The effect of discourse-linking on subextraction from DPs

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ABSTRACT
In this paper I present evidence showing that D(iscourse)-linking facilitates subextraction from determiner phrases (DPs). DPs are considered phases (Bošković, 2005; Ott, 2009) or elements created in a separate derivation (Zwart, 2009), both of which should not allow subextraction. Non-D-linked wh-phrases can indeed not be extracted from DPs. I argue, in line with Van Craenenbroeck (2004), that D-linked wh-phrases are not, in fact, extracted from these DPs, but base-generated in Spec,C. The relevant DP then contains an empty operator, which is bound by the wh-phrase post-syntactically. As such, there is no movement out of the DP.

1. Introduction

Bošković (2005:9) claims that extracting adjuncts out of determiner phrases (DPs) is not allowed. That is, he argues, because DPs are phases. Phases are parts of a derivation that gets sent to the meaning and sound interfaces (respectively LF and PF) before the derivation continues. As such, the Phase Impenetrability Condition, given in (1) below, does not allow extraction out of a phase, with the exception of elements located in the head or specifier of the phase head.

(1) *Phase-Impenetrability-Condition* (PIC) (Chomsky, 1999):
Only the head and specifier of a phase are accessible for movement to a position outside of the phase.

However, it seems that, while Bošković's claim holds for some adjunct subextractions, not all adjunct subextractions out of DPs result in ungrammatical sentences. While example (2b) is out, (2c) is not.

(2) a. He drank wine from [a vineyard in Spain].
b. *[From where]i did he drink [wine ti]?
c. [From which vineyard]i did he drink [wine ti]?

In this paper, I will argue that the relevant difference between (2b) and (2c) is that the extracted adjunct *from which vineyard* in (2c) is D(iscourse)-linked, while the extracted adjunct *from where* in (2b) is not. D-linking is a term coined by David Pesetsky in 1987, who noted that discourse linked elements also fail to display superiority effects.[1] A definition of D-linking is given in (3) below.

1 Superiority effects refer to the observation that in multiple wh-constructions in languages that only allow one fronted wh-element, only the wh-element highest in the structure can be fronted.

(3) Discourse linking (D-linking) (Pesetsky, 1987; 2000:23): "When a wh-question asks for answers in which the individuals that replace the wh-phrases are drawn from a set that is presumed to be salient to both speaker and hearer."

So, in (2c) the wh-phrase *from which vineyard* asks for a vineyard from a set of vineyards that is preselected by the discourse. But before I turn to the effect of D-linking on the subextraction of adjuncts out of DPs, in the next section I will first explain more about the phasehood of DPs, that Bošković (2005) argues in favour of.

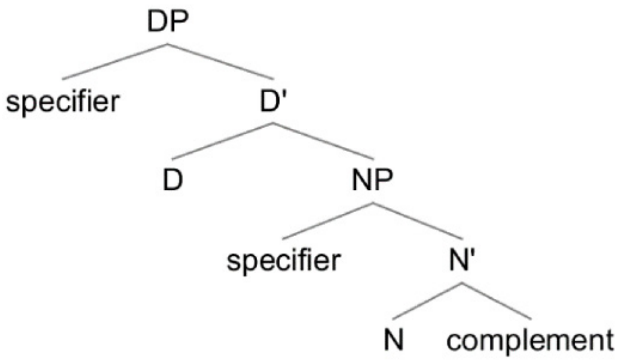
2. The phasehood of DPs

As mentioned above, Bošković (2005) argues that the DP is a phase. Something along these lines has also been argued by Ott (2009). Ott argues that it is the referentiality of DPs that makes them phases, as phases should have some propositionality. This is in line with Chomsky (2001:25), who argues that vP (the functional projection above the verb phrase, VP) and CP (complementizer phrase) (but not TP (tense phrase)) are phases, because "ideally, phases should have a natural characterization in terms of IC [interface conditions]: they should be semantically and phonologically coherent and independent".

Bošković (2005) uses the phasehood of DPs to account for the fact that languages that have overt articles never allow Left Branch Extraction (henceforth LBE) due to the Left Branch Condition (Ross, 1967, 1989). This condition states that it is impossible to extract the leftmost constituent out of an NP (noun phrase). However, most Slavic languages, such as Polish and Serbo-Croatian, do allow LBE. Especially the Slavic languages that do not have overt articles seem to allow Left Branch Condition violations. To account for this difference, Bošković (2005) proposes that languages which have overt articles have a D heading the nominal phrase, while languages without overt articles do not have this DP layer. By arguing that DP is a phase, he successfully accounts for the difference between languages with and without overt articles with respect to the possibility of allowing LBE.

The idea that the DP is the head of the nominal phrase goes back to Abney (1987). Abney argues that the head of the nominal phrase must be an inflection-like category. The primary property of these categories is that they always select a unique complement. So, C always selects IP (inflection phrase) as a complement and I always selects VP (or vP, which is a projection of the VP). Likewise, Abney argues, the determiner always selects an NP as a complement. According to Abney, this also explains why some determiners cannot occur without an NP. This would make the determiner the functional category that forms the head of the nominal phrase. The structure of the nominal phrase is illustrated in (4).

(4)



A different approach to locality that does not depend on the notion of phase, is Zwart's (2009) idea of layered derivations. Zwart argues that the derivation of a sentence can contain the output of several smaller derivations (an idea similar to Toyoshima, 1997). Nominal phrases, for example, are formed in a separate derivation before entering the numeration for the derivation of the sentence. These separate derivations act like phases in the sense that movement within a single derivation is possible, but movement of an element from within one derivation to the next derivation is not allowed. If the nominal phrase is indeed created in a separate derivation, this explains why LBE is not allowed in some languages. Note, however, that it does not explain why other languages do allow LBE. There is no reason to assume that the nominal phrase in languages like Dutch and English, which do not allow LBE, gets formed in a separate derivation, while the nominal phrase in languages like Polish and Serbo-Croatian do not. Bošković's account seems to be superior in this respect.

Another difference between Bošković and Zwart is that their hypotheses result in different predictions for the sentence in (5).

(5) ?Who$_i$ do you like [DP friends of t$_i$]?

According to Bošković, (5) should be grammatical. The wh-phrase which can move through the escape hatch in the DP, thus not violating the PIC. In Zwart's proposal, however, there is no escape hatch. This means that any subextraction out of a DP should be disallowed. My informants' intuitions on (5) vary. Some find it acceptable, although for most others it is completely out. Bošković claims that (5) is perfectly acceptable (2005:16). Note, however, that those people who do not accept (5), do find (6) perfectly grammatical. (6) has a structure similar to (5).

(6) Who$_i$ did you see a picture of t$_i$?

Regardless of these differences, both accounts predict that movement of adjuncts out of DPs should not be allowed. In Zwart (2009) this is because any movement out of a DP should be out, in Bošković (2005) it is because the adjunct cannot move to the specifier of the DP and (i.e., the escape hatch) and can thus

not undergo further movement without violating the PIC. The reason that the adjunct cannot reach the escape hatch is that that movement would be too local, as it does not cross an XP boundary. Movement that does not cross an XP boundary is prohibited by the Condition on Chain Links (Saito & Murasugi, 1999).

(7) *Condition on Chain Links* (Saito & Murasugi, 1999 in Bošković, 2005):
"Each chain link [= the link between a moved element and its trace(s)] must be at least of length 1, where a chain link from A to B is of length n if there are n XPs that dominate B but not A."

However, as we already briefly saw in the introduction and will also see in the next section, there are cases where adjuncts can be extracted out of DPs. Specifically, it seems that adjuncts can be extracted when they're D-linked. I will discuss this phenomenon in more depth in the next section.

3. D-linking and subextraction

In the introduction it was already briefly noted that at least in English, there are exceptions to the ban on subextraction of adjuncts out of DPs. The relevant example is repeated below as (8).

(8) a. He drank wine from [a vineyard in Spain].
b. *[From where]i did he drink [wine ti]?
c. [From which vineyard]i did he drink [wine ti]?

A similar effect can be observed in other languages as well. This is shown in examples (9) to (15).

(9) a. The man met [girls from Utrecht]. English
b. *[From where]$_i$ did he meet [girls t_i]?
c. ?[From which city]$_i$ did he meet [girls t_i]?

(10) a. De man heeft [meisjes uit Utrecht] ontmoet. Dutch
the man has girls out Utrecht met
'The man met the girls from Utrecht'
b. *Waarvandaan$_i$ heeft hij [meisjes t_i] ontmoet?
where.from has he girls met
'From where did he meet girls?'
c. ?[Uit welke stad]$_i$ heeft hij [meisjes t_i] ontmoet?
out which city has he girls met
'From which city did he meet girls?'

(11) a. Der Mann hat [Mädchen aus Utrecht] getroffen. German
the man has girls out Utrecht met
'The man met girls from Utrecht'

b. *Woheri hat er [Mädchen t_i] getroffen?
where.from has he girls met
'From where did he meet girls?'
c. ?[Aus welcher Stadt]$_i$ hat er [Mädchen t_i] getroffen?
out which city has he girls met
'From which city did he meet girls?'

(12) a. Mies tapasi [tyttöjä Utrechd-ista]. Finnish
man met girls Utrecht-ELA[2]
'The man met girls from Utrecht.'
b. *Mistäi mies tapas$_i$ [tyttöjä t_i]?
what.ELA man met girls
'From where did the man meet girls?'
c. [Mistä kaupungi-sta]$_i$ mies tapasi [tyttöjä t_i]
what.ELA city-ELA man met girls
'From which city did he meet girls?'

(13) a. L' uomo ha conosciuto [della ragazze di Utrecht]. Italian
the man has met some girls from Utrecht
'The man met the girls from Utrecht.'
b. *[Di dove]$_i$ ha conosciuto ragazze t_i?
from where has met girls
'From where did he meet the girls?'
c. *?[Di quale città]$_i$ ha conosciuto della ragazze t_i?
from which city has met some girls
'From which city did he meet the girls?'

(14) a. L' homme a rencontré [les filles d' Utrecht]. French
the man has met the girls from Utrecht
'The man met the girls from Utrecht.'
b. *[D' où]$_i$ a-t-il rencontré [les filles t_i]?
from where has-3SG-he met the girls
'From where did he meet the girls?'
c. *?[De quelle ville]$_i$ a-t-il rencontré [les filles t_i]?
from which city has-3SG-he met the girls
'From which city did he meet the girls?'

(15) a. Hy hat [de famkes ut Utrecht] moete. Frisian
he has the girls out Utrecht met
'He met the girls from Utrecht.'
b. *[Wer wei]$_i$ hat hy [de famkes t_i] moete?
where from has he the girls met
'From where did he meet the girls?'

2 Elative case, a case used for locatives.

c. *?[Ut welke stêd]$_i$ hat hy [de famkes t$_i$] moete?
out which city has he the girls met
'From which city did he meet the girls?'

While the judgements differ, both from language to language and from speaker to speaker, the general consensus is that the D-linked examples (the examples in the (c) sentences) are better than the non-D-linked examples (the examples in the (b) sentences).

At this point, one might start to wonder if it could maybe be that the reason the D-linked examples seem better has something to do with the properties of the preposition *from* in combination with *which*, instead of a general effect of D-linking. Example (16) shows that this is not the case. We see the same effect of D-linking if we extract an adjunct starting with *with* from a DP.

(16) a. He ate [candy with strawberry flavour].
b. *[With what]$_i$ did he eat [candy t$_i$]?
c. ?[With which flavour]$_i$ did he eat [candy t$_i$]?

It seems then that the grammaticality of the examples with D-linked elements is due to the D-linking and not to the characteristics of either the prepositions involved or the English language. If we assume, as Bošković (2005) and Ott (2009) do, that DP is a phase, this is unexpected. There is no reason to assume that D-linking would form an exception to the PIC. Similarly, if Zwart (2009) is correct in using layered derivations to account for locality effects, there would be no reason to assume that D-linked elements can move from the derivation in which the DP is formed to the next derivation where the rest of the clause is merged. We are now left with the question of how to account for the fact that D-linking improves the subextraction of adjuncts out of DPs. In the next section, I will propose an account for this based on Van Craenenbroeck (2004)'s analysis of the structure of D-linked elements.

4. Proposed analysis

In his dissertation, Jeroen van Craenenbroeck (2004) argues that there are two kinds of wh-phrases. Complex wh-phrases have a wh-element modifying a NP. Minimal wh-phrases (also called bare wh-phrases) only contain the wh-element, but this element does not modify an NP (2004:45). The crucial difference between these two classes of wh-phrases is thus the presence or absence of an NP complement in the DP. Van Craenenbroeck also notes that both minimal and complex wh-elements can be contained within a PP, which gives us the structure of the extracted adjuncts in the examples above.

If we use this distinction to classify the extracted adjuncts in (16), it becomes clear that the non-D-linked element in (16b) is a minimal wh-phrase: *with what* does not contain an NP as a complement. The D-linked element in (16c), however, is a complex wh-element: it contains the complement NP *flavour*. Thus, it seems that in

the case of subextraction of adjuncts out of DPs the crucial distinction between D-linked elements and non-D-linked elements is that only the D-linked elements are complex wh-phrases. The reader can now check for themself that this is indeed the case for all the examples above showing the contrast between the subextraction of D-linked adjuncts and non-D-linked adjuncts.

Complex and minimal wh-phrases behave very differently when it comes to movement. In fact, complex wh-phrases do not undergo movement at all in Van Craenenbroeck's analysis. Complex wh-phrases are base generated in the left periphery of the clause. This in contrast to minimal wh-phrases, which are generated somewhere lower in the structure and do undergo movement. Assuming this analysis is correct, we now no longer move the adjunct out of the DP. This means that we would no longer violate the PIC, assuming that Bošković (2005) and Ott (2009) are right, or that we no longer move something out of a finished derivation, assuming that Zwart (2009) is right. However, there are some remarks to be made about van Craenenbroeck (2004)'s analysis.

First of all, Van Craenenbroeck (2004:47) proposes that the distinction between minimal and complex wh-phrases is not as binary as it might seem. Rather, he proposes a kind of 'complexity scale', where complex wh-phrases like *which flavour* occupy the most complex position and wh-adverbs like *how* and *why* occupy the opposite end and are the least complex a wh-phrase can be. Given that the distinction is based on the absence or presence of an NP complement, it is unclear how this would relate to a scale. Complements are either there, or they are not. Having a bit of a complement, most of a complement, somewhat of a complement or any other form of gradation is not possible. The only possible intermediate position on this scale one might propose is if the NP complement is a phonologically not realized element. Van Craenenbroeck (2004) proposes something along these lines for bare wh-pronouns like *who* and *what*. According to Van Craenenbroek, these elements have the default syntactic structure of minimal wh-phrases and lack a complement, but sometimes they are merged with a phonetically empty NP complement. However, Van Craenenbroeck then argues that if these wh-phrases contain this phonetically empty NP complement, they behave like complex wh-phrases. This again raises the issue of the necessity of a scale. If wh-phrases with a phonetically empty NP complement pattern with complex wh-phrases, there seems to be no need for the intermediate position on the scale. Another issue with using a complexity scale is that it would predict that the elements on that scale all behave differently, depending on their position on the scale. It is, however, unclear how this would work in this case. A wh-element is either base generated in the left periphery, or it is generated in the place where it is interpreted to have originated from (i.e. a wh-phrase that functions as an object is generated in object position and so forth). It would make no sense to assume that wh-elements that hold an intermediate position on the scale are also generated in a position between their base position and the left periphery. In conclusion, both the definition used for the classification of wh-elements and the behaviour they show seem to be completely binary. I will thus

ignore Van Craenenbroeck (2004)'s suggestion of a complexity scale and work with the idea that all and only those wh-phrases that take an NP complement are base generated in the left periphery.

A second problem we encounter, relates to the structure of the left periphery that Van Craenenbroeck (2004) assumes. According to him, the complementizer domain consists of two CP projections. He is, of course, not the first one to propose something along these lines. In 1997 Luigi Rizzi already proposed to split up the CP into Force, Topic and Focus projections. While Rizzi (1997)'s analysis of the structure of the left periphery contains more projections than Van Craenenbroeck (2004)'s, the two analyses are similar in that they both assume that the different projections have different functions. In Van Craenenbroeck's analysis, the top CP, called CP1, is related to clause typing. It is then this CP that is responsible for determining whether a clause is an interrogative clause or not. The second CP, CP2, which is the complement of C1, is the projection where operator/variable dependencies are formed. In the D-linked examples we have seen so far, this works as follows. The complex wh-phrase (i.e., the D-linked element) is base generated in the specifier of CP1. An empty operator is then moved from the adjunct position of the DP to the specifier of CP2, to check the operator feature in C2 and create an operator/variable dependency so that the base generated wh-phrase gets the correct interpretation. This then results in the same problem that was solved by base generating the D-linked element in the specifier of CP1. We now move the empty operator out of the DP, from the exact same position in the DP we could not extract the adjunct from, as we saw in sections 2 and 3. This should thus result in a PIC violation, or a subextraction out of a completed derivation. However, if we could form a dependency relation between the operator and the D-linked wh-phrase while the operator remains in situ, these violations would be avoided.

The only function Van Craenenbroeck's CP2 had, was to establish operator/variable dependencies. If we can indeed establish such a dependency while the operator remains in situ, as I will argue we can, there is no conceptual necessity for the existence of the CP2. If CP2 indeed does not exist, it also does not carry an uninterpretable operator feature that needs to be eliminated by moving the operator to its specifier. This means that by showing operator/variable relations can be long distance relations, we can eliminate the only two reasons there were for moving the operator to Spec,C2. I argue that we indeed do not have to move the empty operator in the narrow syntax (i.e., the process of Merge and Remerge). Safir (2008) argues that narrow syntax only deals with strict local dependencies. Long distance dependencies must be taken care of by different mechanisms. Rooryck and Vanden Wyngaerd (2011:51) argue that this must mean that operator/variable dependencies are not part of narrow syntax. They are most likely established post-syntactically. This means that the empty operator can remain in situ during the derivation, since it has no reason to move. Therefore, there are no violations of the PIC, nor are there any movements out of finished derivations in the derivation of sentences like (16c).

What matters then, are the post syntactic mechanisms creating this dependency. One might speculate about the specifics of mechanisms of this sort. For example, it could be the case that there is a mechanism linking the complex wh-phrase and the operator, if both carry some kind of feature indicating that they need to enter in some kind of relationship with another element. The specifics of how such a mechanism would work exactly remain unclear at this point. A possible solution might lie in a modified version Zwart's (1998) of 'accidental reference'. This is, however, beyond the scope of this paper.

A brief note on the grammaticality judgements of the examples given above is in order. While all the D-linked constructions were significantly better than the minimal wh-phrase constructions, they were not all completely grammatical. Given the account discussed above, this might be unexpected. While any explanation for this fact is purely speculative at this point, it could be that people have trouble parsing sentences like these. There is another position adjuncts are often located, namely one where they modify the matrix verb (and its complement). For example, the sentence *from where did he meet girls* (8b) for some people triggers the meaning that the location from where he did the meeting of the girls is under question, not the origin of the girls. Since an interpretation where the adjunct modifies the DP is only acceptable in D-linked constructions, it might be the case that people also always try to parse the verb modifying reading as well. After all, in most cases, that is the only possible reading, because the DP modifying reading is not possible. This might at least partly account for the perceived ungrammaticality of the D-linked examples above.

5. Conclusion

In this paper, I have discussed the effect of D-linking on the subextraction of adjuncts out of DPs. We have seen several accounts explaining why it should not be allowed to extract an adjunct out of a DP. Bošković (2005) and Ott (2009) argue that the DP is a phase. Since the adjunct cannot move to the escape hatch (i.e., the specifier of the DP) without violating the Condition on Chain Links (Saito & Murasugi, 1999), adjunct subextraction would result in a violation of the PIC. Zwart (2009) argues in favour of a layered derivation approach. A numeration can consist of both single lexical elements and complex elements that are formed in a separate derivation. The DP is an example of a complex element that is formed in a previous derivation before entering the derivation of the clause. Movement within a derivation is possible, but movement of an element from within one derivation to the next derivation is not allowed. This means that you cannot move an element from within a DP to a position outside of that DP. While both the phase account and the layered derivation account make different predictions about some constructions, both predict that adjunct extraction out of a DP should be ungrammatical.

It is then surprising that there seem to be exceptions to this ban on adjunct extraction. I have shown for a variety of languages and prepositions heading the adjunct that D-linking improves the subextraction of adjuncts out of DPs. This is because this is in fact not an actual form of subextraction from DPs. Rather, the D-

linked element is, according to Van Craenenbroeck (2004), base generated in the specifier of the CP. This is because D-linked elements are complex wh-phrases. Non-D-linked elements are simple wh-phrases and do need to undergo movement from the adjunct position of the DP to Spec,C. Since the examples with D-linked phrases do not undergo movement, they do not violate the PIC, nor are they a form of subextraction out of a completed derivation. This explains their grammaticality. In the place where the adjunct is normally located, we find an empty operator that needs to enter in an operator/variable dependency relation. This happens post syntactically. In conclusion, the effect of D-linking on subextraction from DPs is that in instances of D-linking, no actual subextraction takes place. This accounts for the grammaticality of the D-linked examples, while maintaining the explanation of the ungrammaticality of the non-D-linked examples. ■

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References

Abney, S.P. (1987). The English noun phrase in its sentential aspect. Cambridge, Mass.: Massachusetts Institute of Technology.

Bošković, Ž. (2005). On the locality of left branch subextraction and the structure of NP. Studia linguistica, 59(1), 1-4.

Chomsky, N. (1999). Derivation by phase, MIT occasional papers in Linguistics 18.

Craenenbroeck, J. van. (2004). Ellipsis in Dutch dialects. Netherlands Graduate School of Linguistics.

Ott, D. (2009). The conceptual necessity of phases: Some remarks on the minimalist enterprise. Explorations of phase theory: Interpretation at the interfaces, 253-275.

Pesetsky, D. M. (1987). Wh-in-situ: Movement and unselective binding. The representation of in) definiteness, 98, 98-129.

Pesetsky, D. M. (2000). Phrasal movement and its kin (Vol. 37). MIT press.

Rizzi, L. (1997). The fine structure of the left periphery. In L. Haegeman (Ed.). Elements of grammar (pp. 281-337). Springer, Dordrecht.

Rooryck, J., & Vanden Wyngaerd, G. J. (2011). Dissolving binding theory. Oxford University Press.

Ross, J.R. (I967). Constraints on Variables in Syntax. (Unpublished doctoral dissertation). MIT, Cambridge, Mass.

Ross, J.R. (1986). Infinite syntax. Norwood: Ablex Publishing.

Safir, K. (2008). Coconstrual and narrow syntax. Syntax, 11(3), 330-355.

Saito, M. & Murasugi, K. (1999). Subject predication within IP and DP. Beyond principles and parameters, eds. K. Johnson & I. Roberts, 167-188. Dordrecht: Kluwer.

Toyoshima, T. (1997). Derivational CED: a Consequence of the Bottom-Up Parallel-Process of Merge and Attract. Proceedings of the West Coast Conference of Formal Linguistics 15, 505-519. Stanford: CSLI Publications.

Zwart, C. J. W. (1998). A note on 'Principle C'in ellipsis constructions.

Zwart, C. J. W. (2009). Prospects for top-down derivation. Catalan Journal of Linguistics 8, 161-187.