

Argument Movement and Case

Introduction to Syntax
Kyle Johnson

Case Theory

Pronouns have a different morphological form depending on where they stand in a sentence. When the pronoun is sister to a verb or preposition, it adopts one of these forms.

- (1) a. Mary sees them.
- b. Mary sees him.
- c. Mary sees us.
- d. Mary talked to them.
- e. Mary talked to him.
- f. Mary talked to us.

In these situations we say that the pronouns are in the Accusative Case. When pronouns are the first thing in another DP, they (often) have a different form.

- (2) a. Mary sees their hat.
- b. Mary sees his hat.
- c. Mary sees our hat.

We say that the pronouns are in the Genitive Case in these situations. And, finally, when pronouns are in the Specifier position of a finite IP, they take a third form.

- (3) a. They will see the hat.
- b. He sees the hat.
- c. We can see the hat.

In this situation, we say the pronoun is in the Nominative Case.

The Cases that pronouns express are, as my descriptions above reveal, all about where they are in the sentence. It's important to see that the actual meaning of a pronoun doesn't change with its Case. A nominative *she* has the same meaning that an accusative *her* does: they both are terms that refer to some specific singular female individual. The part of the form that signals Case, then, is just a reflex of the syntactic position a pronoun resides in. The other factors that determine the form of a pronoun are meaningful. They determine whether the pronoun refers to a singular or plural entity, whether that entity is female, masculine or neither and, finally, whether that entity is the speaker of the sentence, or an individual to which the sentence is directed, or not. We say that the morphological form of a pronoun, then, is determined

X and Y are "sisters" if they are both dominated by all the same phrases.

The form for the third person singular feminine pronoun is the same in both the positions in (1) and the positions in (2). It is *her*. This is generally regarded as accidental homophony.

2 Introduction to Syntax

by its Case, its number, its gender and its person. A full paradigm of English pronouns is in (4).

	<i>Nominative</i>	<i>Accusative</i>	<i>Genitive</i>
1 st , sing	I	me	my
1 st , plur	we	us	our
2 nd , sing	you	you	your
(4) 2 nd , plur	you	you	your
3 rd , sing, fem	she	her	her
3 rd , sing, masc	he	him	his
3 rd , sing, neut	it	it	its
3 rd , plur	they	them	their

We can write down the generalizations about where the three Cases are found with (5).

- (5) a. Nominative Case is assigned to the Specifier position of a finite IP.
- b. Genitive Case is assigned to the Specifier position of a DP.
- c. Accusative Case is assigned to the sister position of a verb or preposition.

Notice that in (5a) and (5c), the positions are defined with respect to a particular kind of head. It's not just any IP that puts a pronoun which begins it into the nominative Case, but just those that are headed by the tense morphemes or modals. And, similarly, it's not just any sister positions that makes a pronoun bear the accusative Case; it's just the sister positions of verbs or prepositions.

The condition on Accusative Case assignment does not allow adjectives, in particular, to assign Accusative to the position adjacent to them. This responds to the fact that we never find Accusative Case marked pronouns adjacent to adjectives. When we write out the sorts of Adjective Phrases that we discovered with phrase structure rules, one of the facts we discovered is that adjectives never have complements that are DPs. Since pronouns are DPs, it follows that pronouns also cannot be objects to adjectives.

But we might wonder what it is about adjectives that is responsible for them never selecting DP complements. Might it be something about the semantics of adjectives? Could there be something about the meaning that an adjective has that makes it ill-suited to take DP complements? I think that is unlikely. To see why, consider (6a).

- (6) a. It is true that balut kills.
- b. I believe that balut kills.

In (6), the adjective *true* and the verb *believe* are selecting the CP *that balut kills*. If we were to use our θ -role mode of description, we would say about these cases that *true* and *believe* assign *that balut kills* a θ -role. I don't know what that θ -role would be called, and I don't know what precise semantic

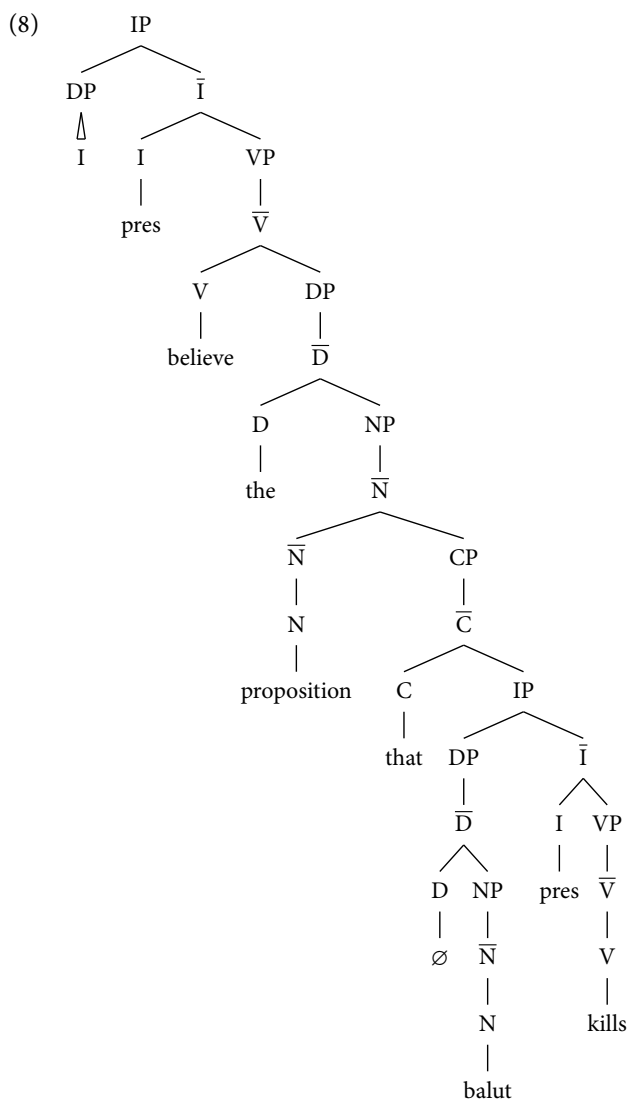
There are three so-called "persons" in English. The "first person" is the form a term takes when it refers to the speaker, the "second person" is the form a term takes when it refers to an individual to which the sentence is directed (the hearer)

The *it* in (6a) is an expletive.

relation it would encode, but I think that *believe* assigns its object the same θ -role in (7).

(7) I believe the proposition that balut kills.

In (7), the object argument of *believe* is a DP, in which the CP resides. Its parse is (8).



I conclude that the θ -role assigned to *that balut kills* is a θ -role that can also be borne by *the proposition that balut kills*. But one cannot substitute *the proposition that balut kills* into the object position of *true*. (9) is ungrammatical.

(9) * It is true the proposition that balut kills.

This is why I'm skeptical that the unavailability of DP objects to adjectives has to do with their meaning.

Maybe the argument in the previous paragraph is mistaken about the general exchangeability of *that balut kills* and *the proposition that balut kills*.

4 Introduction to Syntax

Perhaps the semantic relation between *believe* and its object allows these two to be interchangeable, but the possibly different semantic relation between *true* and its object does not. We can make another observation about the object of *true*, though, that leans against this way of thinking about the problem. One of the interesting things about *true* is that its argument can show up at the beginning of the IP it is in. So, alongside (9) is (10).

- (10) That balut kills is true.

We'll have to understand how these two sentences are manufactured. One idea would be to let the θ -role that *true* assigns be assigned either to its object position or to the subject position. No matter what the account turns out to be, however, I think it's clear that it is the same argument that shows up in the object position of (9) and the subject position of (10). But, now, consider (11).

- (11) The proposition that balut kills is true.

Here we see that, in this position, the argument can be expressed with the DP *the proposition that balut kills*. So here we see directly that *true* assigns a θ -role that is compatible with either a DP or a CP argument. But if a DP bears that θ -role, it cannot stand in object position but instead must stand in subject position.

So what is it about the object position of an adjective that prevents its argument from being a DP? One hypothesis that has gained wide currency is that it is because adjectives do not assign Accusative Case. That is, rather than seeing the absence of Accusative Case marked pronouns after adjectives as part of the generalization that adjectives don't select DP complements, we should see the generalization that adjectives don't select DP complements as a result of the fact that adjectives don't assign Accusative Case. We could do this by adopting (12).

- (12) The Case Filter
Every argument DP must be in a Case-marked position.

The idea, then, is that every argument DP is like a pronoun in needing Case to be expressed. If this is correct, the reason the θ -role assigned by *true* cannot be borne by a DP when it stands in its object position is because that is not a Case-marked position. Adjectives don't assign Case. By contrast, if the argument bearing that θ -role is in the Specifier of a finite IP, then it can be a DP, because that is a position to which a Case is assigned.

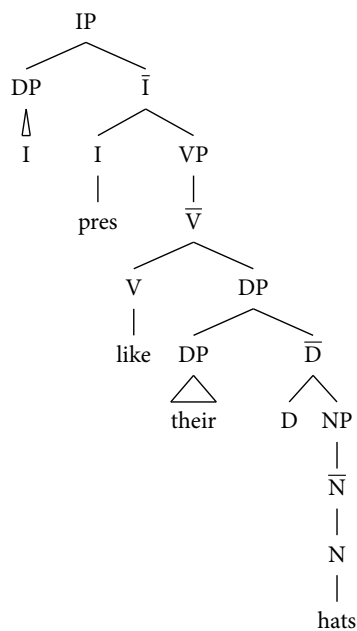
Notice that the Case Filter says that only argument DPs need be assigned Case. That is because when we look at DPs that are not arguments, but instead act semantically as modifiers, they are not forced to be in the positions we will discover are assigned Case. For instance, a modifying DP can follow an adjective, which we've just seen does not assign Case.

- (13) That balut kills was true this morning.

It appears to be only DPs that are arguments which are subject to the Case Filter.

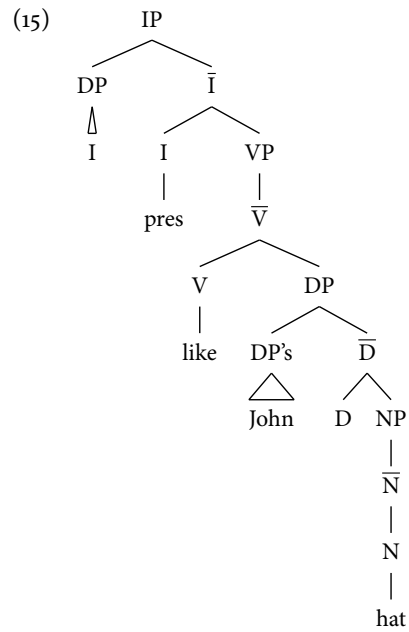
Nominative and Accusative Case can be seen as coming from specific heads. As we've seen, Accusative Case comes from verbs, and our earlier examples show us that prepositions are also capable of assigning Accusative Case. Nominative, by contrast, seems to come from I^0 — from those I^0 s that have a modal or tense morphology associated with them. What about Genitive Case? As it stands, we have simply stated where we see Genitive Case-marked DPs: they are in the Specifier position of another DP. The third person plural pronoun shows up as *their* in (14), for instance, because it is a DP in the Specifier of a larger DP.

(14) I like their hats.

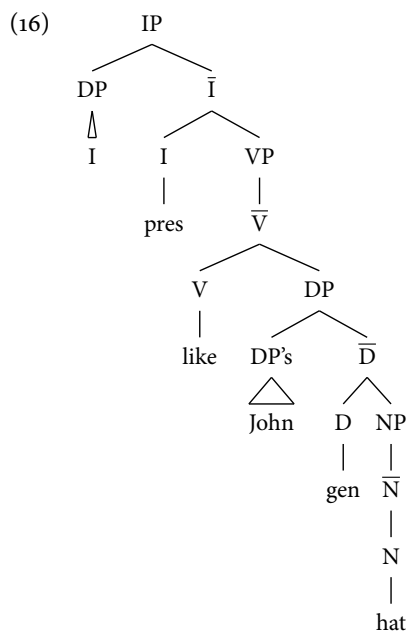


Note that Genitive is the one Case in English that has a phonological effect on DPs other than pronouns. The *s* in (15) can be seen now as a special instance of the Genitive Case morphology.

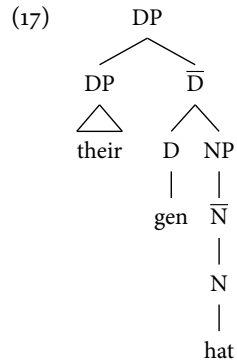
6 Introduction to Syntax



Is there a way of seeing these cases as being like the others in which Case is assigned? Can we identify a head that assigns Genitive Case? One proposal is that there is a special determiner whose sole function is to assign Genitive Case. In place of (15), this view gives to DPs with genitives in them the structure in (16).



A situation with a genitive pronoun would look like (17).



In both cases, the determiner *gen* assigns Genitive Case. The explanation, then, for why a DP cannot have both a determiner like, say, *the* in it as well as a Genitive Case-marked DP (see (18)) is that the *gen* determiner occupies the position that *the* would.

(18) * John's the hat.

This is the standard treatment of Genitive DPs. Let's adopt it

We've identified, then, the following three ingredients in what's known as "Case Theory."

- (19)
- a. Argument DPs must be in a Case-marked position. (Case Filter)
 - b. Verbs, Prepositions, finite I^0 and *gen* assign Cases.
 - c. A Case assigner assigns its Case to one particular position

What remains is to make explicit which position a Case assigner assigns its Case to. We'll look at this task in greater depth later, but right now we can make some simple descriptive observations.

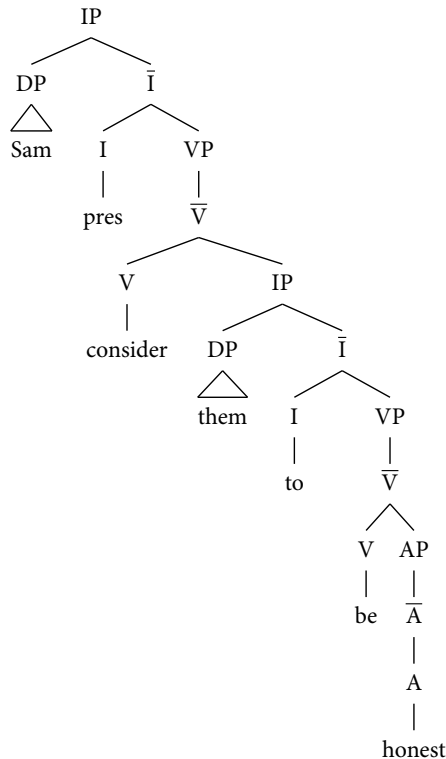
- (20)
- a. Accusative Case can only be assigned by a preposition or verb to the position that immediately follows the preposition or verb,
 - b. Genitive Case can only be assigned by *gen* to its Specifier position.
 - c. Nominative Case is assigned by finite I to its Specifier position.

Until we develop a better, more general, description of how Case is assigned, we will use the descriptions in (20) as our guideline.

Argument Movement

The description of where Accusative Case is assigned in (20a) is not quite right. Accusative Case marked pronouns can reside in certain Specifier of IPs; (21) is one such case.

- (21) Sam considers them to be honest.



These situations are rare in the languages that English is closely related to. They are sometimes called instances of "exceptional Case marking," (or ECM) and the infinitives in which it happens are sometimes called, "exceptional Case marking infinitives."

The pronoun *them* gets Accusative Case, but it is not an argument of the verb *believe*. Instead, it's the subject of the embedded infinitival clause. We need to change how (20a) describes the situations under which Accusative Case is assigned by verbs, then. One proposal, due to Tim Stowell, is (22).

Stowell (1981).

- (22) Accusative Case is assigned to the position adjacent to a verb or preposition.

This statement correctly captures the situation in (21), as well as those cases in which the Accusative Case marked pronoun is a complement. Note that, though there was nothing wrong with the description of Accusative Case assignment by prepositions in (20a), in order to find one condition for assignment of Accusative Case assignment, (22) changes the description of the condition for both verbs and prepositions.

Now, consider the example in (23).

- (23) Jerry is certain to like balut.

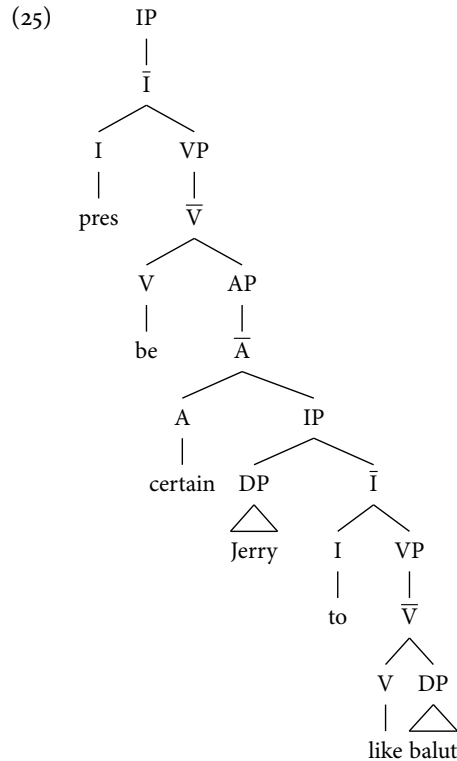
The infinitival complement to the adjective *certain* is a clause whose subject is *Jerry*. That is, *certain* does not assign a θ -role to *Jerry*, but instead *Jerry* gets its

θ -role from *like*. We can see this by noting that (23) has very much the same meaning that (24) does.

(24) It is certain that Jerry will like balut.

In both (23) and (24), *Jerry* is an argument of *like*, but not *certain*.

For these reasons, then, we should expect the parse in (25) for this example.



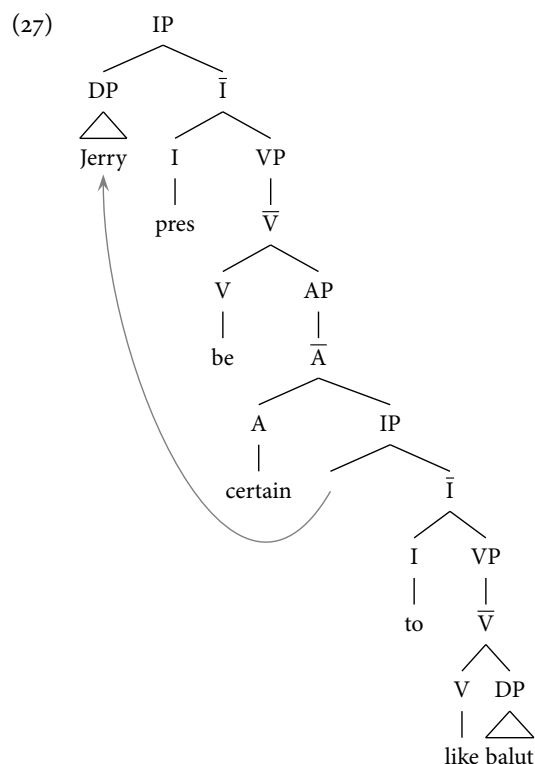
Our phrase structure rules won't produce (25) because they require that there be something in the Specifier of every IP. We'll see in a moment, though, that our phrase structure rules should allow for parses like these.

But this parse doesn't satisfy the Case Filter. The argument DP *Jerry* is not in a Case-marked position. The IP in whose Specifier it is in is not finite, nor is it adjacent to a verb. Rather than being ungrammatical, however, this sentence manages to be grammatical by relocating the DP *Jerry* into a Case-marked position. The rule that does this is called Argument Movement.

(26) Argument Movement

Move an argument XP into a Specifier position.

This rule creates the s-structure in (27) from (25).



The infinitives whose subject argument is moved by Argument Movement are oftentimes called “raising” infinitives, and the adjectives or verbs that select those infinitives are frequently called “raising verbs.” So: *certain* is known as a raising adjective.

This, then, requires a different model of syntax than we started with. Some sentences are not just produced by phrase structure rules. Some are created with the phrase structure rules in combination with rules like Argument Movement. Formally, then, we can think of sentences as a series of parses. The first parse in the series is produced by the phrase structure rules. If a rule applies to that parse, then it creates a new parse that is of the sort specified in the rule. In the case we’ve just looked at, this parse is the one that corresponds to what is spoken. That is, the parse that results from Argument Movement puts the words in the order that corresponds to the string we speak. In this case, then, the sentence is represented by two parses: one created by the phrase structure rules and the second created by Argument Movement applying to the first parse. The first parse in the series is called a “d-structure” or, sometimes, “deep Structure.” So here’s what grammar looks like now.

- (28) Every grammatical sentence must have a well-formed derivation, δ , where δ is:
- a series of parses: $\delta = (P_1, P_2, \dots, P_n)$, where
 - P_1 is formed by the phrase structure rules, and
 - P_n corresponds to what is spoken, and
 - Each $P_{i>1}$ is formed by some rule applying to P_{i-1} .

In the case we’ve just seen, the derivation is made up two parses, but it’s possible that there will be more parses in a derivation. Each parse will be formed from the previous by a single rule. As we learn more rules, we’ll see more com-

plicated derivations. The final parse will always correspond to what is spoken, and that parse is called an “s-structure” or “surface structure.”

The Case Filter is something that must be satisfied in an s-structure, but not a d-structure. The sentence in (23) is grammatical because Argument Movement creates from a d-structure that does not satisfy the Case Filter an s-structure that does. We can see also that some of our other conditions on grammatical sentences need not hold of both d-structure and s-structure. For instance, the Theta Criterion, in combination with the rules of θ -role assignment, requires that *Jerry* be in the Specifier of the IP headed by *to* in (23). That’s because *Jerry* gets an external θ -role from *like*, and external θ -roles are assigned to the closest Specifier of IP. *Jerry* is in this Specifier position in the d-structure parse, but after Argument Movement has applied, it no longer is. We want the Theta Criterion to hold of just d-structures, then.

Finally, as one can see by looking at (25), we need to change our phrase structure rules for IP. At present, those rules look like (29).

- (29) a. $IP \rightarrow DP \bar{I}$
 b. $IP \rightarrow CP \bar{I}$

These rules only allow for IPs whose Specifier position has something in it – either a DP or a CP. For Argument Movement to work, however, it must be possible for a d-structure to have an IP with nothing in its Specifier position. Into that Specifier position, Argument Movement puts something; in (23), that something is the DP *Jerry*. So we should add to our stock of Phrase Structure rules (30).

- (30) $IP \rightarrow \bar{I}$

We also saw, however, that there is a requirement that every IP have something in its Specifier position. We can see the need for the requirement by considering sentences like (31).

- (31) a. It snowed again.
 b. * Snowed again.

The verb *snow* doesn’t assign an external θ -role, and the *it* in this sentence is an expletive. As we can see from the ungrammaticality of (31b), this *it* is obligatory, and I credited this to the requirement that something occupy the Specifier of an IP. If the only rules that build IPs are those in (29), then this follows from the phrase structure rules. But now that we have to add (30), it no longer does. Moreover, this requirement must be something that holds of s-structures, but not d-structures. So, we’ll add a constraint to our grammar that simply requires that every IP have something in its Specifier position. This requirement is sometimes known by the name “EPP,” for obscure reasons. So we have (32).

- (32) EPP
 Every IP must have something in its Specifier position.

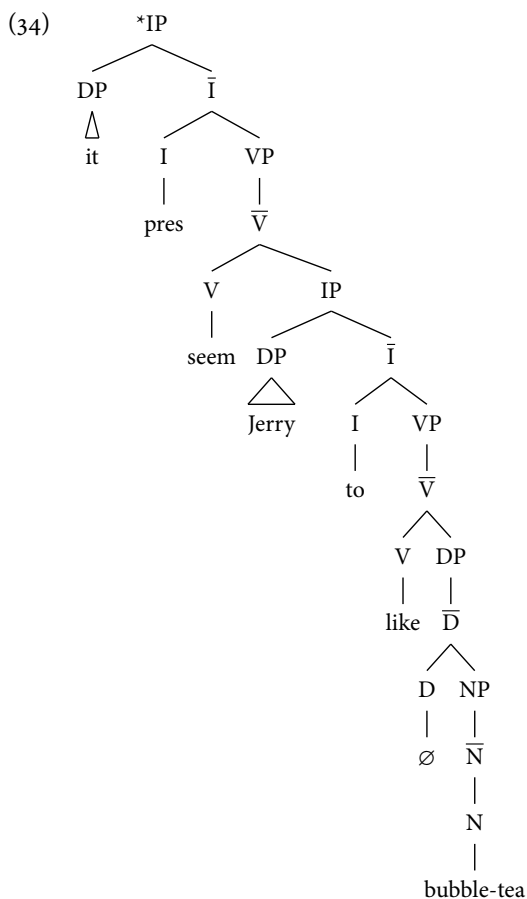
By “finite IP,” I mean an IP that is headed by tense morphology or a modal. We must let the EPP be a requirement of s-structure only. A d-structure can have a finite IP with an empty Specifier position. The reason the EPP is restricted to finite IPs is so that the Specifier of the IP headed by *to* in (27) can remain empty at s-structure without causing ungrammaticality.

So here’s a map of our conditions on grammatical sentences and what they hold of.

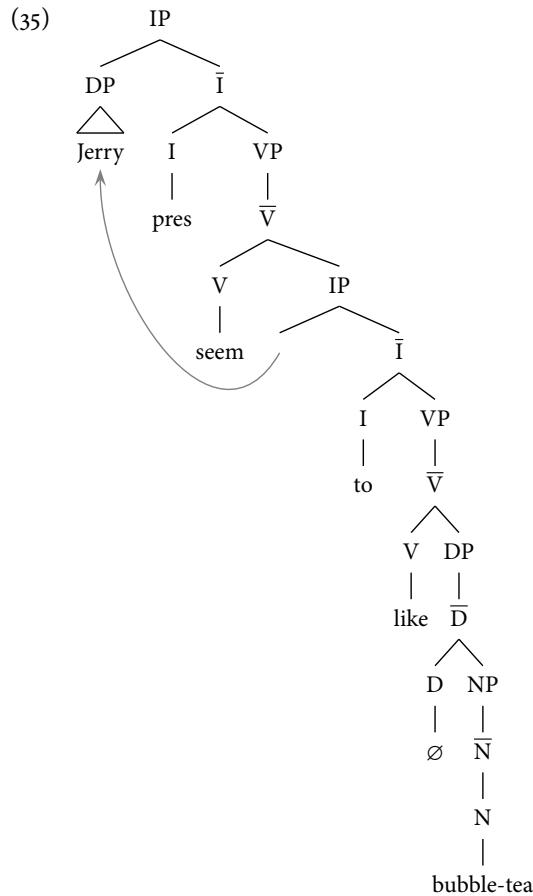
- (33) a. s-structure must satisfy Case Filter and EPP.
 b. d-structure must satisfy the Theta Criterion, the θ -role assignment rules and the \bar{X} Skeleton.

We can think of derivations as providing parses that, together, satisfy all of the conditions on grammatical sentences.

If the Case Filter is responsible for the ungrammaticality of (25), then we can deduce from the parallel ungrammaticality of (34) that some verbs are also not capable of assigning Case. If (34) is ungrammatical for the same reason that (25) is, then the DP *Jerry* must not be in a Case marked position. Because *Jerry* is adjacent to the verb *seem*, just where it should be to get Accusative Case, this wouldn’t follow from its position. It will follow only if *seem* is, unlike other verbs, unable to assign Accusative Case.



The grammatical version of this sentence involves Argument Movement, in the way that (35) illustrates.



What this indicates, then, is that we should let the Case assignment rules depend on the particular verb involved. The same, incidentally, is probably true of the other item that assigns Accusative Case in English: prepositions. There are some prepositions which select complements of the sort that we might imagine could be expressed with DPs, but are nonetheless, unable to combine with DPs. One of these is *because*.

- (36) a. She ran because the balut attacked.
 b. * She ran because the reason.

All of our Case assignment rules will now make reference to certain nearby heads.

- (37) a. Nominative Case is assigned to the Specifier of finite IP by finite I.
 b. Genitive Case is assigned to the Specifier of a DP headed by the genitive determiner.
 c. Accusative Case is assigned to the position adjacent to prepositions and verbs with Accusative Case.

We could rewrite these rules to emphasize the dependence Case has on certain items as in (38).

- (38) a. Modals and tense assign Nominative Case to their Specifier.
 b. The genitive determiner assigns Genitive Case to its Specifier.
 c. Accusative Case is assigned by a term that has it to a position it is adjacent to.

The Derived Subjects Hypothesis

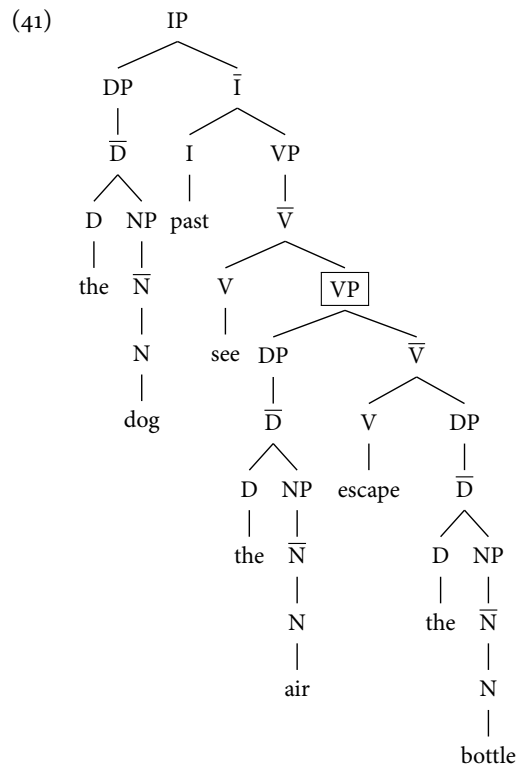
Consider (39).

- (39) The dog saw the air escape the bottle.

An interesting property of this sentence is that the object of *saw* is not *the air*. Unlike (40), (39) does not mean that the dog saw the air.

- (40) The dog saw the air.

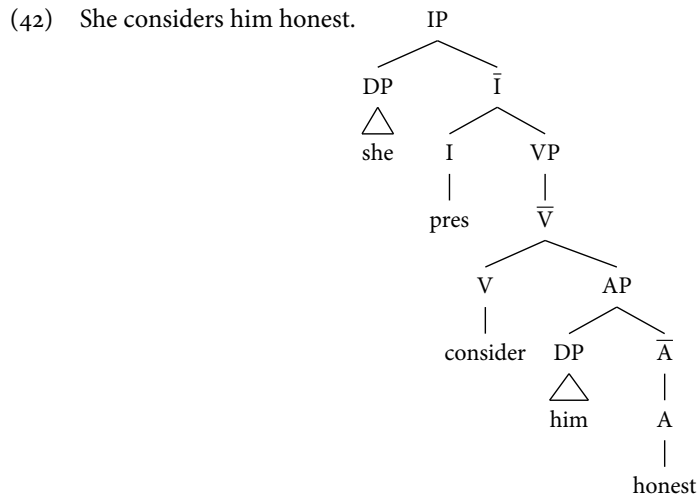
Instead, what (39) says is that the dog saw an event described by *the air escaped the bottle*. It's this phrase that is the object of *saw*. We should give to (39) the parse in (41)



This way of parsing examples like (39), as well as the name “small clause,” comes, again, from Tim Stowell. See Stowell (1978, 1989).

The boxed VP in (39) is called a small clause. One of the things we discover from this example, then, is that the external θ -role of a verb can be assigned not just to things in a Specifier of IP. Another thing we learn from this example is that VPs have Specifier positions.

Small clauses can also be APs; (42) is an example.



This parse captures the fact that the object of *considers* is not *him*, but is instead *him honest*. The θ -role that *him* gets, therefore, is not from *considers*. Instead, it is from *honest*, and this θ -role is assigned to the Specifier of AP. In fact, this example has a meaning that is very close to the one we see in infinitival complements like (43).

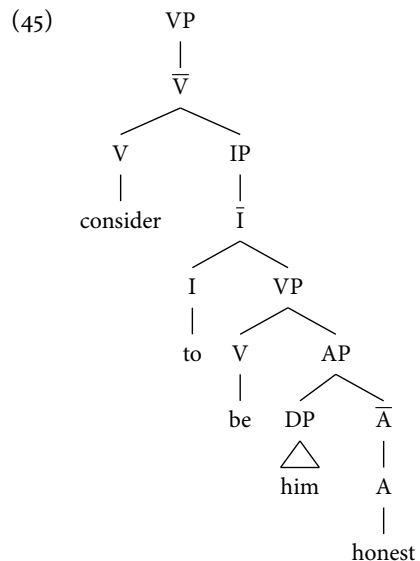
(43) She considers [_{IP} him to be honest].

The θ -role that *him* gets is the same in both sentences.

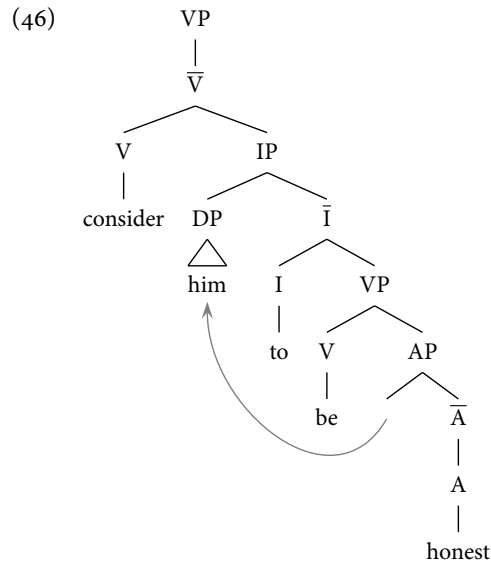
If these examples teach us that verbs and adjectives have Specifiers to which they may assign their external θ -role, then we should ask why we don't see subject arguments in these positions more often. Why aren't examples like (44) grammatical, for instance?

- (44) a. * I consider to be [_{AP} him honest].
 b. * Might be [_{VP} the air escaping the bottle].

Consider first (44a). The embedded IP in this example has the parse in (45).



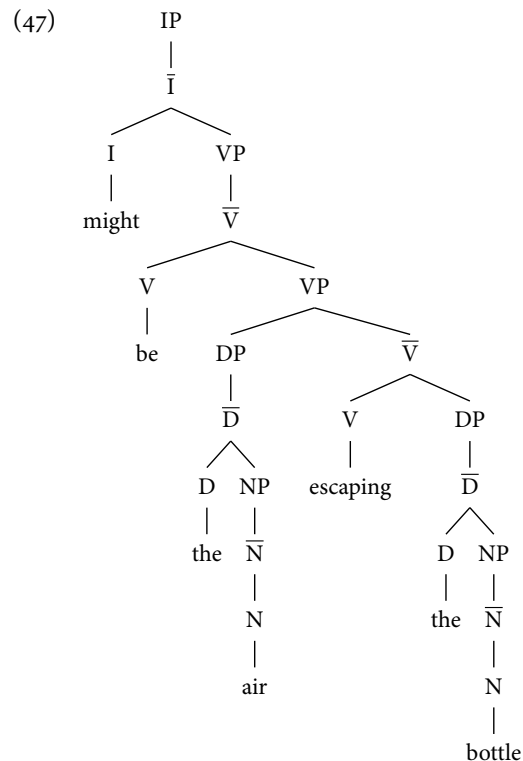
If *be* is a verb like *seem*, and therefore unable to assign Accusative Case, this structure will violate the Case filter. The argument DP *him* is not in a Case marked position. As in our other examples, this structure can be rescued by creating an s-structure that puts *him* into the Accusative Case marked position that immediately follows *consider*.



Unlike *seem*, there are some examples of *be* in English which seem to assign Accusative Case. One such example is *The killer is him*. It's possible that this *be* is a different verb than the *be* in (45), however. The *be* in (45) arguably has no meaning, whereas the *be* in *The killer is him* means something like what "=" in math means.

The Case Filter, then, can be used to explain this case.

Consider next the parse for (44b), which would look like (47).



Does the argument DP *the air* satisfy the Case Filter in this parse? It doesn't get Case from *be*, if we are right in guessing that *be* doesn't assign Accusative Case. But what about *escaping*? It is adjacent to this verb and this verb does assign Accusative Case. If we can prevent this, then this case too will violate the Case Filter.

What we want is for Accusative Case to be assigned only to a position on the right of the verb, and not to a position on the left of the verb. There are two proposals in the literature about how to change the definition of Accusative Case assignment to have this consequence. One is to simply introduce the requirement that Accusative Case be assigned to the right of the Case assigning verb. We could adopt something like (48), for example.

- (48) Accusative Case is assigned by a term that has it to the position immediately following it.

This would correctly prevent *escape* in (47) from assigning Accusative Case to *the air*, and we'd have the desired explanation for what prevents this sentence.

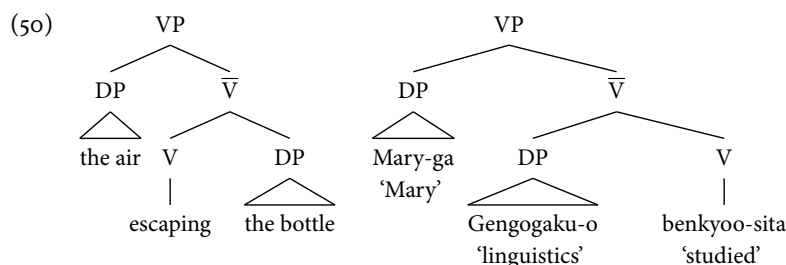
A problem with (48) is that it doesn't extend to languages whose verbs are on the righthand side of their phrase. In these languages, Accusative Case is assigned by these verbs to complements immediately to the left of the verb, but not to subjects, even when they are immediately to the left of the verb.

- (49) a. Kinoo Mary-ga Gengogaku-o benkyoo-sita.
yesterday Mary-nom linguistics-acc study-past
'Mary studied linguistics yesterday.'
- b. Kinoo Mary-ga benkyoo-sita.
yesterday Mary-nom study-past
'Mary studied yesterday.'
- c. * Kinoo Mary-o benkyoo-sita.
yesterday Mary-acc study-past
'Mary studied yesterday.'

(49c) is grammatical when Mary is the object of study. That's because Japanese allows subject pronouns to be silent, and so it is possible for Japanese sentences to have an understood subject in them.

Japanese is like English, then, in preventing verbs from assigning Accusative Case to their external θ -role bearers, but internal and external θ -role bearers in Japanese both precede the verb. We cannot therefore distinguish them based on whether or not they follow the verb. Because this looks like the same problem in Japanese that we are facing in English, we should aim for a solution that will apply to both languages.

So what is a difference between subject and object arguments that holds in both English and Japanese? Let's look at the relevant portion of (47) and (49).



One thing that distinguishes the position *the air* is in from the position that *the bottle* is in is their relative “heights” in the tree. The DP *the air* is higher in the tree than *the bottle*. In fact, *the air* is higher in the tree than the Case assigning verb is, and *the bottle* isn’t. This, as it turns out, is also thought to be true of Japanese. External θ -role bearers in Japanese are in the Specifier of VP and therefore higher in the tree than the verbs that head those VPs. So, a way of restating the condition on Accusative Case assignment that would solve the problem we are faced with in (47), and also correctly apply to the similar problem in Japanese, is (51).

- (51) Accusative Case is assigned by an α that has it to a position adjacent to α that is not higher than α .

For precision’s sake, it would be good to have a definition of what “not higher” means. This notion plays a role in a whole variety of syntactic phenomena, and there is a definition of it that works for all these cases. That definition involves what’s called “c-command,” which is short for “constituent command.” Here’s one way of defining c-command.

- (52) α c-commands β if and only if:
- every phrase that contains α , contains β too, and
 - α doesn’t dominate β .

This definition is (roughly) the one devised by Tanya Reinhart in Reinhart (1976). It’s roughly to this: α c-commands β if β is α ’s sister or β is dominated by α ’s sister.

Something is “not higher than α ” if α c-commands it. For instance, *the bottle* is not higher than *escape* in (47) because *escape* c-commands *the bottle*. (Every phrase that contains *escape* contains *the bottle* as well, and (obviously) *the bottle* is not contained in *escape*.) By contrast, *the air* is higher than *escape*, since *escape* does not c-command *the air*. (Not every phrase that contains *escape* contains *the air* — in particular the smallest VP contains *escape* but not *the air* — and so *escape* doesn’t c-command *the air*.)

So here’s how we’ll change our definition of Accusative Case assignment.

- (53) Accusative Case is assigned by a term that has it to a position that it c-commands and is adjacent to.

This will have the desired effect of preventing verbs from assigning Accusative Case to DPs that are in their Specifier position. And this, in turn, allows us to derive the ungrammaticality of (47).

This view of how subjects work is sometimes known as the “Derived Subjects Hypothesis.” If we adopt the Derived Subjects Hypothesis, we can sim-

It was proposed, more or less simultaneously, by quite a number of linguists, including Kitagawa (1986), Fukui and Speas (1986), Sportiche (1988), and Kratzer (1996).

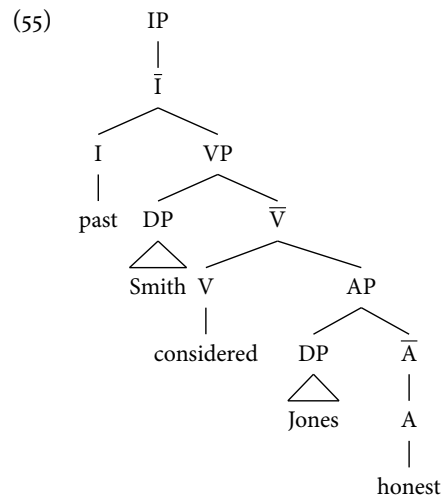
plify the conditions under which external θ -roles are assigned. We don't have to say that external θ -roles can be assigned to either Specifier of IP or to Specifier of VP and AP. We can make external θ -roles always assigned to the Specifier position of the phrase whose head assigns that θ -role.

- (54) If α has an external θ -role, then it will assign that external θ -role to the Specifier of its phrase.

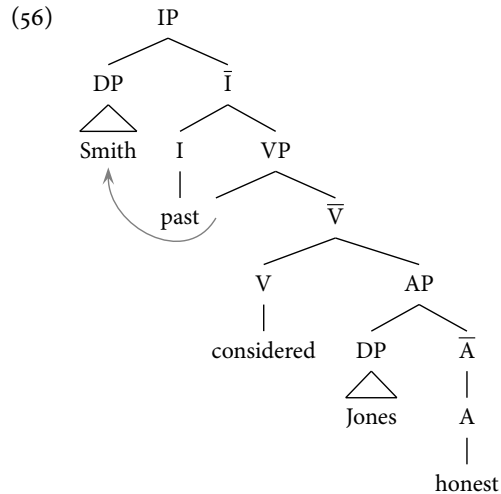
This is the position we see the external θ -role bearing argument in small clauses. But arguments can only stay in this position if it happens to also be Case marked, and in most situations that is not what happens. As a result, Argument Movement puts the subject in a different position.

Passives

There are morphological rules which interact with the system of Case assignment that we have just investigated. One of the better known of these is a rule that converts new verbs out of old ones called the *passive*. What the passive does is take a verb which assigns both an Accusative Case and a subject θ -role, and prevents it from doing either of those things. Consider, for instance, the verb *consider*. We have seen that this verb can take an AP small clause as its object, and it assigns a θ -role to a DP subject as well. The d-structure representation for a sentence of this kind with the verb *consider* looks like (55).



This violates the Case filter, because *Smith* is not in a Case-marked position, so Argument Movement creates from (55) the representation in (56).



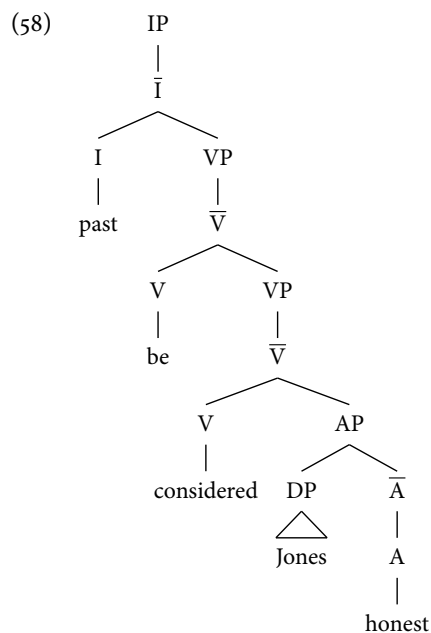
The Specifier of IP here is a position to which Nominative Case is assigned, and so (56) puts *Smith* in a position that is Case marked and this parse thereby satisfies the Case filter. The parse that gets linearized and spoken, then, is (56).

The passive operation can apply to *consider*, and when it does it forms a new verb whose morphological form includes a suffix often spelled “ed”: *considered*. This verb is precisely like *consider*, except that it does not assign an external θ -role and it also doesn’t assign Accusative Case.

(57) Passive

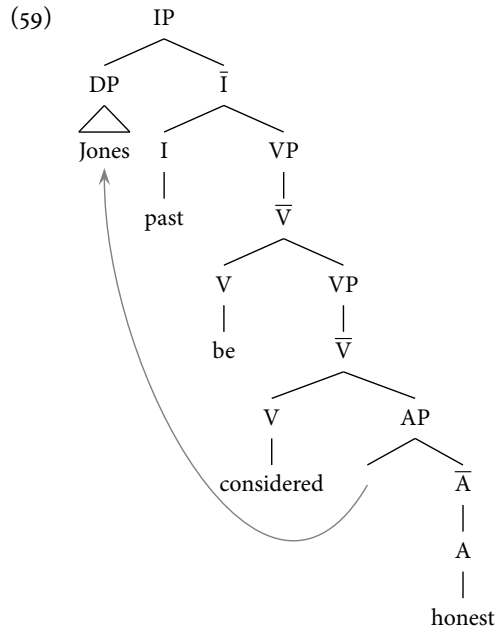
From a verb that assigns a subject θ -role and also assigns Accusative Case form a new verb by suffixing “ed” that removes both its subject θ -role and Accusative Case.

As a consequence, the d-structure representation for a sentence with this verb is (58).

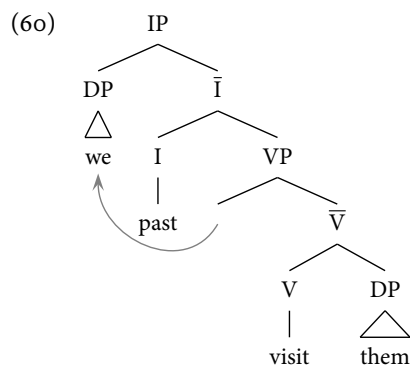


Normal verbs — ones which haven’t undergone the Passive operation — are said to be “active.” The active/passive contrast is sometimes discussed in a larger array of verb changing rules that are known as “voice” alternations. So, another way of describing these verbs is to say that *consider* is in the “active voice,” and *considered* is in the “passive voice.” Sometimes the verb formed by the Passive operation is called the “passive participle.”

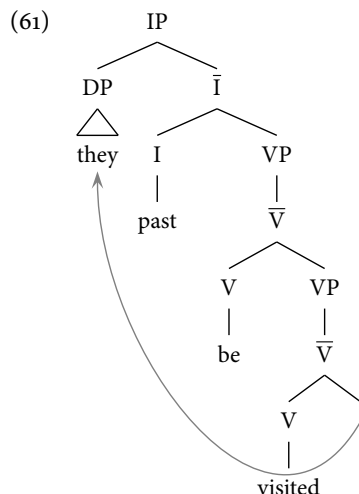
Passivized verbs in English are only selected by the auxiliary verb *be*. This is why *considered* is not the only verb in this d-structure. Like (55), this d-structure violates the Case filter. But in (58), it is *Jones* that violates the Case filter. Because *considered*, unlike *consider*, does not assign Accusative Case, the position that *Jones* occupies in (58) is not Case marked. As a consequence, Argument Movement relocates *Jones* into the nominative Case marked Specifier of IP, forming (59).



The Passive rule can apply to verbs that assign Accusative Case to their object arguments as well, and when this happens, it looks like the verb's object is becoming its subject. In fact, however, all that's happening is that the object is moving into the Case marked position that would normally be occupied by that verb's subject. For instance, the verb *visit* assigns a subject θ -role and Accusative Case, and fits into sentences with the derivation indicated in (60).



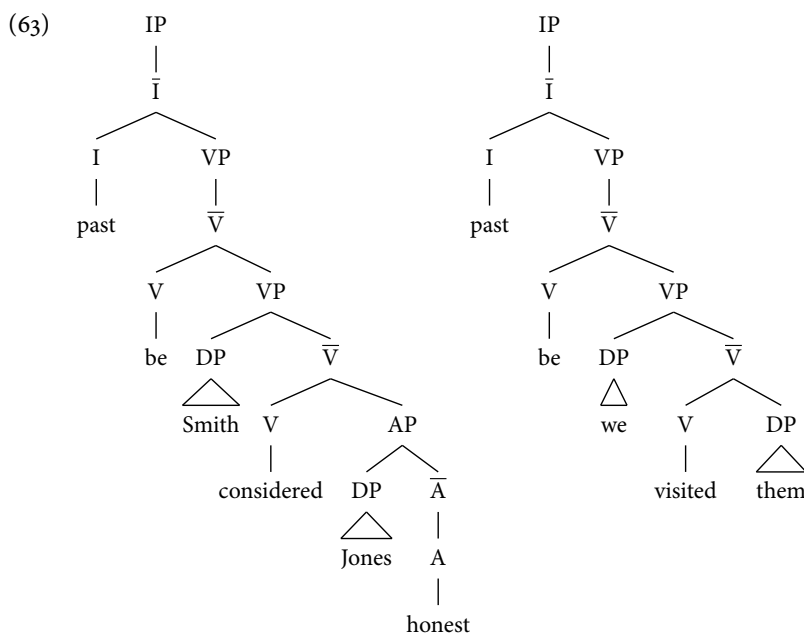
If the Passive operation applies to *visit*, however, we produce a version of *visit* that has neither a subject θ -role nor Accusative Case. This produces the derivation in (61).



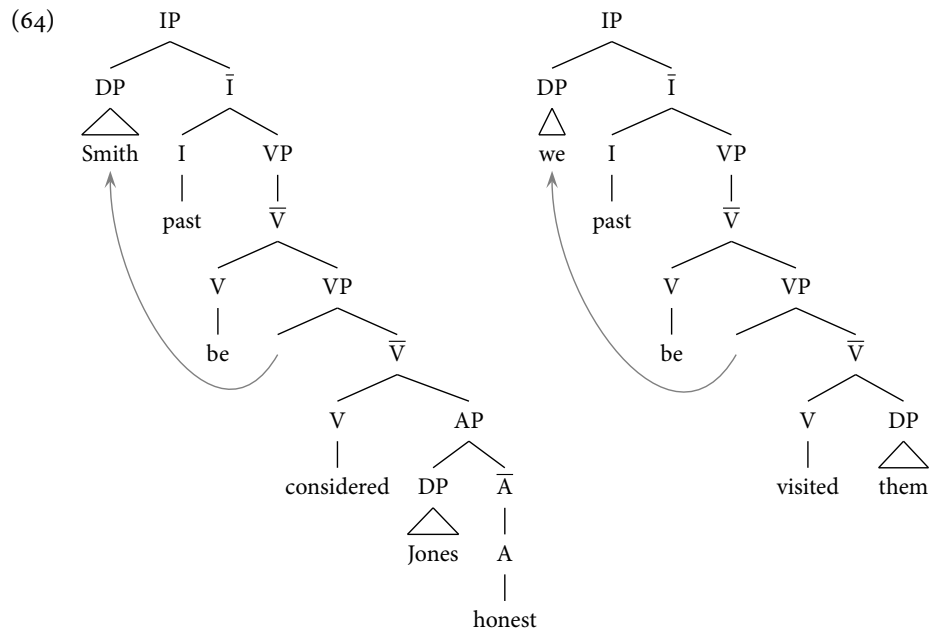
That the Passive only applies to verbs that have Accusative Case is indicated by impossibility of Passivizing verbs like *sleep* or *die*.

- (62) a. *He was slept.
b. *It was died.

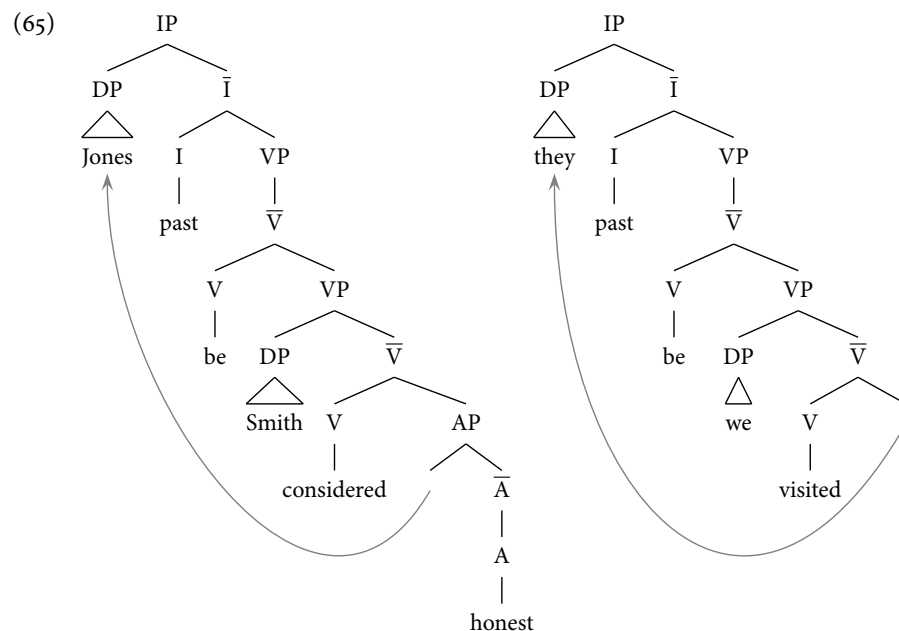
We can see, perhaps, why the Passive must also remove the subject θ -role of a verb if it removes the Accusative Case that a verb assigns. We know which verbs assign Accusative case by seeing that there is an argument DP that depends on them for Case. So, the class of verbs that the Passive applies to are verbs that either take a DP object argument, or take a small clause or infinitival complement whose subject argument they assign Accusative Case to. Now, imagine a verb of one or the other of these two types which has a subject θ -role as well, and consider what would happen if the Passive operation didn't get rid of that subject θ -role. We'd end up with passives like *considered* and *visited*, but with the subject argument still present. The d-structures we'd fit these verbs into would look like (63).



These d-structures have two argument DPs, each of which need to be Case marked and neither of which is in a Case marked position. Because these are passive verbs, neither *considered* nor *visited* is able to assign Accusative Case, and the DPs that immediately follow them are therefore not in Case marked positions. In fact, there is only one Case marked position in either of these phrase markers, and that is the Specifier of IP. Because there is only one Case marked position, and two DPs that need to occupy it, these d-structures cannot be rescued by Argument Movement. There is no s-structure possible that will satisfy the Case filter. For instance, if Argument Movement puts the subject arguments into the Specifier of IP, as in (64), the DPs *Jones* and *them* will not satisfy the Case filter.

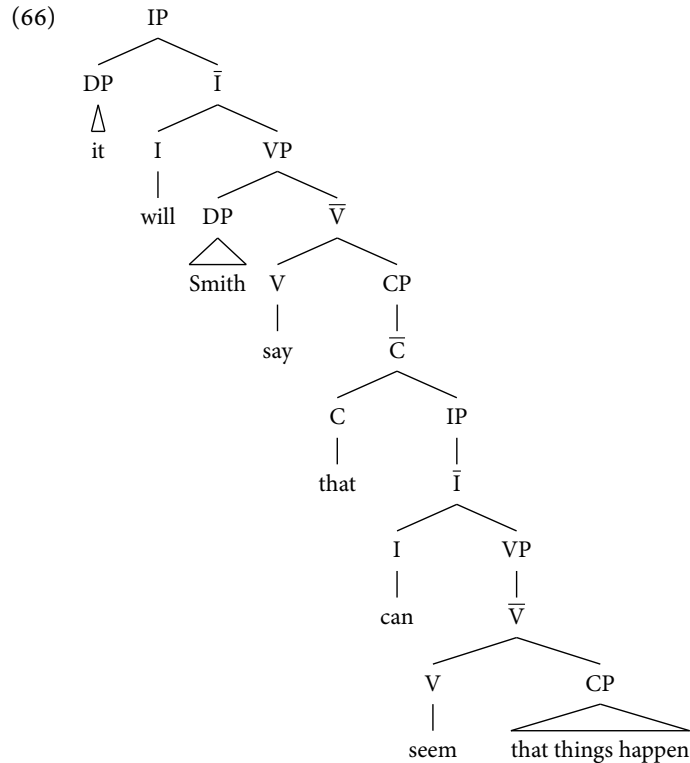


On the other hand, if the other DPs in (63) move to Specifier of IP, as in (65), the subject DPs will violate the Case filter.

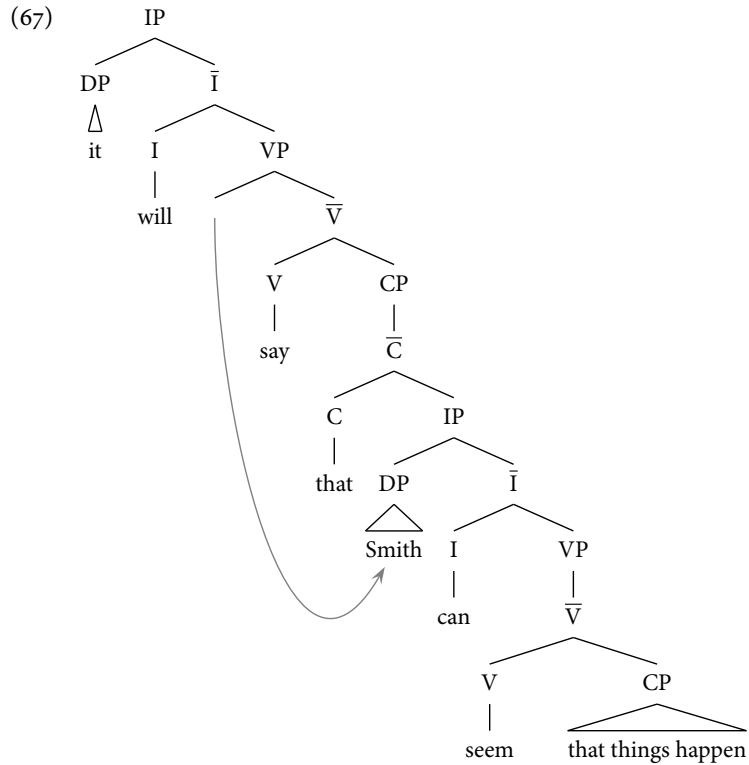


Constraints

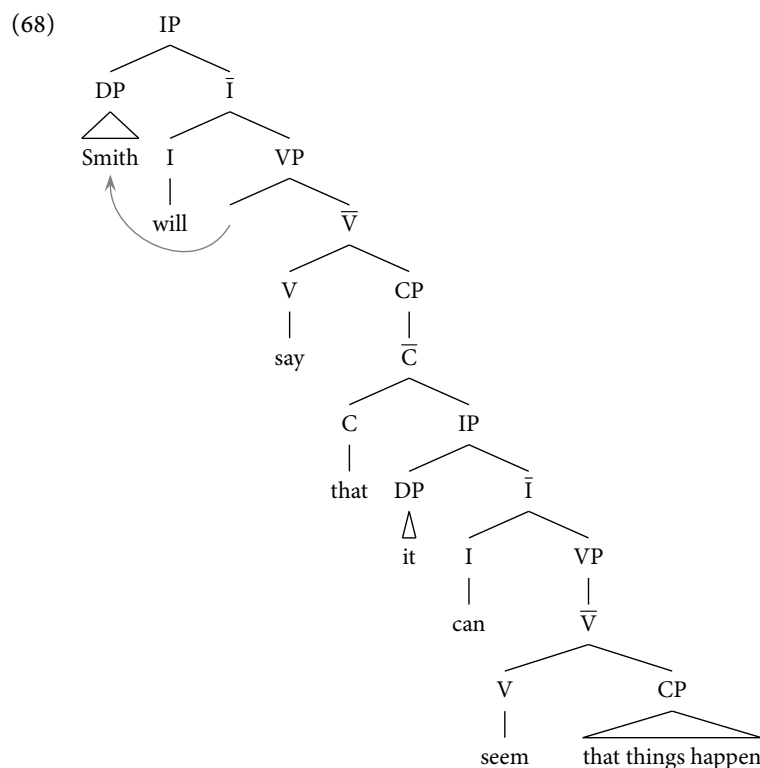
Argument Movement creates certain s-structures that we'd like to prevent, and this will require us to place constraints on it. To see the first of these constraints, consider the d-structure in (66).



This is a well-formed d-structure, but, as for most d-structures, not a well-formed s-structure. The argument *Smith* is in the position it gets its θ -role from, but it is not in a Case marked position, so this d-structure does not satisfy the Case Filter. The *it* is an expletive, so its presence in the highest Specifier of IP satisfies the EPP for this IP, but the Specifier position of the embedded IP is not filled with anything, so that IP violates the EPP. These violations of the Case Filter and the EPP can be rectified, however, by using Argument Movement to create an s-structure that looks like (67).



This is a well-formed s-structure, and overall, the derivation is also well-formed. The d-structure obeys the Theta Criterion, as it should, and the s-structure satisfies the EPP and Case Filter, as it must, and we've done exactly what Argument Movement allows, moving the argument DP *Smith* into a Specifier position. This is problematic, then, because *It will say that Smith can seem that things happen* is quite definitely ungrammatical. The grammatical way of rendering this sentence is to start with an expletive in the embedded IP and use Argument Movement to put *Smith* in the Specifier of the higher IP, as indicated in (68).



A salient difference between the good derivation in (68) and the bad one in (67) is that the argument which Argument Movement is moving goes into a higher position in the good derivation but into a lower position in the bad derivation. When we look at all the good examples of Argument Movement, it emerges that the phrase that is moved always goes up in the phrase marker. This suggests a constraint, then, that prevents Argument Movement from moving a phrase downwards.

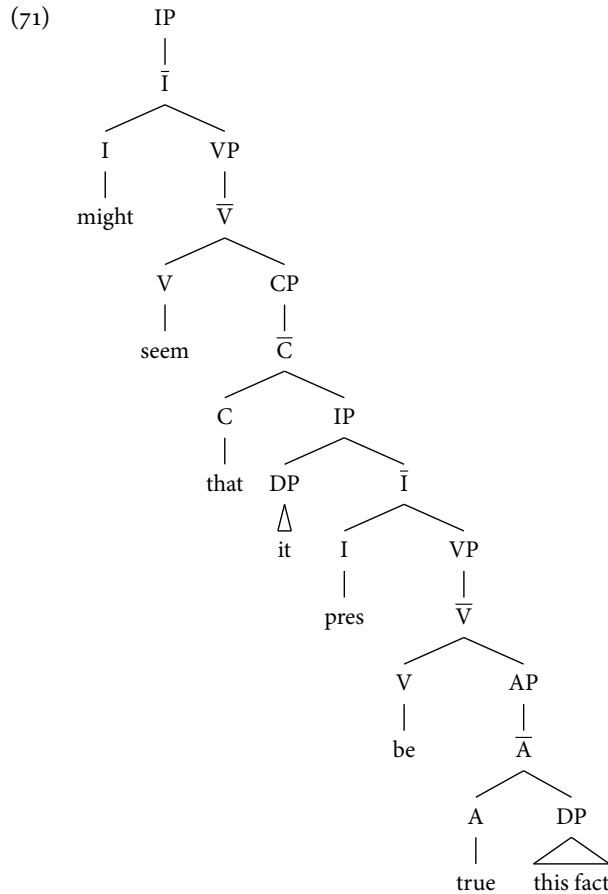
To formulate this constraint, we need to come up with a precise definition of “up.” We can use the definition of “c-command” that we devised earlier for Case assignment. The definition of c-command is repeated in (69).

- (69) α c-commands β if and only if:
- every phrase that contains α also contains β , and
 - β is not dominated by α

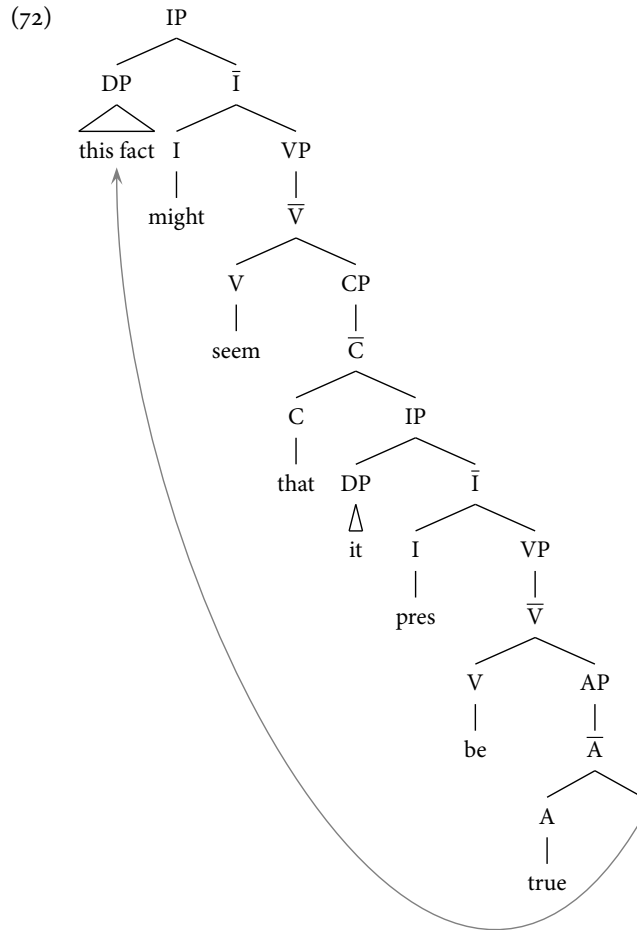
For α to c-command β , α can't be lower in the tree than β . So this gives us a way of stating the constraint we are looking for here. I'll build it right into the statement of the Argument Movement rule.

- (70) Argument Movement
Move an argument XP from position β into a Specifier position, α .
condition: α must c-command β

To see the second constraint on Argument Movement, consider the d-structure in (71).

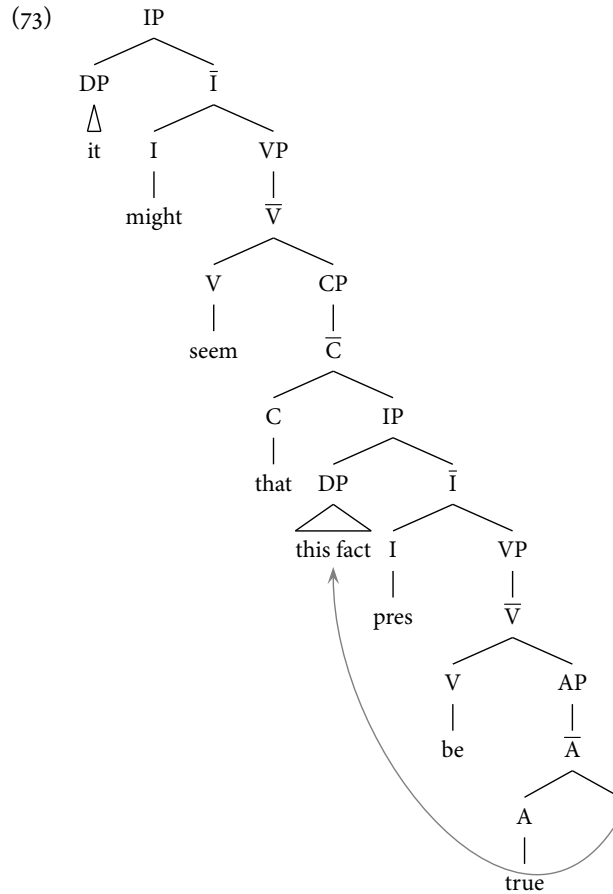


This is a well-formed d-structure. Note in particular that the DP *this fact* is an argument of the adjective *true*. We learned, recall, that the adjective *true* assigns an internal θ -role that can be borne by either a DP or a CP. (See the discussion starting on page 2.) In (71), this θ -role is borne by the DP *this fact*. In the Specifier of the lower IP is an expletive *it*, which doesn't require a θ -role. Everything else is fine with this d-structure. This parse can't be an s-structure, however, for two reasons. First, the higher IP has nothing in its Specifier position, and this will be an EPP violation if this parse is to be an s-structure. And, second, because adjectives do not have a Case to assign, the DP argument of *true* will violate the Case Filter. Both of these problems can be solved, however, if Argument Movement could create from (71) the parse in (72).



As it is presently formulated, Argument Movement can do this, but the result is clearly ungrammatical. The sentence *This fact might seem that it is true* isn't English. We need to prevent Argument Movement from creating derivations like (72).

If we changed the d-structure in (71) only slightly, we can create a derivation that is grammatical. If instead of putting the expletive in the Specifier of the embedded IP, we put it in the Specifier of the higher IP, and use Argument Movement to fill the lower Specifier with *this fact*, a perfectly grammatical sentence is created. This derivation is shown in (73).



A salient difference between the good derivation in (73) and the bad one in (72) is how far the argument DP has been moved. This is what seems to be relevant. When many examples of Argument Movement are examined, it turns out that none of them can involve moving something out of a CP. That is what has happened in (72).

So we need to add this constraint into our definition of Argument Movement. That's what is done in (74).

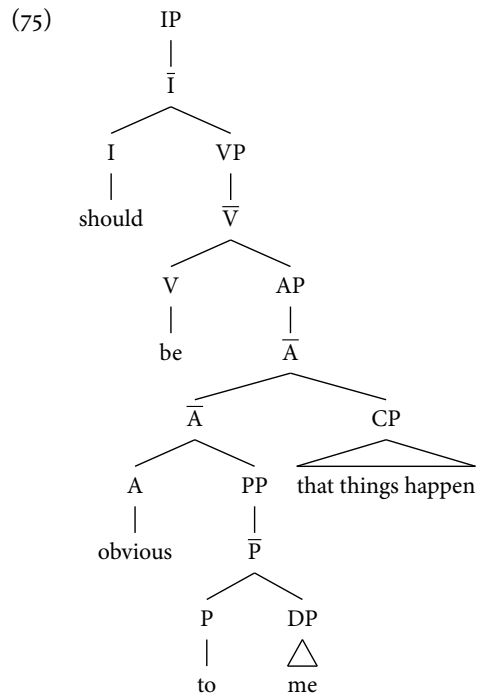
(74) Argument Movement

Move an argument XP from position β to a Specifier in position α .

Conditions:

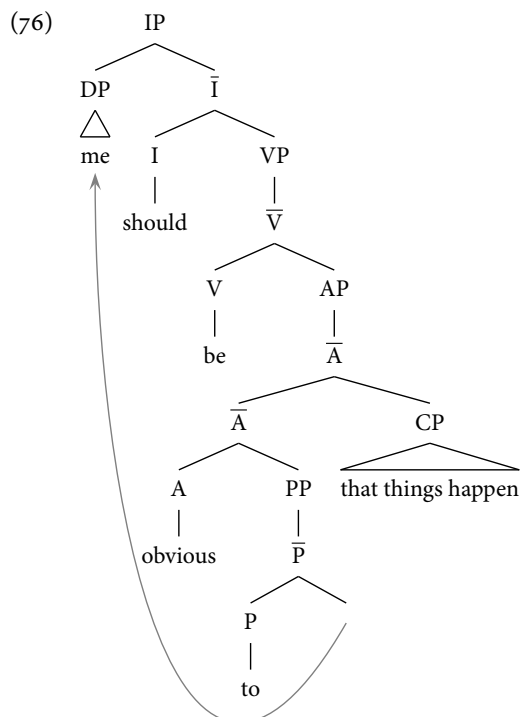
- a. α must c-command β , and
- b. β cannot be dominated by a CP that does not dominate α

We have one last constraint to put on Argument Movement, and that can be seen if we consider how it might apply to the d-structure in (75).

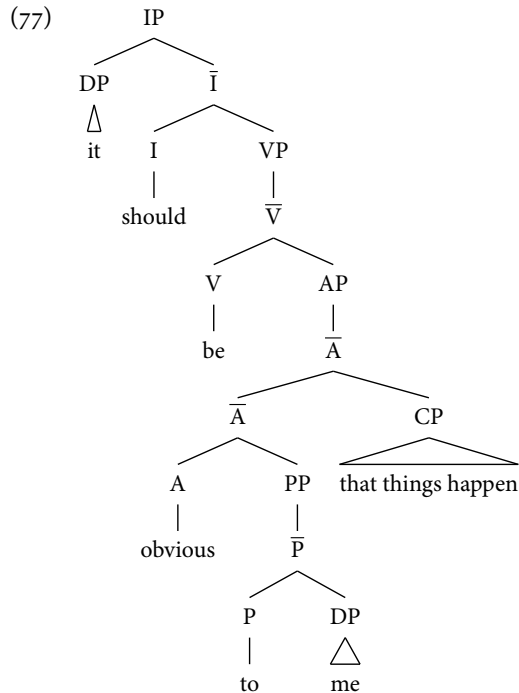


This is a well-formed d-structure. The adjective *obvious* assigns two θ -roles, both internal, one to the CP *that things happen* and another to the PP *to me*. Both those arguments are in the right places to get those θ -roles. This parse wouldn't make a good s-structure, however, since the EPP isn't satisfied. The IP has nothing in its Specifier position, which is what the EPP requires. Note, however, that unlike the other d-structures we've been considering, this parse does meet the Case Filter. The only argument DP in (75) is *me*, and it is in a position assigned accusative Case by *to*.

If we are to make a good s-structure from (75), we need to find a way of satisfying the EPP. That can be done by moving using Argument Movement to put the DP *me* in Specifier of IP, as indicated in (76).



This should be well-formed, according to our theory. Every constraint is met in this derivation, and yet *me should be obvious that things happen* isn't grammatical. Instead, the only grammatical way of forming this sentence is to satisfy the EPP but putting an expletive *it* in the Specifier of IP, as in (77).



A generalization about Argument Movement that we would observe if we look at lots of examples is that no grammatical instance of it moves a DP from a Case-marked position. That is what happened in the derivation in (76), however. All the other examples of Argument Movement that we've seen involve movement of a DP from a position that isn't Case marked. So let's build this constraint into our formulation of Argument Movement.

(78) Argument Movement

Move an argument XP from position β to a Specifier in position α .

Conditions:

- a. α must c-command β , and
- b. β cannot be dominated by a CP that does not dominate α , and
- c. β cannot be assigned Case.

References

- Fukui, Naoki, and Margaret Speas. 1986. Specifiers and projection. In *MIT working papers in linguistics*, ed. Naoki Fukui, Tova R. Rapoport, and Elizabeth Sagey, volume 8, 128–172. Department of Linguistics and Philosophy.
- Kitagawa, Yoshihisa. 1986. Subjects in Japanese and English. Doctoral Dissertation, University of Massachusetts, Amherst.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, ed. Johan Rooryck and Laurie Zaring, 109–137. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Reinhart, Tanya. 1976. The syntactic domain of anaphora. Doctoral Dissertation, Massachusetts Institute of Technology.
- Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19:425–449.
- Stowell, Tim. 1978. What was there before there was there. In *Proceedings of the Fourteenth Regional Meeting of the Chicago Linguistic Society*, ed. D. Farkas, volume Proceedings of the Fourteenth Regional Meeting of the Chicago Linguistic Society. Chicago, Illinois: The University of Chicago.
- Stowell, Timothy. 1981. Origins of phrase structure. Doctoral Dissertation, Massachusetts Institute of Technology.
- Stowell, Timothy. 1989. Subjects, specifiers, and X-bar theory. In *Alternative conceptions of phrase structure*, ed. Mark R. Baltin and Anthony S. Kroch, 232–262. Chicago, Illinois: The University of Chicago Press.