

# The Syntax of *Mean*

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## 1. Introduction

The aim of this paper is to examine the hitherto unnoticed issue of what syntactic categories *mean* may take as complements, analyzing the syntactic structure of (1) from the minimalist perspective. On the basis of the intuition that *what* in (1) starts out as the object of *mean*, I consider the mechanism of Case-licensing of *wh*-arguments. I also extend my analysis to the discussion of how the Case-licensing and accompanying movement of *what* is tolerated, given improper movement characterized in terms of the traditional A/A'-distinction.

- (1) What do you mean that I'm a liar?

## 2. The Complements of *Mean*

It seems to be agreed among native speakers of English that *mean* can take either a DP complement or a clausal complement, but not both of them at the same time, as shown in (2):<sup>1</sup>

- (2) a. Do you mean me?  
b. Do you mean that I'm a liar?  
c. \*Do you mean me that I'm a liar?

Given the ungrammaticality of (2c), the grammaticality of (1) is rather surprising, because it follows that *mean* can take both a DP complement and a clausal complement at the same time, as long as the former is realized as a *wh*-phrase. What is even more intriguing is that *what* in (1) does not seem to have a gap associated with it in the sentence. Thus, one may assume that *what* in (1) is base-generated in the matrix SpecCP.

However, for the following two reasons, I propose that *what* in (1) is actually base-generated in the embedded clause and has undergone *wh*-movement.

One is that native speakers of English seem to share the intuition that *what* is the object of *mean*, indicating that it bears uninterpretable features (i.e. Case-feature as well as Q-feature). However, these features cannot be checked in overt syntax if *what* is base-generated in the matrix SpecCP. This is because under the standard mechanisms (e.g. Chomsky 2001), the matrix *v* and C must establish an Agree (probe-goal) relation with *what* in order to check the Case-feature and the Q-feature, respectively.

The other reason for assuming that *what* in (1) has undergone *wh*-movement comes from the observation made by Lasnik and Saito (1992). They observe that *wh*-in-situ cannot be modified by *the hell*, as in (3a).<sup>2</sup> However, (3b) shows that *what* in (1) can.

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\* I thank Jonathan Bobaljik, Željko Bošković, Jean Crawford, Miho Isobe, Diane Lillo-Martin, Koji Matsuoka, Fumikazu Niinuma, David Ruzicka, Shoichi Takahashi, Satoru Yamamoto, Hideaki Yamashita, and the audience at WCCFL 29 for comments, discussion, and/or judgments.

<sup>1</sup> One of the WCCFL 29 reviewers pointed out that sentences like (i) below would be acceptable:

(i) I meant it that he is a liar.

However, according to the native speakers of English I have consulted, the NP object *it* in (i) sounds much like an expletive. I thus tentatively assume that (i) has a structure illustrated in (ii), where the expletive *it* and the associate *that*-clause are regarded as one DP complement.:

(ii) I meant [<sub>DP</sub> it [<sub>CP</sub> that [<sub>TP</sub> he is a liar ] ] ].

I do not discuss examples like (ii) any further in this paper, though it seems quite interesting.

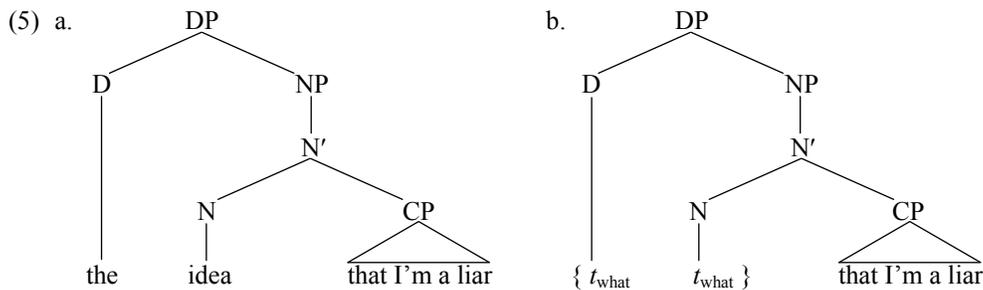
<sup>2</sup> One of the WCCFL 29 reviewers challenged the observation that *wh*-in-situ cannot be modified by *the hell*,

- (3) a. \*Who read what the hell?  
 b. What the hell do you mean that I'm a liar?

The question is what the base-generated position for *what* in (1) is. Given that *mean* basically cannot take both a DP complement and a clausal complement at the same time, as shown in (2c), the most plausible candidate seems to be the position for a DP taking an appositive clause; namely, the position for *the idea* in (4).

- (4) Do you mean the idea that I'm a liar?

However, note that the appositive clause forms a constituent with the DP, as illustrated in (5a). Given this, it seems implausible that *what* in the D/N head position alone has undergone *wh*-movement to the matrix SpecCP, stranding the appositive clause behind, as in (5b). Such movement violates the Condition on Uniformity of Chains (Chomsky 1995).



Of course, it may be possible to claim that *what* in (5b) actually undergoes head movement, rather than phrasal movement, to the matrix SpecCP, somehow circumventing a violation of the Condition on Uniformity of Chains. Let us look at Donati's (2006) discussion on the availability of *wh*-head movement in the English *wh*-movement examples.

Donati (2006) claims that both *wh*-head movement and *wh*-phrasal movement are in principle available in overt syntax.<sup>3</sup> Crucially, her claim is based on the assumption that the Extension Condition can be satisfied as long as either (the categoral feature of) the moving head or the target, projects. According to her, X<sup>0</sup>-movement is more "minimal" than XP-movement, but there are cases in which *wh*-phrasal movement is opted for in order to yield convergent derivations. Consider the following three types constructions involving *wh*-expressions, with the relevant derivations illustrated in (7):

- (6) a. I shall visit what (\*town) you will visit. (free relative)  
 b. I shall visit the town which you will visit. (full relative)  
 c. I wonder what town you will visit. (interrogative)

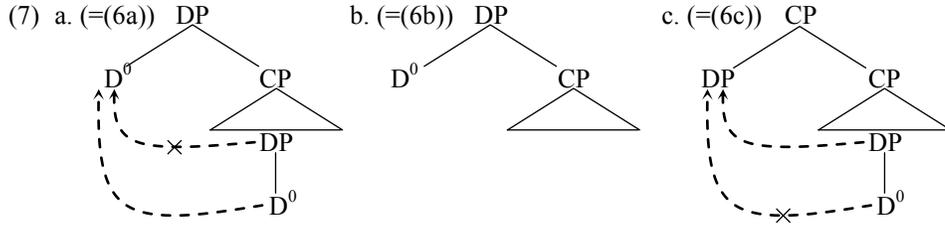
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on the ground that the infinitival in (i) cannot have involved movement of the *wh*-phrase itself.

(i) I don't know who the hell to talk to.

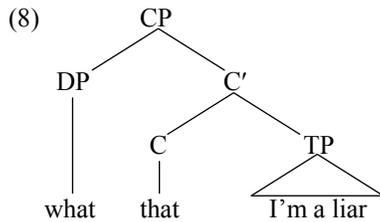
Putting the technical details aside, I simply assume here that a *wh*-phrase may be modified by *the hell* if it or an empty operator coindexed with it has undergone movement in overt syntax. I thus continue to assume that *what* in (1) has undergone *wh*-movement, rather than staying in-situ.

<sup>3</sup> I do not discuss in this paper whether head movement is a syntactic operation or a PF operation. For details, see Chomsky (1995, 2001), Boeckx and Stjepanović (2001), Donati (2006), Matushansky (2006), and Citko (2008), Taguchi (2008), Schoorlemmer and Temmerman (2011), among others.



Note that the Extension Condition is satisfied by projecting either (the categoral feature of) the moving head or the target. In (7a) (=6a), an example of free relatives, (the categoral feature of) the moving head *D* projects as a result of *wh*-head movement (Internal Merge), and the whole embedded clause ends up in DP. In (7b) (=6b), an example of full relatives, (the categoral feature of) *D* projects as a result of External Merge, and again the whole embedded clause ends up in DP. On the other hand, in (7c) (=6c), an example of interrogatives, (the categoral feature of) *C* projects as a result of *wh*-phrasal movement (Internal Merge), and the whole embedded clause ends up in CP. If *D* were allowed to project as a result of *wh*-head movement in (7c), the whole embedded clause would end up in DP, just like in (7a). However, such a derivation is not available for interrogatives, because this means that the interrogative clause is turned into a complex NP and hence cannot be interpreted as such. It should also be noted that *town* is pied-piped along with *what* in (6c). This observation lends support for the claim that interrogatives involve *wh*-phrasal movement rather than *wh*-head movement. This contrasts sharply with (6a), where the pied-piping of *town* along with *what* is shown to be disallowed. Unfortunately, I cannot find a version of (1) where *what* shows pied-piping.<sup>4</sup> However, for the rest of the paper, I follow Donati (2006) in that interrogatives like (1) involve *wh*-phrasal movement, rather than *wh*-head movement.

On the basis of the discussion so far, I propose that *mean* may take an “appositive CP” as a complement, as illustrated in (8).<sup>5</sup> Note that in (8), *what* is base-generated in the embedded SpecCP, and thus accessible to the matrix *v* to be Merged later in the course of the derivation, in accordance with the Phase Impenetrability Condition. This base-generated structure ensures that *what* can move to the matrix SpecCP by way of the matrix *v*P, having its uninterpretable Case-feature and Q-feature checked off.



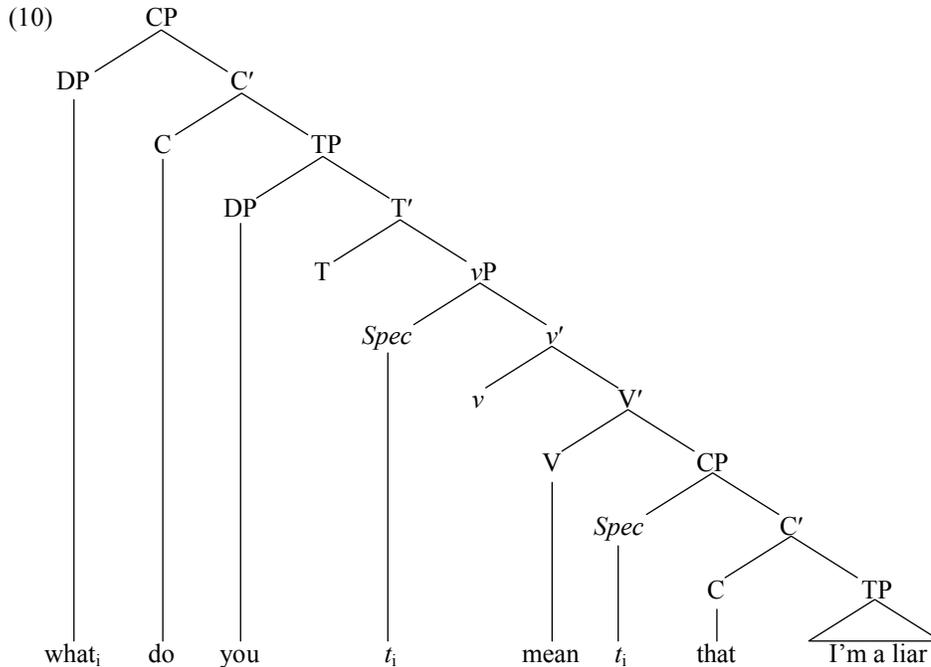
### 3. Case-checking and Improper Movement

As just noted above, one of the important consequences of the proposed analysis of (1), repeated as (9), is that the matrix *v* to be Merged later in the course of the derivation is allowed to establish an Agree relation with *what* in the base-generated SpecCP. *What* subsequently undergoes movement to have its Case-feature and Q-feature checked off. The entire derivation is illustrated in (10).

(9) What do you mean that I'm a liar?

<sup>4</sup> I thank Hideaki Yamashita for bringing this to my attention.

<sup>5</sup> Note that (8) violates the Doubly Filled COMP Filter. I will come back to this issue later.



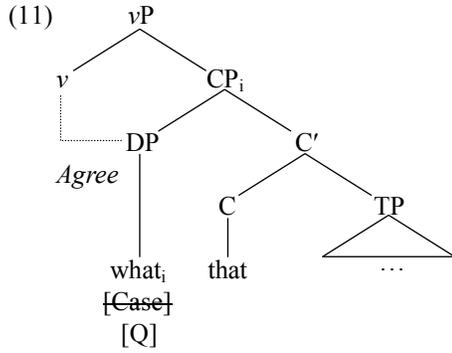
It should be further noted that the base-generated embedded SpecCP is inherently an A'-position by definition. Thus, the Agree-related movement illustrated in (10) above should be ruled out due to the ban on improper movement. Note incidentally that A-movement from the embedded SpecCP seems to be disallowed even under Chomsky's (2008) characterization of the A/A'-distinction, where A-movement is triggered by an Agree-feature, whereas A'-movement is triggered by an Edge-feature.<sup>6</sup> Let us follow the assumption that Move is a complex operation consisting of Copy and Merge, and suppose that the base-generation (i.e. External Merge) of *what* in the embedded SpecCP is triggered by an Edge-feature. Given this, subsequent movement of *what* from the embedded CP triggered by an Agree-feature should also be ruled out due to the ban on (the latest version of) improper movement.

In what follows, concentrating on improper movement characterized in terms of the traditional A/A'-distinction, I attempt to account for how *what* in (9) is Case-licensed on the way to the matrix SpecCP. First of all, let us make two assumptions.

The first assumption is that a DP in the base-generated SpecCP can enter into an Agree relation with *v* only if both of the following two conditions are satisfied. One is that the DP is coindexed with an element bearing a  $\theta$ -role, and the other is that the DP has both A- and A'-properties. As shown in (11) below, *what* is coindexed with the whole embedded CP that bears a propositional  $\theta$ -role. Also, it is clear that *what* has both A- and A'-properties (i.e. Case- and Q-features). Thus, *what* in (11) successfully enters into an Agree relation with the matrix *v*.

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<sup>6</sup> See Bruening (2001a, b) and Bošković (2007), among others, for further reconsideration of the traditional characterization of A/A'-distinction.

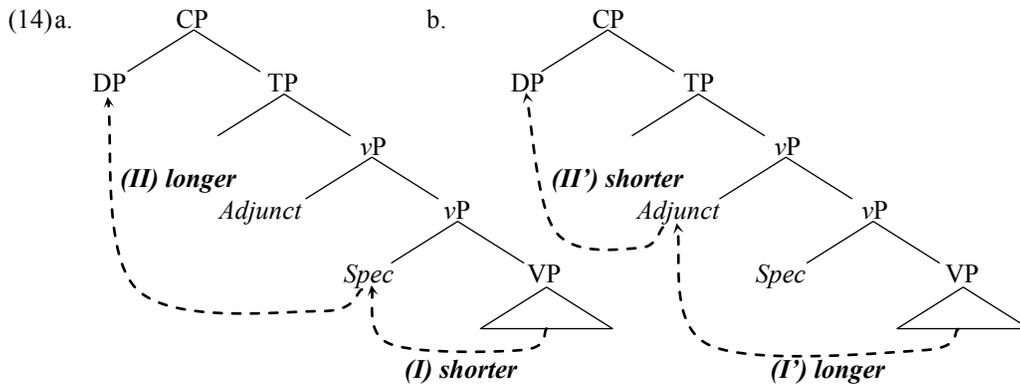


The other assumption I make is that on the way to the matrix SpecCP, *what* in (9) adjoins to SpecvP, where its accusative Case is checked off, rather than undergoing object shift to SpecvP. This is an extension of Bošković's (1997) analysis of *wager*-class verbs to the case under consideration.<sup>7</sup> Bošković accounts for the observation that *wager*-class verbs cannot Exceptionally Case-mark DPs that they do not  $\theta$ -mark, as shown in (12a). According to Bošković, this is because *wager* in (12a) projects at least two VP-shells that prevent the embedded subject from raising to the Case-checking position (here I assume it to be the matrix SpecvP in the light of the current framework), as illustrated in (13) (cf. Hale and Keyser 1993).

- (12)a. \*John wagered Mary to be smart.  
 b. Who did John wager to be smart?



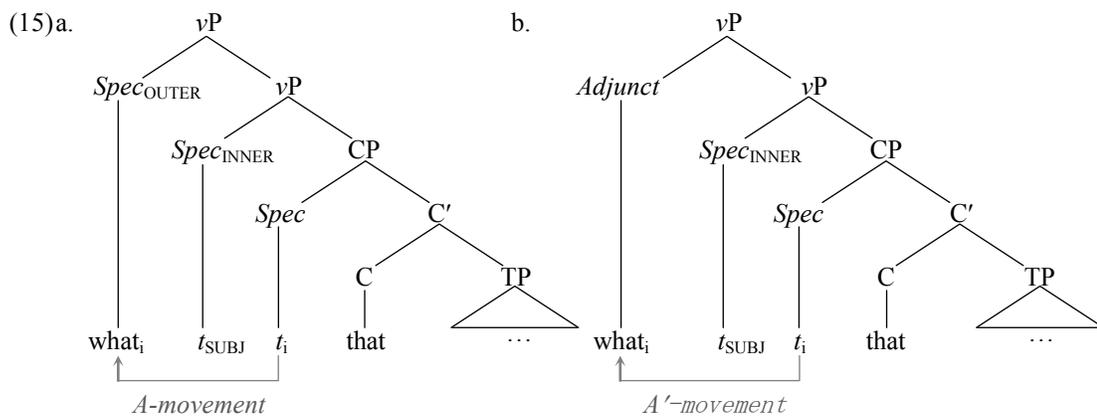
The question is why (12b), where the ECMed subject is a *wh*-phrase, is well-formed. Bošković, adopting Kayne's (1984) and Ura's (1993) proposals, claims that *wh*-DPs like *who* in (12b) undergo *wh*-movement while having the Case-feature checked by adjoining to the matrix SpecvP, on the way to the matrix SpecCP, as illustrated in (14b) below. The derivations shown in (14a) and (14b) are both available, because they are equivalent with respect to chain length and obey economy principles. More specifically, even though the first link of the chain in (14b) (i.e. **(I')**) is longer than that in (14a) (i.e. **(I)**), the second link in (14b) (i.e. **(II')**) is shorter than that in (14a) (i.e. **(II)**), and hence the total length of the whole chains is identical. On the other hand, this is not the case with non-*wh* DPs in (12a). More specifically, since non-*wh* DPs in (12a) never undergo movement to the matrix SpecvP, only **(I)** and **(I')** in the two derivations should be compared, and the latter should be excluded because it is longer than the former, in accordance with economy principles.



<sup>7</sup> The reader should keep in mind that there is a variation among native speakers regarding ECM constructions with *wager*.

Given the reasoning illustrated in (14), one may want to apply Bošković's analysis directly to (9), and maintain that Case-checking of *what* in the *vP*-adjoined position should be tolerated. However, under the current minimalist framework, the story is not so simple. Since the computation is supposed to proceed by phases, economy principles should also apply in each phase. Hence, if a *vP*-adjunction operation (i.e. **(I')** of (14b)) involves a longer chain link than object shift to *SpecvP* (i.e. **(I)** of (14a)), economy principles should exclude the former derivation immediately at the point when the *vP*-phase is sent to Spell-Out.

Now, the question is what makes it possible to circumvent the violation of economy principles, still maintaining the Case-checking of *what* via *vP*-adjunction. To answer the question, let us consider how and whether or not object shift and *vP*-adjunction are configurationally differentiated from each other. Notice that under the recent minimalist framework, object shift is supposed to be a substitution operation targeting the outer *SpecvP* (i.e. *Spec*<sub>OUTER</sub> in (15)), which is projected above the inner *SpecvP* (i.e. *Spec*<sub>INNER</sub> in (15)) hosting the subject. Crucially, object shift, illustrated in (15a), results in exactly the same configuration as that for the *vP*-adjunction in question, as illustrated in (15b):



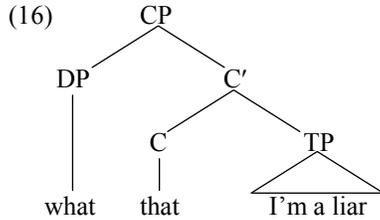
Under the recent minimalist framework, the *vP* in (15) should be spelled out as soon as the matrix C enters the structure. Thus, given two distinct derivations targeting the *vP*, economy considerations should prefer the more economical one over the other. However, given that object shift and *vP*-adjunction result in the same configuration, as shown in (15), both derivations should be equally economical in the sense that they are equivalent with respect to chain length, and hence available. This means that the difference between (15a) and (15b) reduces only to whether *what* has undergone A-movement or A'-movement from the embedded *SpecCP*. Now, let us examine (15b), where the Case of *what* is checked via *vP*-adjunction. Crucially, in this derivation, *what* does not have to stop by at any A-position throughout the A'-movement from the embedded *SpecCP* to the matrix *SpecCP*. The availability of the derivation in (15b) successfully guarantees that *what* in (9), while having its Case feature checked off, can undergo A'-movement without violating the ban on improper movement.

#### 4. Consequences

In this section, I discuss some consequences of the proposed analysis, including comments from the audience and problems pointed out by them.

##### 4.1. The Doubly Filled COMP Filter

As noted in footnote 5, the base-generated structure for (9) violates the Doubly Filled COMP Filter, as shown in (8), repeated as (16) below.

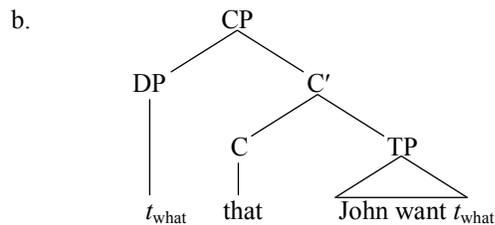
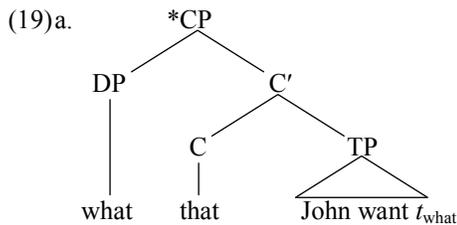


Interestingly, some of the native speakers of English I have consulted find (17), the *that*-less counterpart of (9), more acceptable. It seems that this example challenges the analysis on the basis of the assumption that (9) is derived from the structure in (16). Let us see that (9) in fact lends support for the proposed analysis.

(17) What do you mean I'm a liar?

The Doubly Filled COMP Filter has been regarded as a surface filter. This appears to be unquestionable, given the contrast between (18a) and (18b). To illustrate, if both the Spec and the head of the embedded CP are filled in the final representation, the derivation results in ill-formedness, as shown in (19a). On the other hand, such a configuration is allowed to be established at an intermediate point in the successive-cyclic derivation, as long as the embedded SpecCP is evacuated in the final representation, as shown in (19b).

- (18)a. I wonder what (\*that) John wants.
- b. What do you think that John wants?



Given the variation just mentioned, I assume that there are two idiolects regarding the Doubly Filled COMP Filter. In the idiolect preferring (17), the Doubly Filled COMP Filter applies in the base-generated structure as well (i.e. at the point when (16) is built up). In the idiolect where (9) and (17) are equally acceptable, on the other hand, the Doubly Filled COMP Filter applies only in the final representation (i.e. after the embedded SpecCP is evacuated). Thus, it can be said that (17), which is apparently challenging the proposed analysis, has turned out to be an example that lends support for assuming (16) for the complement of *mean* in (9).

#### 4.2. Superiority Effects

Finally, let us consider how *what* in (16) interacts with other *wh*-phrases in the matrix clause with respect to superiority. As is pointed out by one of the audience, it is predicted that a *wh*-adjunct such as *when* in the matrix clause should be able to undergo *wh*-movement, given that *mean* takes a complement clause like (16). However, this prediction is not correct, as shown in (20):

(20) \*When did you mean what that I'm a liar?

A possible explanation of the ill-formedness of (20) is following. Since *what* needs to have its Case-feature checked, it moves to a higher position than that of *when* prior to *wh*-movement. Thus, at the point when *wh*-movement applies, *what* has already been higher than *when*, and moving *when* over *what* violates the Superiority Condition. Note that this is exactly what happens in the Exceptional

Case-marking (ECM) context in English. Consider (21) below.

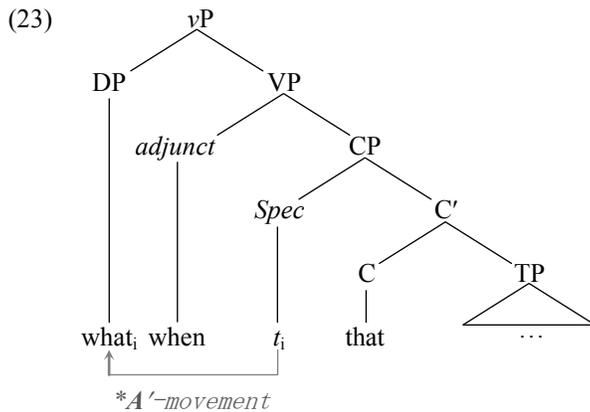
- (21)a. Whom did you prove to be guilty when?  
 b. \*When did John prove whom to be guilty?

Bošković (1997, 2002) claims that the ECMed subject in English obligatorily undergoes A-movement to the matrix clause (cf. Lasnik 1999a, b, etc.). Thus, just like the case of *what* in (20), *whom* in (21) has already been in a higher position than that of *when* at the point when *wh*-movement applies, and moving *when* over *whom* violates the Superiority Condition.

Two questions arise regarding the explanation given just above. One is why the movement of *what* for Case-checking is immune to the Superiority Condition. More specifically, if the proposed analysis is on the right track and the movement of *what* for Case-checking is *vP*-adjunction, an instance of A'-movement, a violation of the Superiority Condition should be expected to occur at the point when *what* moves over *when*.<sup>8</sup> The other question is why (22a), where *what* is eventually higher than *when*, is still ill-formed. Given that *what* has been moved to the matrix clause for Case-checking (putting aside whether it is A- or A'-movement), it should be able to undergo *wh*-movement over *when* without violating the Superiority Condition (note that the ill-formedness of (22a) should not be attributed to the incompatibility with a temporal adjunct, since (22b) is totally fine with *yesterday*, which modifies the matrix clause).

- (22)a. \*What did you mean when that I'm a liar?  
 b. What did you mean yesterday that I'm a liar?

These questions can be answered rather straightforwardly. In other words, it seems plausible to assume that the movement of *what* for Case-checking under consideration is actually excluded by the Superiority Condition. This is precisely because the relevant movement is an instance of A'-movement of a *wh*-phrase over another *wh*-phrase, as observed in (21b). Thus, in both (20) and (22a), the derivations should be excluded at the point when *what* undergoes A'-movement (i.e. Case-checking via *vP*-adjunction) over *when*.<sup>9</sup> This is illustrated in (23):



#### 4. Summary

In this paper, I examined what syntactic categories *mean* may take as complements. Noticing that object shift to Spec<sub>vP</sub> and *vP*-adjunction result in exactly the same configuration with respect to chain

<sup>8</sup> Here, I follow Bošković's (2007) assumption that a violation of the Superiority Condition occurs at the point when a *wh*-phrase moves over another *wh*-phrase.

<sup>9</sup> It is predicted that the same holds for sentences with *wager*, which also involve Case-checking via *vP*-adjunction, according to Bošković (1997). Unfortunately, however, I cannot show this due to variation among speakers.

length, I considered how Case-licensing of *wh*-arguments in the complement clause of *mean* circumvent improper movement characterized in terms of the traditional A/A'-distinction. I also discussed the Doubly Filled COMP Filter and the Superiority Condition in relation to the syntax of *mean*, both of which were shown to be consistent with the proposed analysis.

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