense interpretations. Sentences with stative predicates, such as (18)c-d, must receive a present tense interpretation. This is the descriptive generalization which Fitzpatrick terms the “factative effect”.

The factative effect arises when finite clauses have not been given tense specification or have lost their tense specification somehow. They must receive a tense specification, and the semantics assigns tense based on predicate type. Sentences (17)a and (18)a-b, for example contain the non-stative verbs *eat*, *sell*, and *prepare*. As a result, the sentences take a past tense interpretation. Meanwhile, stative verbs such as *want*, *like*, and *know* are interpreted in present tense in (17)b and (18)c-d. This analysis can be applied not only in Igbo and Haitian Creole, but also in aux-less English sentences.

- | | | | |
|------|----|--|-----------------------------|
| (19) | a. | You like the ice cream?
“ Do you like the ice cream?” | stative verb =present tense |
| | b. | You finish the ice cream?
“ Did you finish the ice cream?” | eventive verb =past tense |
| (20) | a. | You want that book?
“ Do you want that book?” | stative verb =present tense |
| | b. | You read that book?
“ Did you read that book?” | eventive verb =past tense |

Under a CP truncation analysis, the sentences in (19)-(20) must be derived from finite forms. Tense appears on the auxiliary, which moves to the left periphery and deletes, leaving the sentences without overt tense specification. The factative effect makes exactly the right predictions for the tenseless sentences for these sentences. The

stative predicates in (19)a and (20)a are interpreted as present tense, while the non-states in (19)b and (20)b are interpreted in the past.

While Fitzpatrick's analysis generally makes the correct predictions, it must be noted that some non-stative predicates can be interpreted generically in aux-less contexts. Consider:

(21) You eat ice cream? non-stative verb =present tense
"Do you eat ice cream"

This suggests that the stative/non-stative contrast is not sufficient to predict the tense interpretation of a given sentence with absolute accuracy. Vendler's (1957) notion of lexical aspect offers a finer grained distinction between predicate types. He breaks predicates into four distinct types: "states" (stative predicates that lack a clearly defined endpoint), "activities" (durative predicates which lack an end point), "accomplishments" (events with both duration and an endpoint), and "achievements" (events with an endpoint but no duration). The critical distinction for the factative effect may, in fact, be between "telic" predicates (predicates which have a clearly defined endpoint) and "atelic" predicates (predicates which do not have a clearly defined endpoint). Telic (rather than eventive) predicates receive past tense interpretations, while atelic (not strictly stative) predicates are interpreted in the present tense. The predicates which cause trouble in Fitzpatrick's eventive/stative distinction are activities- events that lack an endpoint, as in (21). If activities are grouped with states in receiving present tense interpretations, this problem is resolved.

- | | | | |
|------|----|--|---------------------------------|
| (22) | a. | You like ice cream?
“ Do you like ice cream?” | atelic predicate =present tense |
| | b. | You eat ice cream?
“ Do you eat ice cream” | atelic predicate =present tense |
| (23) | a. | You eat the ice cream cone?
“ Did you eat the ice cream cone?” | telic predicate =past tense |
| | b. | You finish the ice cream?
“ Did you finish the ice cream?” | telic predicate =past tense |

Although the predicate *like ice cream* is stative and the predicate *eat ice cream* is eventive (an activity), they can be grouped together because they are both atelic. They can also be separated from the telic predicates *eat the ice cream cone* (an accomplishment) and *finish the ice cream* (an achievement), as these have a clearly defined endpoint. Note that the predicates (22)a and (23)a contain the same verb and differ only with respect to what kind of object they contain- (22)a contains an indefinite predicate while (23)a contains a definite predicate. The *in hour/for an hour* test can be quite useful in distinguishing between activities and accomplishments. While accomplishments are generally compatible with *in an hour*, they normally fail with *for an hour*. Activities show exactly the opposite pattern.

- | | | |
|------|----|--|
| (24) | a. | *You ate ice cream in an hour . |
| | b. | You ate ice cream for an hour . |
| (25) | a. | You ate the ice cream cone in an hour . |
| | b. | ?You ate the ice cream cone for an hour . |

The results of the tests in (24)-(25) clearly show that *eat ice cream* is an activity (atelic) while *eat the ice cream cone* is an accomplishment (telic). Since these predicates have distinct telicity values, they also have distinct tense interpretations.

Keeping the factative effect (and the important role which telicity plays) in mind, we can now return to the central pattern this section hopes to account for;

namely, the asymmetry between the modal auxiliaries and auxiliary *have*, *be*, and *do* with respect to aux drop. I will assume, in line with Fitzpatrick, that aux-less sentences are not subject to semantic interpretation until after CP truncation has occurred and the auxiliary has been deleted. The resulting situation is very similar to the one in Haitian Creole in (18). While aux-less sentences appear with progressive or perfect aspect marking on the main verb, they lose their tense specification when they lose the auxiliary, which is marked for tense. The interpretation of interrogative sentences which involve *do*-support via the factative effect is fairly straightforward. The finite and tensed verb *do*, which is compatible with aux drop, adds only tense information when it appears. When the auxiliary *do* is deleted prior to semantic interpretation, a tenseless verb which must be interpreted in line with the factative effect is left behind, predicate type determines how the resulting sentence must be interpreted. Importantly, however, the truncated sentences remain subject to full interpretation. This accounts for the impossibility of aux drop in some structures containing auxiliary *do*.

- (26) a. Did you like ice cream?
 b. *~~Did~~ you like ice cream?
- (27) a. Did you want that book?
 b. *~~Did~~ you want that book?
- (28) a. Do you read that book?
 b. *~~Do~~ you read that book?

When CP truncation occurs in (26)-(28) the tensed auxiliary is deleted and the sentences are left to receive a factative interpretation. Since (26)b and (27)b contain atelic verbs, they must be interpreted in the present tense, which does not match the

tense value of the original forms in (26)a and (27)a. The truncated sentences do not have the same interpretation as the sentences they were derived from, and are therefore ungrammatical. A similar analysis can be applied to the ungrammatical (28)b. The telic and aux-less sentence must receive a past tense interpretation, which does not match the original present tense in (28)a.

Appealing to the factative effect provides an explanation for the interpretation of *do*-support sentences. It also helps to rule out ungrammatical sentences in which modal auxiliaries have been deleted.

- (29) a. Did you go to the store?
b. ~~Did~~ you go to the store?
- (30) a. Will you go to the store?
b. *~~Will~~ you go to the store?
- (31) a. Could you go to the store?
b. *~~Could~~ you go to the store?
- (32) a. Should you go to the store?
b. *~~Should~~ you go to the store?

These examples illustrate yet again the important differences between modal auxiliaries and auxiliary *do*. While all of the truncated forms are structurally similar, (29)b preserves the meaning of the sentence it was derived from, while (30)-(32)b do not (the modal interpretations of *will*, *could*, and *should* are lost). This is because auxiliary *do* does not contain any lexical information- its only contribution to the sentence is that it marks the tense of the finite clause. While the factative effect is capable of giving a tense interpretation to a sentence which has not been overtly marked for tense, it cannot recover the additional semantic information associated with modal auxiliaries such as *will*, *could*, and *should*. In fact, modal auxiliaries are

defined as auxiliaries which impart semantic information in addition to simply displaying tense marking, in contrast to the auxiliaries *do*, *have*, and *be* (although *have* and *be* carry aspectual information, this aspectual information is also marked on the main verb). This additional semantic information prevents modals from being dropped from the derivation, despite the fact that they have undergone T to C movement.

Progressive and perfect constructions, which also appear without auxiliary verbs, present a more difficult case than do-support sentences. On the surface, these sentences do not seem to fit the pattern seen in other sentences which are subject to interpretation by the factative effect.

- | | | | |
|------|----|-------------------------------|---------------|
| (33) | a. | You having trouble? | present tense |
| | | “Are you having trouble?” | |
| | b. | You driving to Chicago? | present tense |
| | | “Are you driving to Chicago?” | |
| (34) | a. | You seen my keys? | present tense |
| | | “Have you seen my keys?” | |
| | b. | You eaten dinner? | present tense |
| | | “Have you eaten dinner?” | |

The aux-less versions of progressive and perfect sentences cannot be interpreted in the past tense, as shown by the examples below:

- | | | |
|------|----|---|
| (35) | a. | Were you driving to Chicago? |
| | b. | * Were you driving to Chicago? |
| (36) | a. | Had you eaten dinner? |
| | b. | * Had you eaten dinner? |

Since progressive morphology is used primarily to indicate an ongoing state or activity, it is not at all difficult to imagine progressive constructions as inherently atelic in nature. This accounts for the fact that they receive only present tense

interpretations. Perfect morphology, on the other hand, encodes a specific endpoint to an action. It might be expected that perfects would pattern with telic predicates with respect to factative interpretations, but clearly they do not. In fact, there is compelling evidence that both progressive and perfect constructions pattern with stative (atelic) constructions with respect to a variety of syntactic phenomena, not exclusively in tense interpretation. For a review of the literature on this topic, see the appendix of this work.

2.4. Aux Drop and Negation

Before moving on to a discussion of subject drop in English, we must first consider the important role which negation plays in licensing (and blocking) aux drop. As noted earlier, aux drop shows some interesting effects with respect to negation. The distinction between sentential negation and constituent negation becomes important in this discussion. While sentential negation denies the truth of an entire sentence, constituent negation does not. Rather, it negates a particular constituent within a sentence. This distinction can best be seen structurally in examples which contain multiple auxiliaries, like the sentences below.

- (37) a. Gilgamesh might not have been reading the cuneiform tablets.
b. Gilgamesh might have not been reading the cuneiform tablets.
c. Gilgamesh might have been not reading the cuneiform tablets.
(Adger 2003)

Adger argues that the form in (37)a is formed by sentential negation. As a result, the negative marker appears immediately after the modal auxiliary. Meanwhile, the sentences in (37)b-c are formed through adverbial negation. In (37)b, only the ProgP *been reading cuneiform tablets* is being negated. In (37)c, only the vP *reading the*

cuneiform tablets undergoes negation. The availability of phonological contraction provides useful diagnostic for determining whether a particular sentence contains sentential negation or constituent negation.

- (38) a. Lyle should not have been playing the trombone.
b. Lyle **shouldn't** have been playing the trombone.
- (39) a. Lyle should have not been playing the trombone.
b. *Lyle should **haven't** been playing the trombone.
- (40) a. Lyle should have been not playing the trombone.
b. *Lyle should have **been't** playing the trombone.

Sentential negation is available for contraction with the auxiliary that immediately precedes it, as in 0b. Such contraction is not possible with constituent negation, as in (39)b and (40)b. While I have no account for the asymmetry of these structures which respect to phonological contraction, it is nonetheless a useful tool for distinguishing between the two types of negation, which is quite significant to the present analysis. I argue that, while aux-drop is compatible with constituent negation, it is always blocked by sentential negation.

In English, when an auxiliary verb appears in conjunction with sentential negation, the negation frequently undergoes cliticization to the auxiliary verb, and both undergo T to C movement. While the semantics can assign a tense value to a sentence which lacks overt tense marking, it cannot recover negation which has been deleted from the derivation, as seen below.

- (41) a. Didn't you wash the car?
b. *Not you wash the car?
c. *N't you wash the car?
c. You wash the car? ≠ Didn't you wash the car?

- (42) a. Aren't you winning the game?
 b. *Not you winning the game?
 c. *N't you winning the game?
 d. You winning the game? ≠ Aren't you winning the game?
- (43) a. Haven't you finished your dinner?
 b. *Not you finished your dinner?
 c. *N't you finished your dinner?
 d. You finished your dinner? ≠ Haven't you finished your dinner?

We see in (41)b that auxiliaries cannot move to the left periphery and delete independently of negation when negation appears. Constructions such as (41)c indicate that once cliticization has occurred, it cannot be undone. In other words, the auxiliary cannot delete independently of negation once it has contracted, since the negative clitic cannot appear without a host. As a result, the auxiliary cannot be deleted in interrogatives which include sentential negation, even though it has undergone movement to C. The form in (41)d represents a case in which the contracted form *didn't* has been moved to the left periphery as a unit and has subsequently been deleted by CP truncation. While (41)d is a grammatical form, it does not have the negative interpretation of its input form in (41)a. Aux drop fails because negation must cliticize to the auxiliary and move with it to the left periphery. This blocks CP truncation, as negation cannot be recovered once it has been deleted.

Aux-drop sentences are not totally incompatible with negation. However, the interpretation of these sentences is somewhat different from the sentential negation sentences in (41)-(43).

- (44) a. Did you not wash the car?
 b. You not wash the car?
- (45) a. Are you not winning the game?
 b. You not winning the game?

- (46) a. Have you not finished your dinner?
 b. You not finished your dinner?

In (44)-(46), aux-drop seems much more natural. In fact, the aux-drop sentences in (44)-(46)b sound considerably better in colloquial speech than their counterparts in (44)-(46)a in which the auxiliary appears overtly. Importantly however, the speaker must expect a negative response to the question in each of these cases. In (44), for example, the expectation is that the car was not washed. This contrasts sharply with (41), in which the speaker expects an affirmative response (namely, that the car was washed). I argue that this discrepancy stems from the fact that the sentences in (44)-(46) do not represent sentential negation, but rather constituent negation. Therefore, negation cannot cliticize to the auxiliary and move with it to the left periphery. Since negation does not appear in the left periphery, CP truncation resulting in aux drop is free to apply.

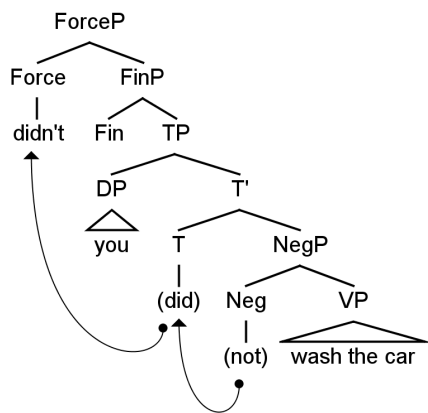


Figure 2- 5

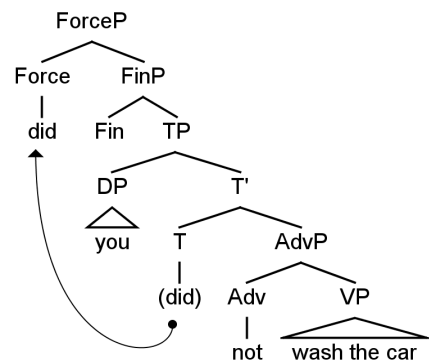


Figure 2- 6

The key difference between sentential and constituent negation is illustrated in the figures above. Figure 2- 5 represents sentential negation, in which negation must

move to the left periphery with the auxiliary, and CP truncation is blocked.³ In Figure 2- 6, meanwhile, adverbial negation stays in its base generated position and CP truncation does not take negation with it to Force. In this case, full interpretation is possible after deletion, and CP truncation is licensed.

2.5. Summary

A close analysis of aux drop in English has revealed several restrictions on the appearance of null auxiliaries. First, aux drop can only occur in interrogative sentences which have undergone subject auxiliary inversion. This behavior supports the hypothesis that aux drop can be accounted for by CP truncation, since aux drop is only licensed when the auxiliary has moved to the left periphery. When aux drop occurs, the resulting sentence is specified for finiteness, but has no overt tense marking. The tense interpretation which the truncated sentence takes can be predicted by making reference to the factative effect. If the resulting tense of the truncated sentence does not match the tense of the input sentence, CP truncation is blocked. There are several other conditions that block CP truncation and the resulting aux drop. Any semantic material which appears in the CP but which cannot be recovered after truncation occurs prevents aux drop from taking place. Examples of such material which can undergo movement to the left periphery include wh- words, modal auxiliaries, and sentential negation.

³ Clitics such as *n't* are somewhat problematic. By standard head movement, the order *not did* is expected in Figure 2- 5, suggesting that the process which drives the formation of the contracted form is somewhat different from standard head movement. Furthermore, while the contracted form *didn't* acts as a phonological constituent, it is not a syntactic constituent. The difficulties caused by clitics are by no means unique to this analysis.

Examples of subject auxiliary inversion in non-interrogative contexts

challenge the notion that aux drop and auxiliary movement to Force are directly linked. Examples of non-interrogative subject auxiliary inversion are repeated here.

- (47) a. Never **have I** seen such a tree!
b. Man, **have you** got a problem!
c. Only if you leave **do I** stay.
d. **Had you** been here earlier, you could have seen the Great Pumpkin.

These forms are not compatible with auxiliary drop, with the possible exception of (47)d.

- (48) a. *Never ~~have~~ I seen such a tree!
b. *Man, ~~have~~ you got a problem!
c. *Only if you leave ~~do~~ I stay.
d. ?~~Had~~ you been here earlier, you could have seen the Great Pumpkin.

However, several of these forms can be ruled out independently. In (48)a, for example, a negative element appears in the CP with the auxiliary which rules out aux drop. A similar explanation could be used for (48)b, in which *man* seems to appear in the CP, blocking aux drop. In (48)c an entire embedded CP seems to have moved to the left edge of the sentence. Since this CP has no antecedent, it could be blocking CP truncation and the deletion of the auxiliary. The counterfactual in (48)d is somewhat more difficult to explain. All of the conditions seem to be right for auxiliary drop, as inversion has occurred and no other material appears in the CP. The aux dropped counter-factual is, at least, considerably better than other non-interrogative subject auxiliary inversion sentences after aux drop has applied. Still, there are significant open questions regarding the much degraded status of aux drop outside yes/no questions.

Finally, it is important to point out that this analysis proposes that a significant difference exists between the licensing conditions on deleted auxiliaries and the conditions on other deleted elements such as VPs, TPs, and DPs. As discussed above, ellipsis and sluicing operations rely on the existence of a semantically identical antecedent. However, this analysis has shown that antecedents are not helpful in the licensing of null auxiliaries. Instead, sentences which have lost their overt tense marking due to CP truncation receive a tense interpretation in line with the factative effect. Despite this fundamental difference in the licensing of null auxiliaries and other null elements, this proposal maintains that the underlying process responsible for deletion (CP truncation) is the same for auxiliaries and subjects, as well as (possibly) VPs, and TPs.

Chapter 3. Subject Drop

3.1. Introduction

It has been widely recognized that many of the world's languages do not require subjects to appear overtly in a variety of contexts. While there is great variety in the availability and appearance of null subjects cross-linguistically, two central methods of licensing null subjects have been established. Null subjects frequently appear in languages which utilize rich verbal morphology (Spanish, Italian, etc.) or in languages which are said to be "topic prominent" (such as Chinese). English, of course, does not fit into either one of these categories. As a result, it has consistently been analyzed as a language which does not allow null subjects. A quick look at some data, however, should cast serious doubt on the idea that null subjects cannot appear in English under any circumstances.

What did John do yesterday?

- (1) a. He drove to KC.
b. Drove to KC.

Why did John miss work?

- (2) a. He didn't feel well.
b. Didn't feel well.

- (3) a. Learned to speak French yet?
b. Haven't learned to speak French yet?

Note that the null subjects which appear in (1)-(3) cannot be analyzed as the null pronominal element PRO, which has a recognized distribution in English. PRO

appears only as the subject of non-finite control clauses and canonically requires a coreferential antecedent in the matrix clause, as in (4)⁴:

- (4) a. Medea_i tried [to PRO_i poison her children].
b. Odysseus_i planned [to PRO_i hear the sirens]. Adger 2003

This is not the case in (1)-(3), where the null subjects do not appear in subordinate clauses. Furthermore, replacing PRO with its coreferential antecedent results in an ungrammatical sentence.

- (5) a. *Medea tried [to Medea poison her children].
b. *Odysseus planned [to Odysseus hear the sirens]. Adger 2003

Again, the null subjects in (1)-(3) behave significantly differently from PRO constructions, as the sentences which contain null subjects and their counterparts with overt subjects are both acceptable. A theory of PRO cannot account for all occurrences of null subjects in English.

While null subjects in English may have a more limited distribution than null subjects in a language like Spanish or Chinese, (1)-(3) show that they are not impossible, especially in informal contexts. In this chapter, I will argue that null subjects in English are dropped topics. Both structural and discourse restrictions play an important role in determining which elements may be dropped from a particular English sentence and which may not. Sections 3.2 and 3.3 investigate null subjects in inflection rich and topic prominent languages respectively. Neither of these accounts can explain the distribution of null subjects in English. Section 3.4 considers some of

⁴ “Arbitrary PRO” can also occur without a matrix clause antecedent:

- (1) To PRO love one’s neighbor is admirable.

the important differences in the behavior of topics cross-linguistically. The central argument of this chapter, that null subjects in English are dropped topics which have undergone movement to the left periphery, is laid out in Section 3.5. The specific conditions which license null subjects in English are also considered. Section 3.6 briefly takes up some the further issues raised by this analysis.

3.2. Null Subjects and Rich Verbal Morphology

The availability of null subjects in languages with rich verbal inflection is a well-attested phenomenon with a significant literature. Rizzi (1986) provided one of the earliest and most influential accounts of null subjects within a Government and Binding framework. More recently, researchers such as Platzack (2003) and Holmberg (2005) (as well as many others) have considered the same problems from a minimalist standpoint, as well as considering null subjects in typologically diverse inflection rich languages such as Arabic, German, and Finnish. It is no surprise that the first attempts to define the distribution of null subjects focused on Romance languages such as Spanish, Portuguese, and Italian. Null subjects in these languages are quite common, especially in first and second person contexts. Consider the following examples from Spanish:

- (6) a Ellos hablaron con la profesora.
 3pl speak-3pl-past with the professor
 “They spoke with the professor.”
- b. Hablaron con la profesora.
 speak-3pl-past with the professor
 “They spoke with the professor.”

The subject-less sentence in (6)b is a perfectly acceptable alternative to the sentence in (6)a. In fact, native speakers of Spanish virtually never use subject pronouns in sentences like (6), except in situations where the subject is being emphasized. Null subjects in English cannot be used as freely in English as they can in Spanish.

- (7) a. They talked to the professor.
b. *Talked to the professor.

It is important to note, however, that discourse context can improve a sentence like (7) tremendously, as seen in (8).

- What did Bill and Ted do yesterday afternoon?
(8) Talked to the professor.

I will return to the important role which discourse plays in licensing null subjects in English in Section 3.5.

Rizzi (1986) produced one of the best known accounts of Agr licensed null subjects to describe the varying behavior of null subjects in languages like Spanish and languages like English. He utilized Italian data very similar to the Spanish sentences seen in (6).

- (9) È presto
be-3sg-pres early
“(It) is early” (Rizzi 1986)

In Rizzi’s analysis, the subject in (9) is “*pro*”, which must appear as the nominal element of an NP. Like all NPs, those which contain null pronominals must be specified for person and number. Under normal circumstances, a NP gets its person and number features from the noun that heads the NP. However, the phonologically null element *pro*, according to Rizzi, has no person or number features to impart.

Inflection rich languages such as Italian can overcome this difficulty by consulting the verbal morphology, which obligatorily agrees with the subject in both person and number. In other words, when a sentence contains a null subject, that null subject is reconstructed on the basis of verbal morphology. Importantly, however, this type of reconstruction is only possible in languages with “rich” agreement morphology, such as Spanish and Italian. In languages such as English, which have “poor” verbal morphology, such recovery simply is not possible. A quick comparison of the present tense and simple past tense subject agreement paradigms in English and an inflection rich language such as Spanish highlights the important differences between the two languages.

Table 1: Agreement Paradigm for the English verb “to walk”

	1sg	2sg	3sg	1pl	2pl	3pl
Simple Present	walk-∅	walk-∅	walk-s	walk-∅	walk-∅	walk-∅
Simple Past	walk- ed	walk- ed	walk- ed	walk- ed	walk- ed	walk- ed

Table 2: Agreement Paradigm for the Spanish verb “caminar” (to walk)

	1sg	2sg	3sg	1pl	2pl	3pl
Simple Present	camin- o	camin- as	camin- a	camin- amos	camin- áis	camin- an
Simple Past	camin- é	camin- aste	camin- ó	camin- amos	camin- asteis	camin- aron

The limited subject agreement paradigm in English simply does not allow speakers to reconstruct null subjects. This analysis accounts for the universal availability of null subjects in Italian and the relatively restricted availability of null subjects in a language like English. Even more, it makes a strong prediction

regarding which languages can license *pro* and which cannot: *pro* may appear in languages with rich agreement and cannot appear in languages with poor agreement.⁵

3.3. Null Subjects and Topic Prominent Languages

While relying on verbal morphology to license null subjects works well for languages like Spanish and Italian, a more complete survey of the world's languages shows that Rizzi's analysis is insufficient to explain all occurrences of null subjects. Under an Agr-based theory of licensing *pro*, a language like Chinese, which has no verbal morphology, would not be expected to allow null subjects. Huang (1984), however, argues that sentences like the following are common in Chinese:

Speaker A:

Zhangsan kanjian Lisi le ma?
Zhangsan see Lisi LE Q
“Did Zhangsan see Lisi?”

Speaker B:

(10) a. Ta kanjian ta le.
he see him LE
“He saw him”

b. *e* kanjian ta le.
“[He] saw him.”

c. Ta kanjian *e* le
“He saw [him].”

d. *e* kanjian *e* le
“[He] saw [him].”

(Huang 1984)

Despite the lack of verbal morphology, the sentences in (10)b and (10)d contain null subjects and objects. Sentences of this nature present a serious challenge to Rizzi's

⁵ Defining exactly what constitutes “rich” inflection is a very difficult task. It is sufficient for the present purposes, however, simply to note that English does fall into the class of inflection rich languages, as demonstrated by the tables above.

proposal. While Huang accepts a Rizzi-style analysis for languages with rich agreement morphology, he proposes an entirely separate analysis for languages like Chinese.

Huang's analysis appeals to a language typology proposed by Li and Thompson (1976), in which languages must be either "topic-prominent" or "subject-prominent". Languages such as Chinese, Japanese, and Korean are topic-prominent languages. English is specifically cited as a subject-prominent language.⁶ In discussing pro-drop in topic-prominent languages, Huang limits himself to talking about East Asian languages. One of the critical properties which supports this distinction is *Topic NP Deletion*. In topic-prominent languages, topics which have already been introduced in the discourse may be deleted. In (10) above, pronouns whose referents have already been introduced in the discourse have been topicalized and dropped. A case of multiple topics in which both are dropped is represented in (10)d.

While the present analysis is interested primarily in null subjects, null subjects in Chinese are only a subset of the elements which may drop from a sentence. Anything which appears in the left periphery as a topic is eligible for drop. Like Chinese, English requires that null subjects have a coreferential antecedent in the discourse, as seen in the distinction between (7)b and (8), repeated here as (11)b and (12).

⁶ Again, the topic/subject prominent distinction is quite difficult to make. The principle diagnostic for topic prominence is the availability of topic drop which, is not particularly helpful to this analysis. For the purposes of this paper, it is enough to note that English is specifically cited by Li and Thompson as a subject prominent language.

- (11) a. They talked to the professor.
b. *Talked to the professor.

What did Bill and Ted do yesterday afternoon?

- (12) Talked to the professor.

While these two sentences are identical on the surface, (11)b is ungrammatical because the null subject lacks a discourse referent. When that referent is provided, as in (12) the sentence is perfectly acceptable.

There are significant differences between English topic drop and Chinese topic drop as well. In English, for example, only subjects may be dropped.

What did Rufus do with the ball?

- (13) a. He threw it.
b. Threw it.
c. *He threw.
d. *Threw.

The English examples in (13) contrast sharply with the Chinese examples in (10), in which the structural position (subject vs. object) does not affect the availability of topic drop. If null subjects in English are, in fact, dropped topics, then one of two things must be true of English and Chinese. Either the two languages must have different criteria for determining what is a topic and what is not, or the syntax of the two languages must treat different types of topics in significantly different ways. The following section considers the second possibility- that topics of various different types can be treated differently by the syntax in two distinct languages.

3.4. Cross-Linguistic Topic Behavior

Dealing with information structure roles such as topic and focus often presents difficulties for a variety of reasons. While tests to determine topic and focus exist, these tests are often language specific and frequently hinge on native speaker

judgments which can be quite subtle. Many different approaches have been taken to define the term “topic”, but this analysis relies heavily on the work of Erteschik-Shir (1997). According to Erteschik-Shir, each DP in the discourse must be either a topic or a focal element. She describes the discourse as though it were a “file” containing a number of “cards”. If a DP plays a focal role, the listener must create a new “card” which contains all of the linguistically relevant information about that DP. A topic, on the other hand, requires the listener to refer back to a card which has already been created. One test developed in Reinhart (1981) which Erteschik-Shir utilizes to test for topichood in English is the *as for* test. Topics appearing in the left periphery can be preceded by *as for*, but focal elements in the left periphery cannot.

- (14) a. There is **a fly** in my soup.
b. *As for **a fly**, it’s in my soup. (Reinhart 1981)

In (14)a, the DP *a fly* is newly introduced information- there is no “card” in the discourse which it could refer to, indicating that it must be a focal element. As expected, the DP *a fly* fails the *as for* test in (14)b. Once the card for *fly* has been added to the discourse, it is available to appear as a topic.

- (15) a. **The fly** is doing the backstroke.
b. As for **the fly**, it is doing the backstroke.

Also note that the pronominal element *it* can also serve to replace *fly* once *fly* has been properly introduced into the discourse.

- (16) **It** is doing the backstroke.

Based on this evidence, Erteschik-Shir argues that all pronominal elements are inherently topics. Defining pronouns as topics in this way conforms with the robust cross-linguistic generalization that pronouns may only occur if they have an

antecedent in the discourse from which they can take their reference. Like Erteschik-Shir, I will assume that all pronominal elements (excluding expletive pronouns) are topics.

This definition of topic does a very good job of accounting for topic drop in a language like Chinese, in which both pronominal subjects and pronominal objects can undergo drop (see (10) above). English is somewhat more problematic, since only pronominal subjects can be dropped. If the sole contributing factor to the licensing of topic drop is topichood, then topic drop cannot account for the English data. One of the factors which compounds the difficulty of the present task is the unfortunate terminology employed in the information structure literature, which can be quite misleading. Elements which are “topics” are not the same as elements which have been “topicalized”, and this distinction is critical to this analysis. “Topicalized” elements need not be topics. Topicalization simply refers to the movement of a DP from its base generated position to a position in the left periphery. Topicalized element may play a number of information structure roles, including (but not limited to) contrast and focus. By the same token, topics are not necessarily topicalized (since they frequently do not appear in the left periphery).

Evidence that different languages treat topics in very different ways with respect to topicalization is quite prevalent cross-linguistically. Erteschik-Shir (2007) compares structures which contain topics in Catalan and in Danish. In both Catalan and Danish, topics may be moved to the left edge of the clause in which they are base generated.

Catalan

(17) a. On va posar les coses?
where PAST-3 put the things

“Where did (s)he put the things?”

b. Em sembla que els llibres, els
to-me seems that **the books** **them-MASC**

va posar al despatx.
PAST-3 put in-the study

“It seems to me that (s)he put the books in the study.”

Erteschik-Shir 2007

Danish

(18) **Blomster** ser man om foråret.
flowers sees one in the-spring

“One sees flowers in the Spring”

Erteschik-Shir 2007

In (17)-(18), the topics which appear on the left edge of their clause are what Erteschik-Shir calls “newly introduced topics”. This means that they have not appeared in a topic position in the preceding discourse. In cases such as these, Catalan and Danish behave quite similarly with respect to the syntactic behavior of topics. However, there is an interesting split between these languages with respect to their treatment of “continued topics”- topics which have appeared overtly in the discourse in a topic position.

Catalan

- (19) a. On va posar **els** **llibres**?
where PAST-3 put **the** **books**
“Where did (s)he put the books?”
- b. Em sembla que **els** va
to-me seems that **them-MASC** PAST-3

posar al despatx, **els** **llibres**.
put in-the study, **the** **books**
“It seems to me that (s)he put the books in the study.”
Erteschik-Shir 2007

Danish

- (20) a. **Hans** kan jeg godt lide.
Hans can I good like
“I like Hans a lot.”
- b. **Ham** kan jeg ogsa lide.
him can I also like
“I like him too.”
Erteschik-Shir 2007

In Catalan, continued topics no longer appear on the left edge of the clause, but rather on the right edge, as seen in (19)b. In Danish, on the other hand, there is no syntactic distinction between newly introduced topics and continued topics, as can be seen by comparing (18) and (20)b.

The present analysis assumes that topic drop is the result of CP truncation- topics which appear in the left periphery can be deleted. Given this assumption, it is not expected that all topics in a language will be eligible for deletion unless all topics in a language are also eligible for topicalization. As seen above, different languages can and do treat topics in different ways. Therefore, despite the significant differences between topic drop in a language like Chinese and subject drop in a

language like English, a topic drop analysis of English null subjects is still possible. While all pronominal elements are topics, I propose that in English only topical subjects are eligible for movement to the left periphery and, by extension, topic drop. The critical difference between a language like English and a language like Chinese is that Chinese allows topics to move to the left periphery from any syntactic position, not just the subject position.

Thrift (2001) proposes a topic drop analysis similar to this one to account for the distribution of null subjects in Dutch. Like German, Dutch is a V2 language; in matrix clauses the verb must appear in second position. Thrift contends that topic drop only occurs in V2 structures. In embedded clauses, Dutch is a verb final language and does not allow topic drop.

- (21) a. Morgen **werkt** zij thuis.
 tomorrow works she home
 “She’s working at home tomorrow.”
- b. Ik dacht [dat zij morgen thuis **werkt**].
 I thought that she tomorrow home works
 “I thought that she’s working at home tomorrow.” Thrift 2001

According to Thrift’s analysis, the main verb must move to C in Dutch matrix clauses. Furthermore, an argument or adjunct must be topicalized, ensuring that matrix clause verbs always appear in second position. Many speakers of Dutch can delete this topicalized material. As in English, there are restrictions on which elements in a sentence may topicalize and which may not. In Dutch, third person direct objects may be topicalized, but first and second person direct objects cannot.

- (22) a. ***Me** heeft Jan geholpen.
 me has Jan helped
 “Jan has helped me.”
- b. ***Je** heeft Jan geholpen.
 you has Jan helped
 “Jan has helped you.”
- c. **Dat** heb ik aan Marie gegeven.
 that have I to Marie given
 “I have given that to Marie” Thrift 2001

As a result, third person direct objects can be dropped by Dutch speakers, while first and second person direct objects cannot.

- (23) a. * \emptyset heeft Jan geholpen.
 \emptyset has Jan helped
 “Jan has helped (me).”
- b. * \emptyset heeft Jan geholpen.
 \emptyset has Jan helped
 “Jan has helped (you).”
- c. \emptyset heb ik aan Marie gegeven.
 \emptyset have I to Marie given
 “I have given (that) to Marie.” Thrift 2001⁷

While Thrift’s data show encouraging similarities to the English data considered in this paper, her proposal that verbs undergo movement to C in V2 constructions is incompatible with my analysis. If the main verb or auxiliary appears in the left periphery, it must be deleted along with the deleted topic when CP truncation occurs.

The evidence considered here suggests that the restrictions on topicalization are language specific and highly variable.⁸ A study of these language specific

⁷ Though topicalization plays a critical role in licensing Dutch topic drop, Thrift cites several other factors (such as animacy) which must be considered. Additionally, 1st and 2nd person pronouns can be topicalized if they are contrastive, though these forms cannot be deleted by speakers.

restriction greatly exceeds the scope of the present theory. In this analysis, I will simply assume that only topicalized topics can undergo deletion through CP truncation, and that only subject topics can be topicalized in English.

3.5. The Distribution of Null Subjects in English

In the previous chapter, it was noted that a specific set of syntactic and semantic restrictions affect the availability of aux-less sentences. Specifically, aux-less sentences appear only in interrogative contexts and can only receive tense interpretations that are consistent with the factative effect. Null subject in English are also restricted by a number of syntactic considerations. Dropped subjects in English, as in languages such as Chinese, must be topicalized elements, as the agreement morphology in English is not sufficiently rich to license null subjects. The conditions which license topicalization (and therefore subject drop through CP truncation) in English are somewhat different (and more restrictive) than those in Chinese. However, topic drop is an available operation in a wide variety of English constructions.

There are, as noted above, several conditions which prevent English topics from undergoing drop through CP truncation. First, dropped topics must be coreferential with an element previously introduced in the discourse, as seen in (11)-(12), so that they can be recovered. Second, dropped topics must be subjects, as seen

⁸ Alternatively, topicalization operations may be universal while constraints on deletion itself may be language specific. Within the framework of the present theory, however, topicalization restraints are much more attractive. Such an analysis allows subject drop and aux drop to be analyzed together-material which can move to the left periphery is eligible for deletion.

in (13). Finally, the factors which block the generally block CP truncation (wh-elements, modal auxiliaries, etc. in the left periphery) will also block subject drop.

- What did Wilbur do yesterday?
- (24) a. He rode his bike.
 b. ~~He~~ rode his bike.

- Wilbur went on a long ride yesterday.
- (25) a. What did he ride?
 b. *~~What did he~~ ride?
 c. *What did ~~he~~ ride?

The examples in (25) demonstrate that when CP truncation is blocked, topic drop is blocked with it. The form in (25)b is blocked because the wh- word *what*, which cannot be recovered after deletion, appears in the left periphery. The form in (25)c shows that the deletion of the subject cannot occur independently of the deletion of the rest of the material in the CP. The trees below illustrate the structural distinctions between (24)a, in which CP truncation is licensed, and (25)a, in which CP truncation is blocked..

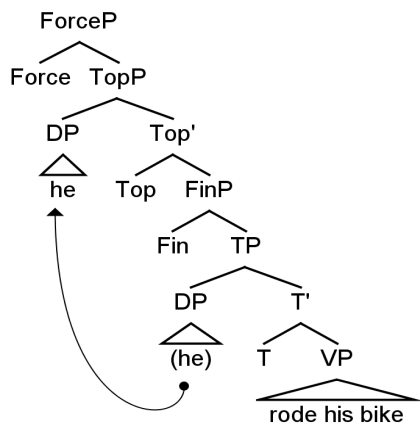


Figure 3- 1 CP Truncation

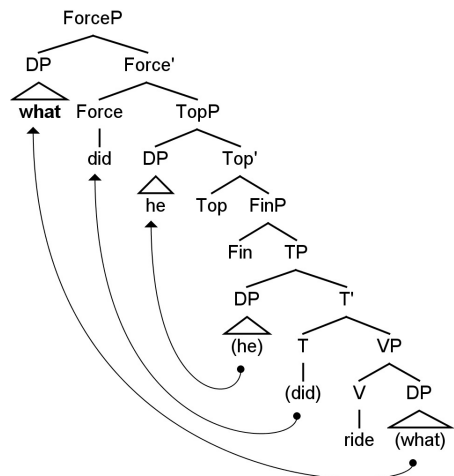


Figure 3- 2 *CP Truncation

Only the pronominal subject, which is recoverable, appears in the CP in Figure 3- 1, so subject drop is permitted. When material which cannot be recovered does appear in the left periphery, as in Figure 3- 2, both CP truncation and subject drop are blocked.

The person, number, and gender features of the subject do not have any effect on the availability of subject drop. CP truncation makes no distinction between masculine and feminine, singular and plural, or first, second, and third person.

- What did I/we do yesterday afternoon?
- (26) a. You washed the car.
b. Washed the car.

- What did he/she/it/they do yesterday afternoon?
- (27) a. He/she/it/they washed the car.
b. Washed the car.

- What did you do yesterday afternoon?
- (28) a. I/we washed the car.
b. Washed the car.

Subject drop is acceptable in (26)-(28) regardless of person, number and gender features. The interpretation of the null subject in (26)-(28)b changes based on the prompt sentence. Subject drop is equally insensitive to the tense in which a sentence appears.

- What did she do on Friday afternoon?
- (29) a. She washed the car.
b. Washed the car.

- What does she normally do on Friday afternoons?
- (30) a. She washes the car.
b. Washes the car.

Sentences (29)-(30) show that both past tense and present tense (habitual) sentences are compatible with subject drop. Future tense in English requires the use of the

modal auxiliary *will*. The effect which modal auxiliaries have on the availability of subject drop will be considered in the following section.

3.5.1. Subject Drop with Auxiliaries

Cases of subject drop which involve auxiliaries display some problematic properties at first glance.

- Do you have any plans this weekend?
- (31) a. I'll go to the fair.
b. *Will go to the fair.

- Does he have any plans this weekend?
- (32) a. He's driving to Chicago.
b. *Is driving to Chicago.

- Did you ever meet anyone famous?
- (33) a. I've spoken with the president.
b. *Have spoken with the president.

Somewhat unexpectedly, the sentences which have undergone subject drop in (31)-(33) are sharply ungrammatical. These data are not so surprising, however, when the principles governing both phonological contraction and CP truncation are taken into consideration. Note that in each of the sentences (31)-(33)a, contraction of the subject and the auxiliary occurs. Remember also that once this contraction takes place, the contracted element is treated as an inseparable unit by CP truncation; the subject cannot drop without the auxiliary dropping as well. Since English auxiliaries do not undergo T-to-C movement in declarative sentences such as (31)-(33), these auxiliaries are not eligible for deletion.

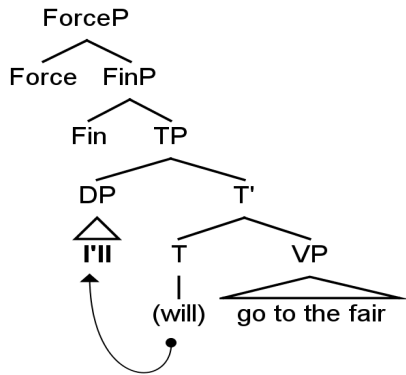


Figure 3- 3

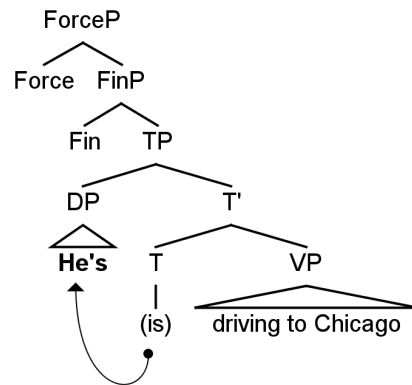


Figure 3- 4

Because the auxiliary cannot move to the left periphery and because the subject has been bound to the auxiliary by contraction, the subject is also blocked from moving to the left periphery and undergoing deletion via CP truncation.⁹ This analysis raises an interesting question regarding the movement of topics to the left periphery.

Sentences such as (31)-(33) suggest that topics are not forced to undergo movement to Spec TopP, but may remain in Spec TP. This analysis helps to account for the unacceptability of subject drop sentences to some speakers of English- if speakers do not allow the movement of a topic from Spec TP to Spec TopP, subject drop through CP truncation is not possible.

Subject drop, however, is not totally incompatible with contracting auxiliaries.

If the prompt questions are modified to elicit contrastive answers, sentences which have undergone subject drop become much more acceptable.

⁹ Again, clitics such as 'll and 's in Figure 3- 3 and Figure 3- 4 are somewhat problematic. Forms such as I'll and he's are not derived via standard head movement and they are not syntactic constituents. While it is not clear what process creates these contracted forms, this analysis maintains that the resulting phonological constituent must move to the left periphery to be deleted.

- Do you have any plans this weekend? I hear the fair is awful.
- (34) a. I WILL go to the fair.
b. WILL go to the fair.

- Does he have any plans this weekend? The weather is just awful.
- (35) a. He IS driving to Chicago.
b. IS driving to Chicago.

- Did you ever meet anyone famous? You've led a pretty shut-in life.
- (36) a. I HAVE spoken with the president.
b. HAVE spoken with the president.¹⁰

The auxiliaries in (34)-(36) are contrastive, which prevents them from taking a phonologically reduced form and contracting with the subject pronoun. Since contraction does not occur, the subject is free to move to the left periphery (as long as it is a topic) and be deleted. Meanwhile, the auxiliary, in its full phonological form, remains in T.

¹⁰ It seems that not all speakers can accept aux drop in this context. I have no account for speakers who allow non-contracting contrastive auxiliaries, but will not allow subject drop with contrastive auxiliaries.

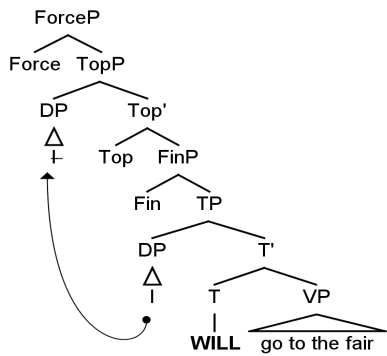


Figure 3- 5

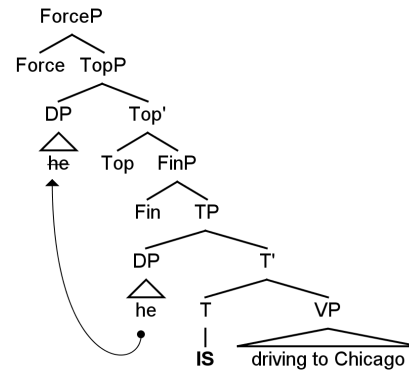


Figure 3- 6

Interestingly, subject drop is much more acceptable in sentences which contain modal auxiliaries which do not contract with pronominal subjects such as *should, might, must, etc.*

- (37) Why aren't you coming to the party?
 a. I should do my math homework.
 b. *I'd do my math homework.
 c. Should do my math homework.

- (38) Do you have any plans this weekend?
 a. I might go to the fair.
 b. *I'ht go to the fair.
 c. Might go to the fair.

- (39) Will he graduate this semester?
 a. He must finish his thesis first.
 b. *He'st finish his thesis first.
 c. Must finish his thesis first.

The auxiliaries in (34)-(36) are blocked from undergoing contraction when they serve a contrastive function. The modals in (37)-(39) cannot be contracted under any circumstances. When finite auxiliaries do not contract with pronominal subjects, regardless of the reason why, subject drop through CP truncation is not blocked.

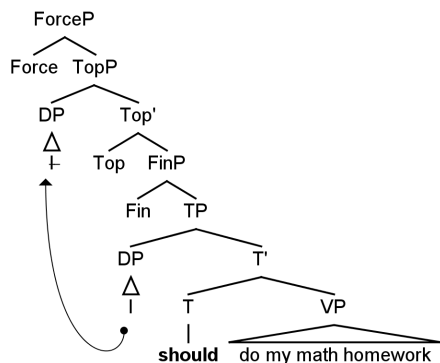


Figure 3- 7

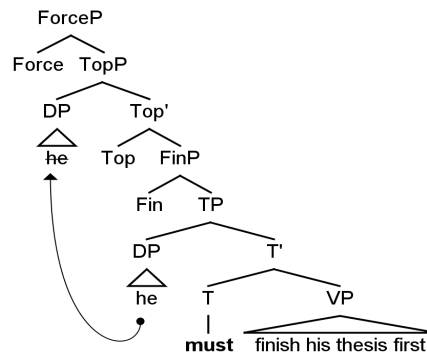


Figure 3- 8

Although the failure of contraction occurs for two entirely different reasons in the structures above, the syntax treats these two cases identically with respect to subject drop.

3.5.2. Subject Drop and Negation

Negation also plays an important role in the availability of subject drop. As noted earlier, when negation appears in the left periphery as a result of contraction to an auxiliary, CP truncation is blocked.

- (40) Do you have any plans this weekend?
 a. I won't go to the fair.
 b. *I'll not go to the fair.
 c. Won't go to the fair.

- (41) Why aren't you coming to the party?
 a. I haven't finished my homework.
 b. *I've not finished my homework.¹¹
 c. Haven't finished my homework.

¹¹ Many speakers accept sentences such as (41)b. According to this analysis, these speakers should also accept:

Not finished my homework yet

The contracted form *I've* moves to the left periphery as a unit and deletes.

- Why isn't she coming to the party?
- (42) a. She isn't feeling very good.
b. She's not feeling very good.
c. Isn't feeling very good.

- Why aren't you coming to the party?
- (43) a. *I amn't feeling very good.
b. I'm not feeling very good.
c. *Amn't feeling very good.
d. Not feeling very good.

The ungrammatical sentence in (43)c is quite surprising given the distribution of null subjects that we have seen so far. It is especially surprising given the acceptability of (42)c- an identical construction apart from the person, number, and gender features of the pronominal subject. Upon closer inspection, however, sentences in (40)-(43) are perfectly in line with the analysis proposed so far. In (41)-(42), the auxiliary must contract with negation and not with the pronominal subject, as shown by forms like (41)b. When the subject contracts with the auxiliary, the result is highly questionable if not totally ungrammatical for many speakers of American English. This leaves the pronominal subject free to move to the left periphery and delete, as in (41)c. The acceptability of contraction with the subject pronoun varies somewhat in (42)-(43), but in both cases the auxiliary may also contract with negation (see (42)a and (43)a). Again, this leaves the subject pronoun free to move to the left periphery and be deleted by CP truncation.

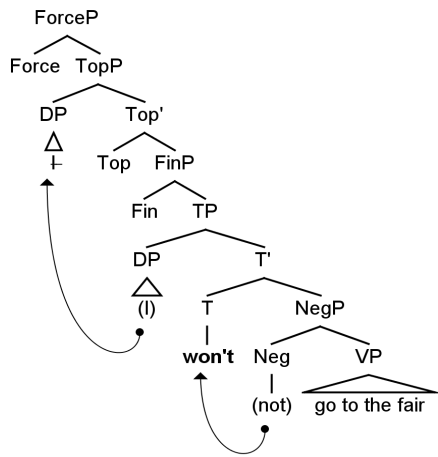


Figure 3- 9

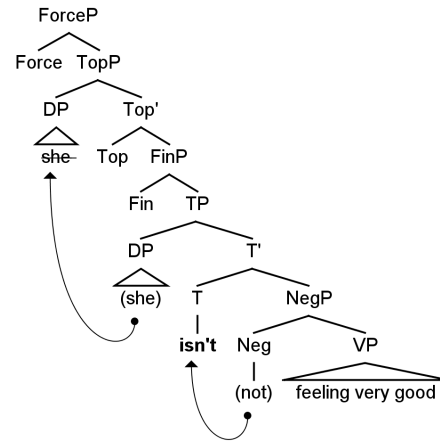


Figure 3- 10

The sentences in (43) follow a different pattern not because they have different person, number, and gender features than those in (42), but rather because they have a different set of rules regarding contraction. The first person singular form of the progressive auxiliary (*am*) cannot contract with negation, as seen in (43)a. It is therefore forced to contract with the subject pronoun *I*, as in (43)b. As noted earlier, when the pronoun and auxiliary contract to form a single unit, they become inseparable. Because (43)c is a declarative sentence, the auxiliary cannot move to the left periphery, which prevents deletion of the subject as well.

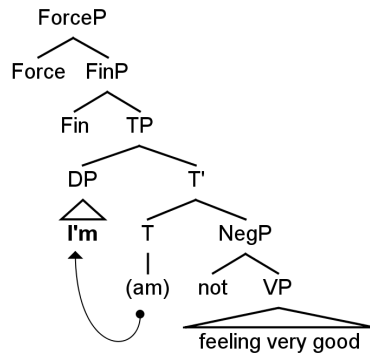


Figure 3- 11

Interestingly, if the non-standard contraction *ain't* is used in place of the standard *am not*, subject drop is licensed.

- (44) Why aren't you coming to the party?
 a. I ain't feelin' very good.
 b. Ain't feelin' very good.

My account of the restrictions on subject drop predicts exactly this result. Because the auxiliary and negation can now contract, the subject is free to drop. When considering the availability of subject drop in negative sentences which contain auxiliaries, the critical factor is whether or not the auxiliary can contract with negation. If it can, subject drop is licensed. If it cannot, subject drop is not possible.

3.5.3. Subject Drop in Interrogatives

To this point, subject drop has only been considered in declaratives. Because interrogative sentences license T-to-C auxiliary movement, they are expected to show (and do show) a different pattern. Due to language specific rules, yes/no questions never appear without auxiliaries in English. Keep in mind that declaratives which include auxiliaries are acceptable with subject drop as long as the auxiliary cannot

contract with the subject pronoun, as was shown in (37)-(39). This suggests that as long as the auxiliaries remain in T and do not contract with pronominal subjects, the subjects can be dropped.

- (45) a. Do you like the fair this year?
b. *Do like the fair this year?
- (46) a. Has she seen the new movie?
b. *Has seen the new movie?
- (47) a. Am I presenting this afternoon?
b. *Am presenting this afternoon?
- (48) a. Can you give me a dollar?
b. *Can give me a dollar?

In yes/no questions, by contrast, subject drop is always ungrammatical. The auxiliaries in (45)-(48) must undergo T-to-C movement. The subjects in these sentences may or may not move to the left periphery, depending on whether or not they are topicalized. If the subject does move to the left periphery, subject + aux drop will occur when CP truncation applies, as in (49) below.

- (49) a. ~~Have you~~ eaten yet?
b. ~~Are you~~ going home soon?

Sentences like those in (49) will be the topic of the following chapter. At this point, however, it is sufficient to note that subject drop without corresponding auxiliary drop is not possible in (45)-(48). According to this analysis, CP truncation deletes everything above the TP. Furthermore, subject drop can only occur if the subject has moved to the left periphery. Since auxiliaries obligatorily move to Force in (45)-(48), subject drop cannot occur in these cases without corresponding aux drop, ruling out

(45)-(48)b. In the following trees, the material which undergoes movement to the CP appears in bold.

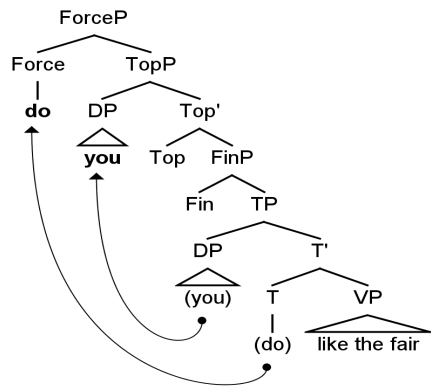


Figure 3- 12

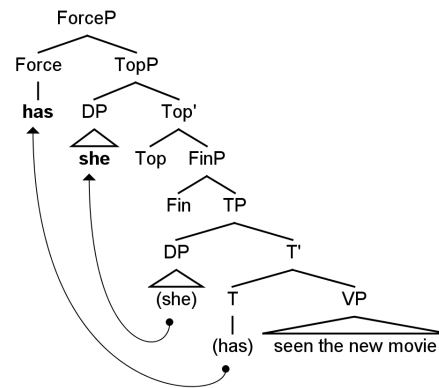


Figure 3- 13

According to a theory of CP truncation, either all of the material in bold must be deleted, or none of the material in bold can be deleted. Deleting only part of the material which appears in the CP result in the ungrammatical forms in (45)-(48)b.

3.5.4. Subject Drop in Negative Interrogatives

The effect of negation in yes/no questions must also be considered. In declaratives, subject drop is licensed as long as the auxiliary can contract with negation, as seen in (40)-(43). Now consider the pattern in interrogatives.

- (50) a. Don't you like the fair?
 b. Don't like the fair?
- (51) a. Haven't you finished your homework?
 b. Haven't finished your homework?
- (52) a. Aren't you presenting this afternoon?
 b. Aren't presenting this afternoon?
- (53) a. Won't he graduate this semester?
 b. Won't graduate this semester?

Sentences such as (50)-(53)a indicate that when the auxiliary contracts with negation in yes/no questions, the contracted element moves into the CP layer, as it undergoes inversion with the subject. The present theory would therefore predict the forms in (50)-(53)b to be ungrammatical, since the appearance of negation in the left periphery blocks CP truncation. In fact, the grammatical (50)-(53)b may actually be derived from in-situ yes/no questions; yes/no questions which have the same word order as declarative sentences. In-situ yes/no questions can be distinguished from declaratives because in-situ yes/no questions must have rising intonation.

- (54) a. Don't you like the fair?
 b. You don't like the fair? (rising intonation required)
- (55) a. Haven't you finished your homework?
 b. You haven't finished your homework? (rising intonation required)

Like the sentences in (54)b and (55)b, the subject drop sentences in (50)-(53)b require rising intonation. This suggests that truncated forms such as (50)b are actually derived from forms like (54)b, in which the contracted element containing auxiliary and negation has not moved to the CP layer. This leaves the subject free to move to the left periphery and delete.

Interestingly, the auxiliary can always contract with negation in yes/no questions. The uncontractable first person progressive auxiliary simply does not appear in yes/no questions.

- (56) a. Am I not presenting today?
 b. *Amn't I presenting today?
 c. Aren't I presenting today?
 d. Aren't presenting today? = Aren't you presenting today?
 ≠ Aren't I presenting today?

Although (56)c is grammatical, its subject dropped counterpart (56)d cannot receive a first person singular interpretation. It is not clear why the auxiliary in (56)c takes a form normally reserved for agreement 1pl, 2sg, 2pl, and 3pl subjects. This mismatch between the deleted subject and the agreeing form of the auxiliary prevents (56)d from receiving a first person singular interpretation. Extending the analysis above, a form like (56)d should be derived from an in-situ yes/no question with rising intonation. However, if *aren't* remains in-situ, the result is ungrammatical.

(57) *I aren't presenting today?

The impossibility of (57) accounts for the ungrammaticality of the subject dropped form in (56)d. Despite the idiosyncrasies of the English agreement and contraction systems, negative yes/no questions fit well into a CP truncation analysis as long as contractions consisting of auxiliaries and negation must remain below the CP in the derivation.

3.6. Summary

This chapter has considered the evidence that subject drop in English may be accounted for by CP truncation. For the analysis described here to work, English subjects must be able to appear as topics. Furthermore, these topical subjects must move to a topic position in the CP, where they become eligible for deletion by CP truncation. In support of this hypothesis, it has been shown that the elements which block CP truncation and the elements which block subject drop are identical. When a *wh-* word, a negative element, or a modal auxiliary appears in the left periphery, for example, both subject drop and CP truncation are blocked. A consideration of

interrogative sentences which have undergone subject auxiliary inversion and have topical subjects in the left periphery provides further evidence. When subject drop occurs, all of the material which has moved to the CP must be deleted with the subject. This is shown in the following examples, repeated from above.

- (58) a. [Do you]_{CP} like the fair this year?
b. *[Do ~~you~~]_{CP} like the fair this year?
c. [~~Do you~~]_{CP} like the fair this year?

This pattern is absolutely consistent with the predictions made by a CP truncation account of these structures. Sentences such as (58)c, in which both the subject and the auxiliary have been dropped, will be the focus of the following chapter.

The phonology (specifically the phonology of contraction) also plays an important role in determining which subject and auxiliaries are available for drop and which must remain below the CP and obligatorily overtly. This is particularly true in interrogative contexts. However, by considering in-situ questions, in which rising intonation rather than word order denotes an interrogative, a theory of CP truncation can account for the appearance of null subjects in interrogatives.

Chapter 4. Subject + Aux Drop

4.1. Introduction

The final set of structures which this analysis must account for are the structures which have dropped both subject and auxiliary. To refresh, this is what subject + aux drop structures look like:

- (1) a. Been to the store today?
b. Have you been to the store today?
c. Not watching the game tonight?
d. Are you not watching the game tonight?

Why aren't you coming to the movie?

- (2) a. Seen it already.
b. I have seen it already

Of course, many sentences in which both subjects and auxiliaries have been dropped are highly questionable or even ungrammatical.

Are you hungry?

- (3) a. ?Eaten a whole pizza.

When do you go to China?

- b. *Finish my thesis first. "I should/will/might finish my thesis first"

As with aux drop and subject drop in the preceding chapters, these subject + aux drop structures will be analyzed within the framework of CP truncation. The analyses developed for aux drop sentences and subject drop sentences will be quite useful in accounting for (1)-(3). Section 4.2 looks specifically at the restrictions placed on aux drop and subject drop, and applies those restrictions to subject + aux drop sentences. Section 4.3 accounts for some of the problematic data in Section 4.2 by appealing to the interaction between the syntax, the semantics, and the phonology.

4.2. Applying the Analysis

I argue that subject + aux drop, like aux drop and subject drop, is a result of CP truncation. If both the auxiliary and the topical subject have undergone movement to the left periphery, both auxiliary and subject must be deleted when CP truncation occurs. Several predictions logically follow from this line of thinking. Let us consider these predictions one at a time.

First, this analysis predicts that subject + aux drop will always be licensed in yes/no interrogatives. In fact, if subject drop occurs, aux drop must accompany it. Auxiliaries obligatorily move to the left periphery in interrogatives, and pronominal subjects are always available for topicalization in English. Since auxiliaries must appear in the left periphery in questions, CP truncation cannot delete a topicalized subject without deleting the auxiliary as well.

- (4) a. Washing the car today?
b. Seen the new movie yet?
c. Not washing the car today?
d. Not seen the new movie yet?
- (5) a. *Are washing the car today?
b. *Have seen the new movie yet?
c. Aren't washing the car today?
d. Haven't seen the movie yet?

As predicted, the yes/no questions in (4) which have undergone subject + aux drop are acceptable. Meanwhile, the subject drop only sentences in (5), show some surprising properties. Sentences which do not contain negation, such as (5)a and (5)b behave exactly as expected. Subject drop without corresponding aux drop is ungrammatical because T-to-C movement is obligatory in interrogative contexts. If subject drop through CP truncation occurs, auxiliary drop must occur with it. The

negative forms (5)c-d are surprising, as subject drop occurs independently of aux drop. Importantly, the auxiliary in each of these sentences can undergo contraction with either the pronominal subject or negation. This is not the first time in this analysis that the availability of phonological contraction has affected the material which may be deleted.

One possible explanation for the availability of both (4)c-d and (5)c-d is that they are actually based on two distinct structures. The structures in (4)c-d contain constituent negation while the sentences in (5)c-d contain sentential negation. As a result, they carry distinct speaker expectations.

- | | |
|--|----------------------|
| (6) a. Aren't washing the car today? | positive expectation |
| b. Not washing the car today? | negative expectation |
| (7) a. Haven't seen the new movie yet? | positive expectation |
| b. Not seen the new movie yet? | negative expectation |

The notation “positive expectation” in (6)a and (7)a simply indicates that the speaker expects the event in question to occur in the future or to have occurred already. For example, in (6)a, the speaker expects the car to be washed and in (7)a the speaker expects the movie to have been watched. Meanwhile in sentences (6)b and (7)b, which have been given the notation “negative expectation”, the speaker expects that the event has not or will not occur. In (6)b the speaker does not expect the car to be washed and in (7)b the speaker does not expect the movie to have been watched.

The differing speaker expectations in these examples correspond to distinct forms of negation. Specifically, this analysis argues that sentential negation appears in (6)a and (7)a, while constituent negation appears in (6)b and (7)b. This situation is

quite similar to the one discussed in Section 2.4 of Chapter 2. In the case of sentential negation, the auxiliary undergoes contraction with negation. As a result, the auxiliary cannot be deleted from the sentence without taking negation with it, and only subject drop is licensed. This process has been discussed in greater detail in Section 3.5.2 of Chapter 3. In the case of constituent negation, on the other hand, cliticization to the auxiliary is not possible. Therefore both the topical subject and the auxiliary are free to move to the left periphery and delete when CP truncation occurs.

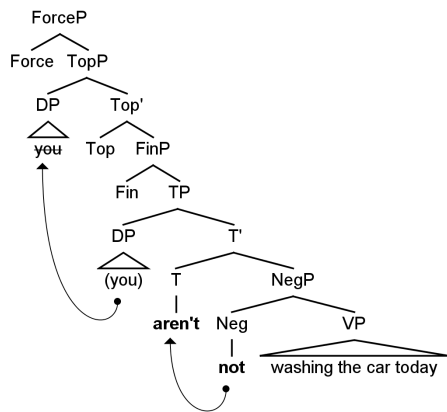


Figure 4- 1

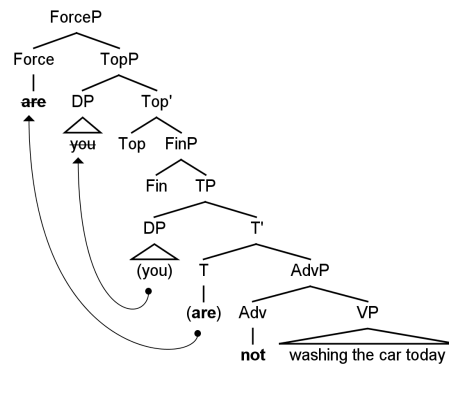


Figure 4- 2

Precisely where adverbial negation occurs in these sentences is not critical to this analysis, so long as it occurs in a position below TP where it cannot undergo contraction to the auxiliary. While the speaker expectation judgments in (6)-(7) are subtle (and some speakers seem not to agree with the judgments I have made), the fact remains that both the structure in Figure 4- 1 and the structure in Figure 4- 2 are both possible structures for some speakers of English. Applying CP truncation to these distinct structures results in the variable patterns in subject and auxiliary drop seen in (6)-(7).

Another important prediction that the present theory makes pertains to the availability of modal auxiliaries to undergo subject + aux drop. Keep in mind that sentences which lack overt tense marking can receive a tense interpretation consistent with the factative effect, but the additional semantic material which modal auxiliaries contain cannot be recovered. Modals, therefore, cannot undergo subject + aux drop either in yes/no interrogatives or in declaratives. The data below are consistent with this prediction.

- If you could go anywhere in the world, where would you go?
- (8) a. Go to China. ≠“I would go to China”
 b. Not go to China. ≠“I would not go to China”
- (9) a. Go to China? ≠“Would you go to China?”
 b. Not go to China? ≠“Would you not go to China?”
- When do you go to China?
- (10) a. Finish my thesis first. ≠“I should finish my thesis first”
 b. Not finish my thesis first. ≠“I should not finish my thesis first”
- (11) a. Finish your thesis first? ≠“Should you finish your thesis first?”
 b. Not finish your thesis first? ≠“Should you not finish your thesis first?”

The sentences in (8)-(11) can be ruled out for the same reasons that modals could not undergo aux drop, as analyzed in Section 2.3 of Chapter 2. All sentences in which the CP has been truncated are subject to full interpretation. Neither the factative effect nor any other semantic process can recover the semantic material which modal auxiliaries contain once those auxiliaries have been deleted.

A third prediction of the analysis involves the tense interpretation of present and perfect constructions. Progressive and perfect constructions which have undergone subject + aux drop should be interpreted in the present tense in line with

the factative effect. In progressive and perfect constructions, morphology which appears on the main verb (*-ing* or *-ed/-en*) marks those constructions as either progressive or perfect. Only the tense information associated with the progressive or perfect auxiliary is lost when CP truncation occurs. As discussed in Section 2.3 of Chapter 2, a sentence which lacks overt tense marking can receive a tense interpretation which is consistent with the factative effect. Progressive and perfect constructions must receive present tense interpretations. The sentences in (8)-(11) above demonstrate that future tense progressives and perfects, which employ the modal auxiliary *will*, cannot undergo CP truncation- the future tense marker is lost and cannot be recovered. The sentences below indicate that past tense interpretations for deleted auxiliaries are not possible either.

- Why didn't you go to the movie?
 (12) Seen it already. ≠“I had seen it already”
- Why did you go to the movie?
 (13) #Not seen it yet. ≠“I had not seen it yet”
- (14) a. Seen the new movie yet? ≠“Had you seen the new movie yet?”
 b. Not seen the new movie yet? ≠“Hadn't you seen the new movie yet?”
- Why didn't you go to the movie?
 (15) Washing my laundry. ≠“I was washing my laundry”
- Why did you go to the movie?
 (16) #Not washing my laundry. ≠“I was not washing my laundry”
- (17) a. Washing laundry? ≠“Were you washing laundry?”
 b. Not washing laundry? ≠“Weren't you washing laundry?”

While sentences such as (12) would be acceptable in present tense contexts, they cannot be used to answer the questions asked here. Similarly, while sentences like those in (14) are grammatical, they must receive a present tense interpretation. The

forms in (13) and (16) seem particularly odd in the provided contexts because the prompt requires past tense response, but the truncated forms in these sentences do not allow for a past tense interpretation.

A few problems aside, the majority of the data regarding subject + aux drop fall neatly in line with the analysis which has been put forth so far. Subject + aux drop is licensed by yes/no interrogatives, and it is sensitive to the difference between sentential negation and constituent negation, just as aux drop only structures are. Both modal auxiliaries and auxiliaries which carry past tense prevent the full interpretation of a sentence which has undergone CP truncation, blocking subject + aux drop. The primary difficulty that the subject + aux drop data poses to this analysis comes from declarative sentences such as those in (18)-(23) below, which undergo subject + aux drop even though the movement of auxiliaries from T-to-C is not licensed.

4.3. Subject + Aux Drop in Declaratives- Why Doesn't it Conform?

A final prediction which this analysis makes is that declarative sentences will not be compatible with subject + aux drop. While T-to-C movement is expected in yes/no questions, it is not usually licensed in declaratives. If the auxiliary does not appear in the left periphery, it should not be eligible for deletion. Surprisingly, the data show that subject + aux deletion is frequently possible in declarative sentences.

- Why don't you come eat with us?
(18) a. Washing the car right now.
b. Watching my weight these days.

- Where is he, anyway?
(19) a. Not washing the car!
b. Not doing his homework!

- Do you want to go to the new movie?
(20) Seen it already.

- Why are you sick?
(21) *Eaten an entire pizza.

- Why is he at that movie?
(22) *Not seen it yet.

- Why is he so sick?
(23) Not eaten in a week.

These sentences are troublesome to the present analysis not only because declaratives are frequently compatible with subject + aux drop, but also because the declaratives in (18)-(23) do not seem to behave consistently- even getting consistent judgments regarding the grammaticality subject + aux drop in declaratives (both affirmative and negative) presents serious difficulties. The problems posed by sentences such as those seen above, along with the other problems in the data regarding subject + aux present, must be considered.

While declaratives are troublesome, they are not wholly unexplainable. To resolve the apparent inconsistencies in the data, phonological processes such as contraction should be considered.

- (24) a. AM washing the car.
b. ARE going to the play.
c. IS finishing his homework.

While the sentences in (24) are grammatical sentences, they can only have a contrastive interpretation. In other words, the various forms of the progressive auxiliary *be* can only stand alone at the beginning of a sentence if they serve a contrastive function. Normally, these progressive auxiliaries would be contracted with subject pronouns or negation (if present), as in (25).

- (25) a. I'm washing the car.
b. You're going to the play.
c. He's finishing his homework.

Note that these sentences do not carry the contrastive interpretations of their counterparts in (24). To review, auxiliaries which are expected to undergo contraction in sentences such as (25) cannot stand alone at the beginning of a declarative sentence unless they serve a contrastive (focus) role, as in (24).

This returns us to the original problem- declaratives which undergo subject + aux drop via CP truncation, even though T-to-C auxiliary movement is not licensed by the syntax.

- Why don't you come with us?
(26) a. Washing the car.
b. Watching my weight.
c. Reading a book for English class.
d. Doing my homework.

These sentences do not have the contrastive interpretation of the sentences in (24). If the progressive auxiliary were to appear overtly in these sentences, it could only appear at the beginning of the sentence. However, as seen in (24), progressive auxiliaries cannot appear sentence initially in declaratives unless they are contrastive and receive stress. The progressive auxiliary is therefore forced to contract with the pronominal subject. As discussed earlier, if two elements have contracted with one

another, one cannot drop from the derivation without the other dropping as well. If the subject moves to the left periphery and CP truncation occurs, the auxiliary must delete along with the subject, resulting in the forms seen in (26).

Negative progressive constructions which undergo CP truncation show a similar pattern with respect to subject + aux drop.

- Where is she, anyway?
- (27) a. Not washing the car.
b. Not watching the movie.
c. Not reading her book.
d. Not doing her homework.

Just like the sentences in (26), the progressive auxiliary must contract since it does not serve a contrastive purpose. When the auxiliary contracts with the subject pronoun and the subject pronoun is deleted through CP truncation, the auxiliary must delete as well. This yields the sentences in (27). Somewhat surprisingly however, the progressive auxiliary frequently appears overtly at the beginning of these negative sentences.

- Where is he, anyway?
- (28) a. Isn't washing the car.
b. *Is not washing the car.
c. Isn't reading his book.
d. *Is not reading his book.

- Where are they, anyway?
- (29) a. Aren't washing the car.
b. *Are not washing the car.
c. Aren't reading their book.
d. *Are not reading their book.

- Where are you, anyway?
- (30) a. *Amn't washing the car.
b. *Am not washing the car.
c. *Amn't reading my book.
d. *Am not reading my book.

Whether or not a particular auxiliary can contract with negation clearly seems to be playing an important role in the acceptability of the forms above. As noted earlier, the progressive auxiliary cannot stand by itself at the beginning of a sentence unless it serves a contrastive function. This permits sentences such as (28)b and (28)d to be ruled out. The auxiliary must contract with something. In (28) there are two options. If the auxiliary contracts with the subject, it must drop with the subject when CP truncation occurs (as in (27)). If the auxiliary contracts with negation (which is also possible for the forms *is* and *are*) the auxiliary does not move to the left periphery and does not delete when CP truncation occurs. This allows forms such as (28)a and (28)c. The importance of contraction to negation can be seen in (30). When the progressive auxiliary appear in the first person (*am*), it cannot contract with negation (there is no *amn't*). In first person singular sentences, the progressive auxiliary is forced to contract with the subject, ruling out (30)a and (30)c.

- Where are you, anyway?
(31) a. Ain't washing the car.
b. Ain't reading my book.

To the extent that speakers will accept the non-standard contracted form *ain't*, the sentences in (31) are grammatical. This further supports the theory that contracting plays a critical role in licensing subject + aux drop in declarative sentences.

Perfect constructions behave somewhat differently from progressive constructions with respect to subject + aux drop.

- Do you want to go to the new movie?
(32) a. Seen it already.
b. *Have seen it already.

- How are the Jayhawks doing this year?
- (33) a. ?Beaten the Tigers.
b. *Have beaten the Tigers.

- Why are you sick?
- (34) a. *Eaten an entire pizza.
b. *Have eaten an entire pizza.

- Are you taking care of the problem?
- (35) a. *Spoken with the dean.
b. *Have spoken with the dean.

These perfect constructions are not consistent with respect to the grammaticality of the subject + aux drop sentences. Sentence (32)a is somewhat better than (33)a and considerably better than (34)a and (35)a, even though there do not seem to be any significant syntactic differences between these structures. This may be due at least partially to the fact that it is quite difficult to construct acceptable prompts for these sentences. Regardless, the constructions in (32)-(35)a are, at the very least, better than their counterparts in (32)-(35)b, in which the auxiliary stands by itself at the beginning of the sentence instead of contracting. Just like the progressive constructions in (24), these sentences are only acceptable when they are contrastive and the progressive auxiliary is stressed, as below.

- (36) a. HAVE seen it already.
b. HAVE beaten the Tigers.
c. HAVE eaten an entire pizza.
d. HAVE spoken with the dean.

It is difficult to say why, in general, perfect forms which have undergone CP truncation are less acceptable than corresponding progressive forms. At any rate, perfect forms do follow the same general rules which dictate the acceptability of

progressive constructions in subject + aux drop contexts. Auxiliaries cannot stand alone at the beginning of a sentence unless they are contrastive.

Perfects also display interesting behavior when they appear in negative declaratives. Just like affirmative perfects, they are less acceptable than their progressive counterparts.

- Why is he at the movie?
- (37) a. *Not seen it yet.
b. *Has not seen it yet.
c. Hasn't seen it yet.
- Why is he so sick?
- (38) a. *Not eaten in a week.
b. *Has not eaten in a week.
c. Hasn't eaten in a week.
- How are the Tigers doing this year?
- (39) a. *Not beaten anyone good.
b. *Have not beaten anyone good.
c. Haven't beaten anyone good.
- Are you taking care of the problem?
- (40) a. *Not spoken with anyone yet.
b. *Have not spoken with anyone yet.
c. Haven't spoken with anyone yet.

Again, this could be due to difficulty of constructing prompts. Sentences such as (37)b, as expected, are ruled out since auxiliary *have*, which normally undergoes contraction, cannot stand alone sentence initially unless it is contrastive. Since forms such as (37)c have contracted with negation, they are perfectly acceptable. Somewhat unexpectedly, forms like (37)a are ungrammatical. This contrasts sharply with the behavior of the progressive constructions in (19). This difference can be attributed to the fact that, for many speakers of American English, the perfect auxiliary cannot contract with subject pronouns in negative contexts.

- (41) a. *I've not seen it yet.
 b. *He's not eaten in a week.
 c. *They've not beaten anyone good.
 d. *I've not spoken with anyone yet.

In forms like (37)a, the auxiliary cannot stand alone since it is not contrastive. As seen in (41), it also cannot contract with the subject pronoun. Therefore, it cannot drop, even if the subject moves to the left periphery and CP truncation applies. The only remaining possibility is that the perfect auxiliary remains low in the derivation and contracts with negation. Because the perfect auxiliary cannot move to the left periphery in negative declarative contexts, subject + aux drop is always blocked. Putting stress on negation improves forms like those in (40)a and (40)b somewhat.

- Are you taking care of the problem?
 (42) a. Have NOT spoken with anyone yet.
 b. ?NOT spoken with anyone yet.

When the negative element not is stressed, it cannot undergo contraction with the auxiliary, allowing (42)a. The result of subject + aux drop is the questionable sentence in (42)b. It is not particularly surprising that the result here is questionable, given the similar pattern seen in (32)-(36).

4.4. Summary

One of the fundamental claims of this analysis is that when CP truncation applies it must delete the entire CP, not just a portion of it. This chapter has investigated the application of CP truncation when both topical subjects and auxiliaries appear in the CP. Not surprisingly, the restraints which prevent aux drop (discussed in Chapter 2) and the restraints which prevent subject drop (discussed in Chapter 3) are both relevant in determining when subject + aux drop can take place.

Subject + aux drop sentences, for example, receive their tense interpretation following the same pattern as sentences which display aux drop without corresponding subject drop. The availability of phonological contraction shows significant effects in both cases of subject + aux drop and in cases of subject drop without corresponding aux drop. In most situations, accounting for subject + aux drop sentences is simply a question of applying the analysis laid out in the first three chapters of the present work.

In a few situations, however, the subject + aux drop data is not as clean as the data regarding subject drop and aux drop independently. Subject + aux drop sometimes produces questionable sentences which are difficult to judge. These problematic data do pose some difficulties to the theory of CP truncation proposed in this paper. This analysis, however, can account the vast majority of the data by appealing to various syntactic and phonological restraints on the movement of subjects, auxiliaries, and negative elements to the CP. Specifically, the availability of phonological contraction often plays an important role in determining which subjects, auxiliaries, and negative elements are forced to move to the left periphery, which are forced to remain lower in the derivation, and those which can optionally undergo movement to the CP layer.

Somewhat troubling for this analysis is the acceptability of subject + aux drop in many declarative contexts, since auxiliaries normally do not move to the left periphery in declaratives. To add to these difficulties, progressive and perfect constructions behave differently with respect to the availability of subject + aux drop

in declaratives; progressives are much more likely to be acceptable than perfects. This asymmetry between the behavior of progressives and the behavior of perfects is not seen in other cases where CP truncation has applied. While the availability of contraction with certain forms and not with others can account for some of these difficulties, there are still some open questions regarding declarative sentences with both dropped subjects and dropped auxiliaries.

Chapter 5. Further Issues

5.1. An Overview of the Open Questions

The final section of this paper is divided into two distinct parts. First, there will be a brief discussion of some of the licensing conditions on both subject drop and auxiliary drop which I have not discussed in great detail here, but which could provide interesting avenues for future research. Second, I will consider the possibilities presented by applying the hypothesis put forth in this thesis to a variety of typologically diverse languages. Based on the analysis developed in this thesis, there is no reason to believe that CP truncation (and resulting subject and auxiliary drop) should be restricted exclusively to English. However, there are language specific properties which could prevent subject drop and auxiliary drop when CP truncation applies.

5.2. Passives

The auxiliary verb *be* is not used exclusively as a progressive in English. It also appears in passive constructions. The behavior of passive constructions could be interesting to a CP truncation analysis for several reasons. A quick survey of passives constructions shows that they demonstrate the same properties as other auxiliaries which may be deleted in English. First, they move from T to C in interrogatives.

- (1) a. The paper **was** written by Socrates.
b. **Was** the paper written by Socrates?
- (2) a. The book **is** read on the porch.
b. **Is** the book read on the porch?

Auxiliary movement accounts for the different word orders in the declarative sentence in (1)a and the interrogative sentence in (1)b. The passive auxiliary has moved to the left periphery in (1)b. In line with my analysis of similar auxiliary structures, I will assume that it has moved to the Force position.

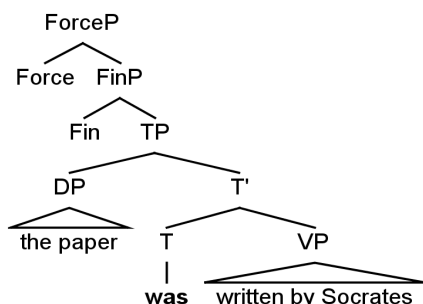


Figure 5- 1

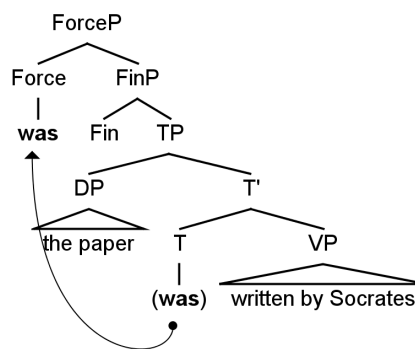


Figure 5- 2

Secondly, like progressive and perfect constructions, passive constructions are morphologically marked with *-en* on the main verb.

- (3) a. **Is** this cornbread eaten on Sundays?
 b. **Was** that movie seen by the entire class?
 c. **Is** this novel written by Steinbeck?

Given these two properties, it is not surprising that the deletion of passive auxiliaries results in grammatical sentences.

- (4) a. ~~Was~~ this paper written by Socrates?
 b. ~~Is~~ this cornbread eaten on Sundays?
 c. ~~Was~~ this movie seen by the entire class?

However, the data are somewhat problematic; aux drop does not work as well as expected with determiners such as *the* and *a*.

- (5) a. *~~Was~~ the paper written by Socrates?
 b. *~~Is~~ the cornbread eaten on Sundays?
 c. *~~Was~~ a movie seen by the entire class?

This suggests that CP truncation can occur in passive sentences, but that there are definiteness restrictions on the subjects of the truncated passive sentences. While the data consistently show this pattern, there is no obvious reason that the definiteness of the subject should affect the availability of these sentences.

5.3. Copulas

The verb *be* can also be used as a copula in English. While copulas are not auxiliaries, the two verbal forms do show similar behavior in several areas central to the availability of aux drop in English. Like auxiliaries, copulas undergo T-to-C movement in English interrogatives. In interrogative copular constructions, the copula must begin in V as the main verb and raise to T before T-to-C movement can occur.

- (6) a. He **is** happy about the management change.
b. **Is** he happy about the management change?

- (7) a. She **is** red from embarrassment.
b. **Is** she red from embarrassment?

- (8) a. They **are** stuffed from the pizza.
b. **Are** they stuffed from the pizza?

Despite the difference in where the moved element is base generated, the resulting structure of copular in the left periphery is identical to the structure seen in constructions which employ auxiliaries.

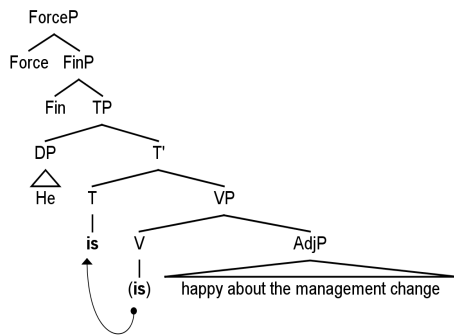


Figure 5- 3

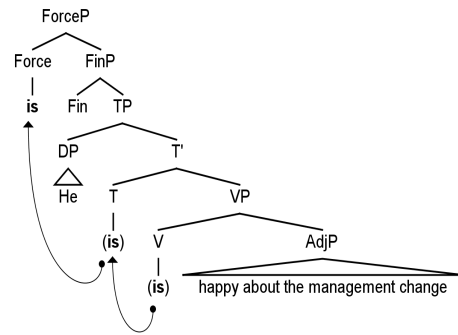


Figure 5- 4

Copulas are also typically analyzed as carrying very little semantic information by themselves. In English they carry tense and link the subject to its predicate, but do not contribute in any other way to the meaning of the sentences they appear in. This set of properties is quite similar to the set of properties for the auxiliary *do*. There is nothing in the present theory which rules out copula drop in interrogatives. This is consistent with the English data, which show that in many cases copula drop is available.

- (9) a. **Is** he happy about the management change?
 b. **Is** she red from embarrassment?
 c. **Are** they stuffed from the pizza?

The copula *be* is, by definition, stative (and therefore atelic) in nature. While each of the sentences in (9) is grammatical, each must be interpreted in the present tense, in keeping with the factative effect. Past tense interpretations are not possible with copula drop.

- (10) a. ***Was** he happy about the management change?
 b. ***Was** she red from embarrassment?
 c. ***Were** they stuffed from the pizza?

The fact that, at least in a cursory evaluation, copula drop patterns identically with aux drop further supports a CP truncation analysis of subject drop and aux drop.

5.4. Beyond English

There is nothing in the present analysis which restricts the application of CP truncation exclusively to English. In fact, the CP truncation proposed here is a powerful operation which predicts the existence of subject and aux drop in a variety of languages, as long as they share several critical typological similarities with English. Languages with distinct typological properties, however, are predicted to show different behavior with respect to CP truncation.

5.4.1. Subject (Topic) Drop

Throughout this paper, I have used the term “subject drop” to refer to English subjects which do not appear overtly at spell-out. This terminology is useful in describing English sentences, since only DPs which at one point appeared in Spec TP as subjects are eligible for deletion. According to the present hypothesis, however, these subjects are only eligible for deletion because they are topics which have moved to the left periphery. Non-subjects in English can undergo topicalization and move to the left periphery. Along the lines of Erteschik-Shir (2007), this analysis assumes that these elements are not true topics. Instead these elements play a focal or contrastive role. A cursory study of the literature on topics reveals that different languages have different requirements on what can be a topic and what cannot, as well as what structural positions topics can move to the left periphery from. The availability of topic drop from a variety of structural positions in Chinese, discussed

in Chapter 3, highlights some of these important differences. The data are repeated below.

Speaker A:
Zhangsan kanjian Lisi le ma?
Zhangsan see Lisi LE Q
“Did Zhangsan see Lisi?”

Speaker B:
(11) a. Ta kanjian ta le.
he see him LE
“He saw him”
b. *e* kanjian ta le.
“[He] saw him.”
c. Ta kanjian *e* le
“He saw [him].”
d. *e* kanjian *e* le
“[He] saw [him]”. (Huang 1984)

I assume, based on this data, that object topics as well as subject topics can be topicalized in Chinese, resulting in the null elements (both subjects and objects) in (11).¹² This accounts for the differences between these two languages. Grammatical sentences result from CP truncation only if topics (not topicalized focal or contrastive elements) are deleted. While CP truncation may be applied universally, the types of DPs which can undergo deletion could vary greatly from language to language depending upon which elements can appear as topics in the CP. The evidence from Chinese, Dutch, Danish, and Catalan considered in this paper suggest that the specific properties of topic and topicalization are highly language specific.

¹² This analysis is consistent with Johnson’s treatment of elided VPs as topics which have moved to the left periphery- anything which has moved to the left periphery and can semantically recovered is eligible for deletion.

5.4.2. Aux Drop

The English auxiliary system has several properties which allow aux drop through CP truncation under some circumstances, but disallow it in others. There are two requirements which must be met for aux drop to be licensed in English. First, the auxiliary must lack any semantic content outside of tense marking (such as *do*) or that semantic content must be marked on the main verb (as in progressives and perfects). Second, deleted auxiliaries must undergo T-to-C movement. There are several distinct typological categories which would provide excellent test cases for the application of CP truncation outside of English.

First, it would be interesting to look at a language which is typologically similar to English with respect to the properties mentioned above. It would have to have auxiliaries which are either marked on the main verb or void of semantic content outside of tense. These auxiliaries must also move to the left periphery. Any time that all of these conditions are met, this analysis of CP truncation predicts that aux drop will be available. It stands to reason that languages which are typologically similar to English will behave similarly with respect to aux drop.

If, on the other hand, a language contains no recoverable auxiliaries (such as auxiliaries which carry only tense information or which are morphologically marked on the main verb), CP truncation cannot create sentences with null auxiliaries, even if those auxiliaries have moved to the left periphery. In fact, CP truncation (including topic drop) should be blocked when an auxiliary which cannot be recovered appears in the left periphery. A language which never allows T-to-C movement of auxiliaries

will also disallow aux drop sentences. If the auxiliaries do not move to the left periphery, they cannot be deleted under CP truncation. In such a language, however, the presence of modal auxiliaries should never block topic drop, since the auxiliaries which cannot be recovered do not appear in the CP layer and are not eligible for deletion in the first place.

A reasonable next step in testing the present hypothesis of subject and aux drop through CP truncation would be to identify languages which fall into the typological categories specified above. Once these languages have been identified, judgments on subject drop, aux drop, and subject + aux drop sentences could be gathered from speakers of languages belonging to each typological category. The result of such an analysis would yield evidence which either support the present theory or suggest that modifications are necessary to account for the behavior of languages other than English.

5.5. Summary and Conclusion

The primary objective of this paper has been to propose a set of rules to account for the appearance of sentences which lack overt subjects or auxiliary verbs in English. Despite the large linguistic literature on English, this is an area which remains largely unexplored. I have focused on the syntactic conditions which restrain these deletion processes, noting that these elements can only undergo deletion only if they have also undergone movement to the left periphery (although semantic and phonological considerations frequently play significant roles as well). This account of syntactically driven deletion via movement to the left periphery is, in many ways,

similar to the account of VP ellipsis put forth by Johnson (2001). The analysis developed here accounts for the vast majority of the English data. Furthermore, it lays down clear predictions for the availability of null subjects and null auxiliaries outside of English, both in languages which are typologically similar and in those which are quite different.

Appendix: Progressives and Perfects as Statives

This analysis has assumed, based on the interpretation of aux-less progressive and perfect sentences, that progressives and perfects have stative qualities and may be grouped with statives with respect to the factative effect. The split between eventive and stative verbs was first proposed by Vendler (1967). The agency tests created by Lakoff (1966) are frequently used to classify verbs as either eventive or stative. Simply put, eventive verbs like *run*, *talk*, and *read* may appear with agents, but stative verbs, such as *like*, *feel*, and *see*, cannot. Katz (2003) expanded these agency tests to include perfect constructions. Each of the following agency tests comes from Katz (2003). Additionally, I will include progressive constructions as well as perfect constructions in the agency tests.

Only stative verbs may appear in VP small clauses. Eventive verbs result in ungrammatical sentences. Perfects pattern with statives in this test; they are eligible to appear in small clauses.

- | | |
|---|-------------------|
| (1) a. *Thelma believed Hans to kiss Lin. | eventive |
| b. Thelma believed Hans to love Lin. | stative |
| c. Thelma believed Hans to have kissed Lin. | perfect Katz 2003 |

Progressives also pattern with statives in this test.

- | | |
|---|-------------|
| (2) Thelma believed Hans to be kissing Lin. | progressive |
|---|-------------|

A second test of agency centers on deontic and epistemic interpretations of the modal auxiliary *must*. A deontic interpretation implies obligation (“You have to kiss Lin.”) whereas an epistemic interpretation means that accumulated evidence suggests that a

certain thing is true (“Based on what I have seen, it must be the case that you kiss Lin.”).

- | | |
|------------------------------|---------------------------------|
| (3) a. You must kiss Lin. | eventive, deontic and epistemic |
| b. You must love Lin. | stative, epistemic only |
| c. You must have kissed Lin. | perfect, epistemic only |
- Katz 2003

When used in conjunction with an eventive verb in (3)a, both the deontic and epistemic interpretations are possible. With statives and perfects in (3)b-c the deontic interpretation is ruled out and only the epistemic is possible. As in the previous test, progressives show a similar pattern, allowing only epistemic interpretations.

- | | |
|------------------------------|-----------------------------|
| (4) You must be kissing Lin. | progressive, epistemic only |
|------------------------------|-----------------------------|

This test provides further evidence that progressive and perfect constructions are grouped with stative constructions in a variety of syntactic phenomena.

Agency may also be tested by using eventives, statives, perfects, and progressives in imperative constructions. Eventives are perfectly acceptable as imperatives in an “out of the blue” contexts. Statives and perfects, on the other hand, are highly degraded at best.

- | | | |
|----------------------|----------|-----------|
| (5) a. Kiss Lin! | eventive | |
| b. *Love Lin! | stative | |
| c. *Have kissed Lin! | perfect | Katz 2003 |

Progressives pattern similarly.

- | | |
|----------------------|-------------|
| (6) *Be kissing Lin! | progressive |
|----------------------|-------------|

A final test of agentivity places eventive and stative predicates in progressive constructions.

- | | |
|---------------------------------|----------|
| (7) a. John is kissing Mary. | eventive |
| b. *John is loving Mary. | stative |
| c. *John is having kissed Mary. | perfect |

While this is acceptable with eventive verbs, ungrammaticality results with statives and perfects. As above, eventive predicates appearing in perfect constructions pattern with stative predicates. Unfortunately, this test cannot be used with progressives due to the nature of the test. Placing a progressive form in a progressive context results in ungrammaticality for syntactic reasons entirely independent from the eventive or stative nature of the progressive.

While most tests of agentivity support the hypothesis that progressives and perfects are stative in nature, there are a few tests which yield troublesome findings. Vlach (1981) approaches eventives and statives in a slightly different way, looking at what he calls “discourse overlap”. While the sentences in (8) appear quite similar on the surface, they actually have quite different interpretations.

- | | |
|--|------------|
| (8) a. Max was here when John arrived. | |
| b. Max ran when John arrived. | Vlach 1981 |

Since the verb in the matrix clause in (8)a is stative, the sentence receives a “discourse overlap” reading, in which Max being here coincides with John arriving. The eventive verb ran in (8)b changes the interpretation of the sentence radically. Max does not and cannot begin to run until after John arrives; the discourse overlap reading is not possible.

If progressive and perfect eventive predicates pattern with statives, the discourse overlap reading is expected when progressive and perfect constructions are placed in sentences like (8).

- (9) a. Max was running when John arrived.
b. Max had run when John arrived.

The progressive in (9)a behaves just as expected based on the results of previous tests. That is, John arrives during the event of Max running, which is similar to the interpretation of (8). The perfect in (9)b, however, poses an interesting problem. It cannot receive a discourse overlap reading, as the act of running must be completed before John's arrival. At the same time, it does not receive the reading typical of eventive verbs (as in (8)b), which requires the running to begin after John's arrival. So, while perfects cannot receive a discourse overlap reading, statives, perfects, and progressives do group together; in sentences like (9), the action in the matrix clause must be taking place before the action in the embedded clause.

There is a further issue with grouping eventive progressives and perfects together with statives based on the discourse overlap analysis, first discussed by Glasbey (1998). Many stative predicates take on an inchoative meaning when they are placed in sequence with other predicates.

- (10) Max was happy when John arrived.

While the discourse overlap reading is readily available in (10), the interpretation that Max became happy at John's arrival is equally possible. This presents a small problem, since progressives and perfects cannot receive an inchoative interpretation (see (9)).

Katz (2003) points out another discrepancy in the behavior of progressives and perfects which could pose a much larger problem for the current analysis. While

progressive and stative constructions behave similarly with respect to the adverb *still*, perfect constructions behave somewhat unexpectedly.

- (11) a. ?Hans still kissed Lin.
b. Hans still loved Lin.
c. ?Hans had still kissed Lin. Katz 2003

As before, progressives pattern with statives.

- (12) Hans was still kissing Lin.

While the past tense eventive (11)a and the perfect (11)c are degraded, the stative (11)b and progressive (12) sound quite natural. Note also that the adverb *still* can be interpreted as durative in (11)b and (12), while this durative reading is not possible for the eventive or perfect constructions in (11)a and (11)c. This is somewhat problematic, as eventive perfect constructions appear to be grouping with other eventive predicates instead of with stative predicates. Katz attempts a solution to this problem by arguing that sentences such as those in (11)-(12) are not merely testing agency, they are testing for a particular type of stative predicate.

Stative predicates, according to Kratzer, can be divided into two types: individual level predicates and stage level predicates. Individual level predicates generally refer to characteristics which are permanent and unchanging. On the other hand, stage level predicates are transitory and subject to change. Katz argues that (11)b represents a stage level predicate (the temporary property of being in love). He then suggests that perfect constructions are inherently individual level in nature, pointing out that other individual level stative predicates are also incongruent with the adverb *still*.

- (13) a. ?The number two is still prime.
 b. ?Napoleon is still short.
 c. ?Napoleon's horse is still white.

While it is quite natural to add adverbs of duration like *still* to stage level predicates (which have no inherent duration), using adverbs of duration with individual level predicates (which do have an inherent duration) is redundant and results in questionable readings. If it could be shown that eventive progressive constructions not only pattern with statives, but with individual level predicates, it could alleviate the problematic data in (11)-(12).

A variety of tests for individual and stage level predicates have been developed by Kratzer (1995). Unfortunately, most of these tests cannot be applied to progressive and perfect constructions. One individual level/stage level test which can be applied to progressives and perfects is known as the “bare plural test”. In this test, bare plural subjects (plural DPs which lack an overt determiner) appear in sentences with stative predicates. There are two possible semantic interpretations for sentences of this type- the “existential” interpretation and the “generic” interpretation. For example:

- (14) a. Firemen are available. stage level ✓generic, ✓existential
 b. Firemen are altruistic. individual level ✓generic, *existential

In (14)a, two interpretations are possible with the predicate *be available*. First, this sentence may mean that there exist firemen who are available (the existential reading). Second, it may mean that firemen, in general, are available (the generic reading). The similar sentence in (14)b has only one interpretation; that firemen, in general, are altruistic (the generic interpretation). The second existential interpretation (that there

exist firemen who are altruistic) is lost. The possible semantic interpretation(s) of the resulting sentences determines whether the predicate is individual or stage level.

Sentences which may be interpreted either existentially or generically contain stage level predicates. Those sentences which can only be interpreted generically contain individual level predicates. Unfortunately, these judgments are frequently quite difficult to make, especially in progressive and perfect contexts.

- (15) a. Firemen are rescuing cats ✓generic, ✓existential
 b. Firemen have rescued cats ✓generic, *existential

As expected, perfects and progressives show a split in their behavior in individual/stage level tests.

The results of this test mesh quite well with native speaker intuitions about progressives and perfects; perfects have a permanent quality which progressive constructions lack.

- (16) a. Bill is playing the tuba.
 b. Bill has played the tuba.

In (16)a, just because Bill is playing the tuba at the moment, that is no indication that he will be playing the tuba in five minutes, and there is certainly no indication that he will always be playing the tuba. Conversely, if Bill has played the tuba, as in (16)b, it will always be the case that he has played the tuba- it is a permanent quality of Bill that he has played the tuba.

Ultimately, it is not necessary to argue that progressives and perfects actually are stative predicates. This assertion would be very difficult to support given the readily attested semantic differences between these three types of constructions. For

the purposes of the present analysis, it is sufficient to note that there are important similarities between eventive progressive and perfect constructions on one hand and stative constructions on the other. This is attested by the fact that these constructions pattern similarly in a wide variety of syntactic constructions. As a result, I argue that the syntax and the semantics treat progressive constructions, perfect constructions, and stative verbs in similar ways, particularly with respect to tense assignment via the factative effect.

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