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Wh-Subjects, Intervention Effects, and Structural Dependencies

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ABSTRACT

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This paper investigates the syntax of wh-subjects in English, as in *Who left?*, a long-standing topic of debate in the literature. While traditional approaches assume that wh-subjects move to SpecCP, I adopt and refine Bošković's (2024) proposal that they move to a lower mixed A/A′ position, SpecA/A′P, in the EPP domain. I argue that, despite the absence of overt movement to SpecCP, wh-subjects must nevertheless establish structural dependencies with the interrogative C. Specifically, I propose that the interrogative C selects the A/A′ head and enters into an Agree relation with the wh-phrase in SpecA/A'P, thereby yielding wh-interpretation. The resulting dependency between C and A/A' captures intervention effects induced by intervening operators. It also provides a more explicit account of restrictions on aggressively non-D-linked wh-subjects, such as *who the hell*, in embedded clauses. Finally, I suggest that constraints such as anti-locality and derivational economy prevent wh-subjects from undergoing further movement from SpecA/A'P to SpecCP.

KEYWORDS

wh-subjects, structural dependency, EPP, A/A', aggressively non-D-linked wh-phrases, intervention effects

1. Introduction

This paper investigates the syntax of wh-subjects in English. A long-standing question in the literature concerns the structural position of highest wh-subjects in a question like (1). Although it is generally agreed that non-subject wh-movement occupies SpecCP, the location of the wh-subject *who*, as in (1), remains controversial.

(1) Who left?

The core issue has been whether *who* occupies SpecCP or SpecTP. One line of research argues that *who* moves to SpecCP through SpecTP (Pesetsky and Torrego 2001), as in (2).

(2) [$_{CP}$ who$_i$ C [$_{TP}$ t$_i$ T [$_{VP}$ t$_i$ left]]]

However, other researchers argue that *who* does not move to SpecCP and instead remains in SpecTP, as illustrated in (3) (Agbayani 2000, Carstens et al. 2016, Chomsky 1986, Chung and McCloskey 1983, Gallego 2017, among others).

(3) [$_{CP}$ C [$_{TP}$ who$_i$ T [$_{VP}$ t$_i$ left]]]

Still, others assume that *who* moves directly from its argument position without dropping by SpecTP, as shown in (4) (Bošković 2016, Erlewine 2016, Holmberg and Hróarsdóttir 2003, McCloskey 2000, Rizzi 1982).

(4) [$_{CP}$ who$_i$ C [$_{TP}$ T [$_{VP}$ t$_i$ left]]]

In this paper, I review recent analyses of wh-subject movement and address several empirical and theoretical challenges they raise. I propose a way of resolving these issues and discuss broader implications for related phenomena.

The remainder of the paper is organized as follows: Section 2 discusses previous analyses. Section 3 addresses several theoretical and empirical challenges. Section 4 develops the proposal that, despite not moving to SpecCP, wh-subjects must establish structural dependencies with the interrogative C head, and discusses its consequences. Section 5 concludes the paper.

2. Previous Analyses

2.1 Messick (2020)

Messick (2020) argues that (highest) wh-subjects move to SpecCP and, in the course of derivation, never pass through SpecTP. In other words, Messick argues for the derivation in (4). One of the arguments Messick presents against the derivation in (3), in which the wh-subject stays in SpecTP, comes from aggressively non-D-linked wh-

phrases (Ginzburg and Sag 2000, Pesetsky 1987). As shown in (5), while aggressively non-D-linked wh-phrases can appear in SpecCP as in (5a), they cannot remain in situ, as in (5b) (den Dikken and Giannakidou 2002, Ginzburg and Sag 2000, Pesetsky and Torrego 2001).

(5) a. What the hell did he buy?
b. *Who bought what the hell?

The aggressively non-D-linked wh-subject in (6) is acceptable, paralleling (5a). The afore-mentioned authors take (6) to indicate that wh-subjects move to SpecCP.

(6) Who the hell bought a car?

Messick (2020) takes coordinate structure constraint (CSC) violations, discussed in Bošković (2020), as additional evidence that wh-subjects move to SpecCP. Consider (7).

(7) *Who left and John went to the store?

If wh-subjects could remain in SpecTP, as shown in (8a), no CSC violations would arise, and examples such as (7) should be acceptable, contrary to fact. The unacceptability of (7) follows straightforwardly if the wh-subject moves to SpecCP, thereby inducing a CSC violation, as illustrated in (8b).

(8) a. [$_{\&P}$ [$_{TP}$ who left] & [$_{TP}$ John went to the store]]
b. [$_{CP}$ who$_i$ [$_{\&P}$ [$_{TP}$ t$_i$ left] & [$_{TP}$ John went to the store]]]

Messick (2020) also rejects the derivation in (2), in which the wh-subject moves to SpecCP, stopping off in SpecTP. As an argument for the claim that wh-subjects do not pass through SpecTP, Messick considers the distributional properties of quantifier float in West Ulster English, as described in McCloskey (2000) (see also Fitzpatrick 2006 and Henry 2012).

(9) *Wester Ulster English* (McCloskey 2000: 58)
a. What did you get all for Christmas?
b. Who did you meet all when you were in Derry?
c. Where did they go all for their holidays?

Importantly, wh-subjects also allow for quantifier float, as in (10a), whereas quantifier float is disallowed when the subjects are not wh-phrases, as in (10b). This suggests that the wh-subject in (10a) moves directly to SpecCP without intermediate movement to SpecTP. Otherwise, it would pattern with (10b).

(10) *Wester Ulster English* (McCloskey 2000: 77)
a. Who was throwing stones all around Butchers' Gate?
b. *They were throwing stones all around Butchers' Gate.

2.2 Bošković (2024)

While Messick (2020) argues for the derivation in (4), Bošković (2024) rejects all the derivational possibilities in (2)-(4), repeated below, for convenience.

(2) [$_{CP}$ who$_i$ C [$_{TP}$ t$_i$ T [$_{VP}$ t$_i$ left]]]

(3) [$_{CP}$ C [$_{TP}$ who$_i$ T [$_{VP}$ t$_i$ left]]]

(4) [$_{CP}$ who$_i$ C [$_{TP}$ T [$_{VP}$ t$_i$ left]]]

First, Bošković argues that, unlike non-subject wh-movement, wh-subjects do not move to SpecCP. In other words, Bošković rejects both the derivations in (2) and (4), in which the wh-subject moves to SpecCP. He first demonstrates that wh-moved subjects and objects do not move to the same position, based on Kaisse's (1983) observation that there exists a one-word host restriction on contracted auxiliaries hosted by moved wh-phrases, as shown in the contrast in (11)-(13).

(11) a. What's John buying?
b. When's dinner?
c. How's your old man?

(12) a. *Whose food's the dog eating?
b. *Which man's she the fondest of?

(13) a. Whose food's burning?
b. Which man's leaving first? (Kaisse 1983)

Importantly, the restriction holds only for non-subject wh-phrases, as shown in the contrast between (12) and (13). Bošković takes this to indicate that subject and non-subject wh-movement target different positions. If, as standardly assumed, non-subject wh-movement targets SpecCP, it follows that wh-subjects move to a position other than SpecCP.

Interaction with topicalization suggests that the landing site of wh-moved subjects are lower than that of wh-moved objects. Examples in (14) show that only the landing site of wh-moved object is above the topic position. This in turn indicates that wh-subjects move to a lower position than SpecCP (see Bošković 2024 for further arguments).

(14) a. ?Mary wonders which book, for John, Peter should buy.
b. *Mary wonders which student, for John, should buy that book.

Bošković (2024) argues that even if wh-subjects move to a lower position than SpecCP, they do not stay in SpecTP, as in (3), given the float quantifier patterns in Wester Ulster English, discussed in (10) (Recall that if the wh-subject in (10a) stayed in SpecTP, it should pattern with the non-wh subject in (10b), contrary to fact). Bošković presents an additional argument for this claim. Consider (15).

(15) a. Who loves everyone? (who>everyone; *everyone>who)
b. Someone loves everyone (someone>everyone; everyone>someone)

The possibility of inverse scope in (15b) shows that the object quantifier can scope over the subject in SpecTP. The impossibility of inverse scope in (15a) then indicates that the wh-subject *who* is not located in SpecTP (Mizuguchi 2014).

If wh-subjects move neither to SpecCP nor SpecTP, where do they move to? Bošković (2024) proposes that there are two distinct wh-positions, a higher one and a lower one, with the lower position serving as the landing site for (locally) moved wh-subjects. According to Bošković, the lower position is confined to subjects because it is a mixed A/A' position on the border of the traditional A and A' fields. It is the landing site of wh-subjects, but also the position in which the EPP is satisfied. Building on Bošković's (2012, 2013, 2014) contextual approach to phases, Bošković (2024) suggests that there is an EPP domain, with the highest phrase in this domain being the locus of the EPP, as illustrated in (16).[1]

(16) EPP domain (in italics): [$_{CP}$ who-Acc *[$_{A/A'P}$ who-Nom [$_{IP}$ John-Nom*

In (16), there are two positions in which the EPP can be satisfied: SpecA/A'P and SpecIP. Wh-subjects move to SpecA/A'P, where the EPP is satisfied, while non-wh subjects move to SpecIP for the EPP satisfaction.[2,3]

Bošković (2024) further argues that SpecA/A'P may also be occupied by non-wh subjects that bear mixed A/A' properties, such as focalized subjects and subjects undergoing locative inversion. Examples in (17) show that the *only*-licensor c-commands the NPI in (17a), whereas such licensing fails from a purely A-position as shown in (17b). The acceptability of (18) therefore indicates that the focalized subject moves to SpecA/A'P, parallel to the wh-subject movement, as illustrated in (16).

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[1] As noted in Bošković (2024), non-local wh-subject movement, however, does not move to SpecA/A'P in the matrix domain, since it would not satisfy the EPP requirement (see fn. 15 for related discussion).

[2] To be more precise, Bošković (2024) proposes that IP is further split into AgrsP and TP (Bošković 2020), both of which also fall within the EPP domain. Under this view, non-wh subjects occupy SpecAgrsP, while quirky subjects occupy SpecTP, as in (i). For ease of exposition, however, I adopt the simplified structure in (16) in this paper.

(i) EPP domain (in italics): [$_{CP}$ who-Acc *[$_{A/A'P}$ who-Nom [$_{AgrsP}$ John-Nom [$_{TP}$ quirky subjects*

[3] A reviewer asks how Chomsky's (2008) proposal would fare with Bošković's (2024) approach. Chomsky (2008) proposes that the wh-subject in (ic) is derived by raising *who* to Spec CP, while simultaneously raising it to SpecTP, as illustrated in the derivations in (ia)-(ib). Movement to SpecCP in (ib) is motivated by the edge feature of C and movement to SpecTP is driven by the inheritance of agreement features by T from C. When A-chains in (ib), that is, (*who$_j$, who$_k$*) and (*who$_k$*), become invisible, the surface form (ic) is derived.

(i) a. C [T [who [v* [see John]]]]
b. [Who$_j$ [C [who$_j$ [T who$_k$ v* [see John]]]]]
c. Who saw John?

Chomsky's analysis in (i) is not compatible with Bošković's (2024) analysis, since the two analyses posit different final landing sites for wh-subjects. For Chomsky, final position is SpecCP, whereas for Bošković it is a position below SpecCP, namely, SpecA/A'P. Adopting empirical arguments provided by Bošković (2024), the present paper does not assume Chomsky's derivations in (i). (See Bošković 2024 for relevant discussion.)

(17) a. Only his girlfriend does Bill give any flowers.
b. *Bill gives only his girlfriend any flowers.

(18) Only Mary showed any respect for the visitors. (Branigan 1992: 84)

3. Is A/A'P Good Enough?

In this section, I address several issues that arise under Bošković's (2024) system. First, recall that under Bošković's proposal, there are two wh-positions, SpecCP and SpecA/A'P. While non-subject wh-phrases move to SpecCP, wh-subjects move only to SpecA/A'P, as indicated in (16) above. This seems to suggest that when wh-subjects move to SpecA/A'P, the traditional CP layer headed by an interrogative $C_{[+wh]}$ is not required. However, there is evidence that $C_{[+wh]}$ is still necessary even when wh-subjects move to SpecA/A'P.

First, consider (19). As shown in (19), discourse-linked (D-linked) wh-phrases such as *which boy* are exempt from Superiority (Pesetsky 1987, 2000). In terms of interpretation, each question in (19) permits both the single-pair (SP) and the pair-list (PL) readings.

(19) a. Which boy read which book? [Superiority observing, SP/PL]
b. Which book did which boy read? [Superiority violating, SP/PL]

Pesetsky (2000) observes that there is a correlation between Superiority and the intervention effect. When negation intervenes between the two wh-phrases, as in (20), an intervention effect occurs only in the Superiority-violating environment in (20b), resulting in loss of the PL reading.

(20) a. Which boy didn't read which book? [Superiority observing, SP/PL]
b. *PL Which book didn't which boy read? [Superiority violating, SP/*PL]

The standard assumption on such intervention effects is that they arise when a focus-sensitive operator (e.g., *not* and *only* N) intervenes between an LF in-situ wh-phrases and the interrogative C that interprets it, as illustrated in (21b) (Beck 2006, Beck and Kim 1997, Kotek 2014, 2019, Pesetsky 2000, among many others). The intervention effect can be evaded when the in-situ wh-phrase undergoes wh-phrasal movement across the intervener at LF, as shown in (21a). In parallel, (20a) evades the intervention effect because the in-situ wh-object can undergo LF wh-movement across negation to SpecCP. Pesetsky (2000) argues that in the Superiority-violating environment in (20b), the "in-situ" wh-subject does not undergo wh-phrasal movement but instead involves wh-feature movement to C, thereby inducing an intervention effect.

(21) a. [CP C [... **Intervener** ... wh]] [No intervention]
b. *[CP C [... **Intervener** ... wh]] [Intervention]

What is crucial here is that some form of dependency must hold between the wh-subject and the interrogative C in (20b); otherwise, no intervention effect would be expected, contrary to fact. If this is indeed the case,

Bošković's proposal regarding wh-subject movement to SpecA/A'P calls for further elaboration (see further discussion in Section 4).[4]

Another issue concerns the distribution of aggressively non-D-linked wh-subjects in embedded clauses. First, consider the following examples in (22), repeated from (5) and (6). Under Bošković's (2024) analysis, these data indicate that the *the-hell* modification is compatible not only with wh-moved non-subjects in SpecCP, as in (22a), but also with wh-moved subjects in SpecA/A'P, as in (22c). (In-situ wh-phrases are not compatible with the modification, as in (22b).)

(22) a. What the hell did he buy?
b. *Who bought what the hell?
c. Who the hell bought a car?

However, as noted in Bošković (2024), embedded wh-subjects are not compatible with *the-hell* modification, as shown in (23a).

(23) a. *Who thinks that who the hell left? (Bošković 2024: 112)
b. Who thinks that who left?

The acceptability of (22c) with *the hell* has led Bošković to conclude that the embedded wh-subject in (23) does not occupy SpecA/A'P. However, this immediately raises the question of how to prevent the embedded wh-subject in (23) from occurring in the embedded SpecA/A'P, which is located below CP, as illustrated in (24). If this were allowed, (23a) would be allowed, parallel to (22c), contrary to fact.

(24) … [$_{CP}$ C-that [$_{A/A'P}$ [who (the hell)]$_i$ [$_{vP}$ t$_i$ left]]]

Under the traditional view that wh-movement targets SpecCP, the unacceptability of (23a) is expected. The word order indicates that the embedded wh-subject in (23b) does not move overtly to the embedded CP, as it occurs below the embedded complementizer *that*. Since, under this view, the embedded wh-subject is not located in SpecCP, the *the-hell* modification is correctly ruled out in (23a). However, under Bošković's (2024) system, there is no clear mechanism that would prevent the embedded wh-subject from occupying the embedded SpecA/A'P, as illustrated in (24). If this position is indeed available, the incompatibility pattern in (23) will remain unaccounted for. Under this system, therefore, further clarification is required.

One potential approach to this issue would be to assume that the left periphery of the embedded clause simply does not allow A/A'P (cf. Rizzi 1997), which would straightforwardly account for the unacceptability of (23a). However, this is not tenable. In examples in (25), the embedded subject is a focalized subject modified by *only*. As discussed in Section 2, focalized subjects occupy SpecA/A'P, from which they can license NPIs; in (25b), the

[4] One might assume that the wh-subject in an environment like (19b)/(20b) occupies SpecIP, not SpecA/A'. However, under Bošković's system, it can clearly occupy SpecA/A'. Consider (i), where the focalized subject appears in SpecA/A'. Example (i) involves wh-object movement across the focalized subject in SpecA/A'. All else being equal, then, in (19b)/(20b) the wh-subject can also occupy SpecA/A', just as the focalized subject does in (i):

(i) [$_{CP}$ Who(m) did [$_{A/A'P}$ only Mary show any respect for]]?

focalized embedded subject *only Mary* occupies this position, licensing the NPI. This pattern indicates that A/A'P is indeed available in the left periphery of the embedded clause. Under Bošković's system, this poses something of a paradox: while (25b) shows that embedded A/A'P is available, (23a) shows that it isn't.

(25) a. Who thinks that only Bill ate what?
b. Who thinks that only Mary showed any respect for whom?

In the next section, I will attempt to resolve these issues by proposing that there must be certain structural dependencies between the interrogative C and wh-subjects in SpecA/A'P.

4. WH-Subject Dependencies

4.1 Intervention Effects

As noted in the previous section, Bošković's (2024) system provides no clear structural dependency between the interrogative C and the wh-moved subject in SpecA/A'P. I propose that such a dependency must be established. Specifically, I suggest that it arises through a selectional relation between the two heads. Descriptively, when a wh-subject occupies SpecA/A'P, the head A/A' must be selected, represented with an arrow, by an interrogative $C_{[+wh]}$, as schematized in (26) (to be refined below).

(26) *Wh-Subject Dependencies (to be refined)*
$[C_{[+wh]}\ [_{A/A'P}$ who A/A'
(Selection)
(Agree)

I further assume that the head $C_{[+wh]}$ not only selects the head A/A', but also enters into an Agree relation (Chomsky 2000, 2001) with *who* in SpecA/A'P (indicated with dotted line), thereby creating the usual wh-dependency between an interrogative C and a wh-phrase. These selectional and Agree relations between the two heads straightforwardly capture the intervention effect, discussed in the previous section. The relevant examples in (20) are repeated in (27) below, for convenience.

(27) a. Which boy didn't read which book? [Superiority observing, SP/PL]
b. *PL Which book didn't which boy read? [Superiority observing, SP/*PL]

In (27b), the wh-subject *which boy* occupies SpecA/A'P and enters into an Agree relation with the interrogative C. This, however, induces an intervention effect due to the negation intervening between the two elements (cf. Kotek 2016, 2019), as illustrated in (28).

(28) *Intervention effect (to be refined)*
*PL $[_{CP}$ Which book$_j$ $C_{[+wh]}$-did**n't** $[_{A/A'P}$ which boy$_i$ $[_{vP}$ t_i read t_j]]]
(Agree)

Crucially, as noted above, the interrogative $C_{[+wh]}$ selects the head A/A' when its specifier is occupied by a wh-subject. An interesting consequence of this approach is that $C_{[+wh]}$ must come in two types, distinguished by the number of specifiers they permit. In examples like (28), the interrogative C is of a type that allows an overt specifier. However, under the current analysis, the number of the specifier can also be zero. Consider the singleton wh-question in (29a). In (29a), the wh-subject occupies SpecA/A'P and the head A/A' is selected by the $C_{[+wh]}$ head, as shown in (29b).

(29) a. Who read the book?
b. $[C_{[+wh]}\ [_{A/A'P}\ who_i\ A/A'\ [_{vP}\ t_i$ read the book]]]

If (29b) represents the correct derivation, it follows that the head $C_{[+wh]}$ selecting an A/A' whose specifier contains a wh-subject must permit a zero-specifier configuration. I propose that this is indeed available. More specifically, I suggest that $C_{[+wh]}$ can bear an additional feature regulating the number of its specifiers. This line of approach is not entirely new: Pesetsky (2000), for instance, argues that interrogative C can be divided into two types depending on how many wh-phrases it allows in its specifier, one permitting a single specifier and another permitting multiple specifiers (See also Cable 2010, Kotek 2019). In the spirit of this, I propose that the interrogative C in (29) bears the feature composition, [+wh, 0-Spec]. The more refined derivation of (29a) is shown in (30).

(30) Derivation of (29a)
$[C_{[+wh,\ 0\text{-}Spec]}\ [_{A/A'P}\ who_i\ A/A'\ [_{vP}\ t_i$ read the book]]]

Note here that the selectional relation between $C_{[+wh,\ 0\text{-}Spec]}$ and A/A' must be uniquely constrained such that the selection can take place only between these two elements. In other words, I suggest that $C_{[+wh,\ 0\text{-}Spec]}$ can only select an A/A' head whose specifier is occupied by a wh-subject. Otherwise, the system would incorrectly permit a sentence like (31a) as a genuine wh-question.[5] As discussed in Section 2, under Bošković's (2024) system, non-wh subjects like *John* occupy SpecIP (or AgrsP in the split-IP system; see fn. 2). If the head I (or Agrs) could also be selected by $C_{[+wh,\ 0\text{-}Spec],}$ as shown in (31b), we would incorrectly expect (31a) to be acceptable.

(31) a. *John read what?
b. $[C_{[+wh,\ 0\text{-}Spec]}\ [_{IP/AgrsP}\ John_i\ I\ [_{vP}\ t_i$ read what]]]

The example in (32a) illustrates the same point. In (32a), the focalized subject *only Mary* occupies SpecA/A'P, as discussed in Section 2. If the head A/A' could be freely selected by $C_{[+wh,\ 0\text{-}Spec]}$, then (32a) should allow the derivation illustrated in (32b). This, in turn, would incorrectly predict that (32a) could function as a legitimate wh-question without involving any wh-movement to CP. (Compare (32a) with (33).) This further reinforces the claim that $C_{[+wh,\ 0\text{-}Spec]}$ can select the A/A' head only when its specifier is occupied by a wh-subject.

(32) a. *Only Mary showed any respect for whom?
b. $[C_{[+wh,\ 0\text{-}Spec]}\ [_{A/A'P}\ [_{FP}$ only Mary$]_i$ A/A' $[_{vP}\ t_i$ showed any respect for whom]]]

[5] (31a) is acceptable as an echo question.

(33) Who(m) did only Mary show any respect for?

The discussion thus far, however, raises the question of how to distinguish wh-subjects from other types of subjects that occupy SpecA/A'P. As alluded to in Bošković's (2024), the distinction could be made if I assume, in line with Cable (2010), wh-moved phrases can be dominated by a QP. According to Cable (2010), in wh-fronting languages like English, a wh-phrase is merged with a Q-particle, which project a QP layer. On this view, traditional wh-movement is recast as QP movement.[6] When incorporated in Bošković's system, this implies that wh-subjects are in fact QP-subjects, as shown in (34), thereby distinguishing them from other non-wh/QP subjects like *only Mary* in (32a).

(34) *Derivation of (29a), (final)*

$[_{CP}\ C_{[+wh.\ 0\text{-}Spec]}\ [_{A/A'P}\ [_{QP}\ who]\ A/A'_{[Q]}\ [_{vP}\ t_i$ read the book]]]

(Selection)

(Agree)

The restricted selectional relation between C and A/A' in (34) can be further implemented by assuming that the head A/A' can optionally bear a Q-feature, which may enter into a Spec-Head agreement with a moved QP. Under this assumption, the head $C_{[+wh.\ 0\text{-}Spec]}$ can only select the head $A/A'_{[Q]}$ and no other category, thereby correctly ruling out the derivation in (31b) and (32b).[7,8]

Notice that the multiple-wh question in (19b), repeated here as (35a), shows that the interrogative C can host a specifier (at least when D-linked wh-phrases are involved), in addition to permitting a zero specifier. Given the discussion so far, (35a) is derived in overt syntax, as shown in (35b).[9]

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[6] Specifically, Cable (2010) argues that when the interrogative C attracts the Q-particle, it pied-pipes the entire QP.

[7] It is plausible to assume that the A/A' head can also optionally bear a focus feature that attracts focalized subjects as in (18) and (33). Note that in Bošković (2024), the featural content of the A/A' head is not explicitly explored, whereas under the current analysis, it bears additional features like the Q-feature. I thank two anonymous reviewers for raising questions regarding the featural content of the A/A' head and the details of the selection mechanisms.

[8] Under the proposed analysis, the unacceptability of (7), repeated as (ia), arises since non-identical categories are conjoined, as illustrated in (ib).

(i) a. *Who left and John went to the store?
b. $[_{\&P}\ [_{CP}\ C_{[+wh.\ 0\text{-}Spec]}\ [_{A/A'P[Q]}$ who left]] and $[_{IP}$ John went to the store]]

The parallel unacceptability of (iia) provides further support for the proposed analysis. The subject in the second conjunct in (iia) is a focalized subject, which occupies SpecA/A'P. With a CP layer in the first conjunct, the unacceptability (iia) is straightforward.

(ii) a. *Who left and only John went to the store?
b. $[_{\&P}\ [_{CP}\ C_{[+wh.\ 0\text{-}Spec]}\ [_{A/A'P[Q]}$ who left]] and $[_{A/A'P[F]}$ only John went to the store]]

[9] The typical Superiority violation with non-D-linked wh-phrases, as in **What did who read?*, cannot be solely accounted for by this property of C. If Superiority effects indeed arise from the properties of the interrogative C, then additional restrictions on its featural or structural specification must be imposed (Cable 2010, Chomsky 2008, Kotek 2019, Pesetsky 2000). Exploring this is beyond the scope of this paper. I leave it for future research.

(35) a. Which book did which boy read?
b. [$_{CP}$ [$_{QP}$ which book]$_j$ did-C$_{[+wh,\ 1\text{-}Spec,\ Q]}$ [$_{A/A'P}$ [$_{QP}$ which boy]$_i$ A/A'$_{[Q]}$ [$_{vP}$ t$_i$ read t$_j$]]]

The possibility that C$_{[+wh,\ 1\text{-}Spec]}$ can select A/A'$_{[Q]}$ raises the question of why the wh-subject (or QP-subject) in a singleton question, as in (36a), does not move to SpecCP (See Section 2 for arguments). In other words, what prevents *which boy* in SpecA/A'P from moving further to SpecCP, as in the derivation in (36b)?

(36) a. Which boy read the book?
b. [$_{CP}$ C$_{[+wh.\ 1\text{-}Spec,\ Q]}$ [$_{A/A'P}$ [$_{QP}$ which boy]$_i$ A/A'$_{[Q]}$ [$_{vP}$ t$_i$ read the book]]]

I offer three answers. First, an anti-locality constraint may block further movement to CP, which is plausible given that A/A'P is located on a border position to CP (see Bošković 2016 and Erlewine 2017, 2020, among others, for discussions and formulations). Alternatively, we may assume that once QP-movement has applied, subsequent movement to CP is prohibited: since *which boy* has already undergone QP-movement to SpecA/A'P in (35b), it doesn't need to and thus cannot move any further. Or, (36b) is blocked by a more economical derivation in (34); the former involves an additional step of movement (to SpecCP). Under these views, movement from SpecA/A'P to CP is independently ruled out (see Section 4.2 for related discussion).

Regarding wh-interpretation, I follow the standard assumption that C$_{[+wh]}$ is the locus of the interpretation. Specifically, I suggest that the wh-question interpretation can arise through movement to CP, or via an Agree relation between C$_{[+wh]}$ and the wh-phrase itself (Chomsky 2000, 2001). In environments like (28), however, this Agree relation between the two elements gives rise to an intervention effect when an intervener occurs between them. The more refined representation of (28) is provided in (37).[10]

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[10] Under Cable's (2010) analysis, a QP moves to SpecCP (or SpecForceP under his analysis) by LF, thereby evading intervention effects by crossing potential interveners. However, this assumption cannot be adopted as such under Bošković's (2024) system, since (local) wh-subjects can only move as high as SpecA/A' and never reach SpecCP. Departing from Cable (2010), I therefore assume that when a QP-subject/wh-subject moves to SpecA/A', it still remains susceptible to intervention effects when an intervening operator is present, as illustrated in (37).

Note also that Pesetsky (2000) proposes a pronunciation rule that demands a wh-phrase must be pronounced in SpecCP in English multiple questions. For instance, in (i), repeated from (20a), *which boy* is pronounced in this position, while *which book* undergoes LF-movement across negation, evading an intervention effect:

(i) Which boy didn't read which book?

Under the current analysis, both SpecCP and SpecA/A'P may serve as landing sites for a moved wh-phrase. Accordingly, the pronunciation rule must be revised to reflect this possibility: at least a wh-phrase must be pronounced in SpecCP and/or in SpecA/A'P. (37) illustrates a configuration in which the wh-phrase is pronounced in both positions. (i) involves the derivation where the wh-phrase is pronounced only in SpecA/A'P, as illustrated in (ii). Importantly, (ii) suggests that the Spec-requirement of C can be satisfied at LF, once the pronunciation rule is satisfied in SpecA/A'P.

(ii) [$_{CP}$ C$_{[+wh,\ 1\text{-}Spec,\ Q]}$ [$_{A/A'P}$ [**which boy**]$_i$ [didn't [t$_i$ read [which book]]]]]? (LF-movement to SpecCP)

Finally, (33) illustrates the case where the wh-phrase is pronounced in SpecCP, as shown in (iii).

(37) *Wh-Subject Dependencies and Intervention effect (final)*

*PL [CP [QP Which book]j C[+wh, 1-Spec, Q]-did**n't** [A/A'P [QP which boy]i A/A'[Q] [vP ti read tj]]]

(Selection)

(Agree ⇒ Intervention effect)

To summarize, I have argued that wh-moved (local) subjects in SpecA/A'P (Bošković 2024) must establish structural dependencies with the interrogative C. The dependencies are established via selection between the heads $C_{[+WH]}$ and A/A'$_{[Q]}$. In particular, the head A/A'$_{[Q]}$ is selected either by $C_{[+wh.\ 0\text{-}Spec]}$, as in (34), or by $C_{[+wh.\ 1\text{-}Spec]}$, as in (35). The head $C_{[+WH]}$ further enters into an Agree relation with the wh-subject in SpecA/A'P.

4.2 Restrictions on Embedded Wh-Subjects

This section discusses restrictions on embedded wh-subjects (or QP-subjects). Recall from Section 3 that under Bošković's (2024) system, it remains unclear why embedded wh-subjects are not compatible with the *the-hell* modification, as shown in the contrast in (23), repeated as (38); (38a) would be allowed if the embedded wh-subject *who the hell* occupies SpecA/A'P, as illustrated in (39).

(38) a. *Who thinks that who the hell left?
b. Who thinks that who left?

(39) … thinks [CP C-that [A/A'P [QP who the hell] i [vP ti left]]]

The proposed analysis accounts for this straightforwardly. In the previous section, I argued that A/A'$_{[Q]}$ must be selected by $C_{[+wh]}$. This in turn entails that in (38b), the embedded wh-subject cannot occupy SpecA/A'P, since doing so would require selection by $C_{[+wh]}$, but verbs like *think* does not select $C_{[+wh]}$. This selectional restriction of *think* is supported by the unacceptability of the examples in (40). (40a) shows that the presence/absence of the complementizer *that* does not affect the unacceptability. (40b) indicates that the restriction holds generally, disallowing movement of a wh-object to the embedded SpecCP.

(40) a. *Who thinks (that) who the hell left?
b. *Who thinks what John ate?

However, the verb *think* can select an embedded C that lacks a wh-feature. Since such a C can in turn select IP as its complement, the examples in (38) should instead involve the structure in (41). In (41), the wh-subject occupies SpecIP, a position in which I assume the *the-hell* modification is disallowed.[11]

(41) … think [CP C-that [IP [who (*the hell)]i [vP ti left]]]

(iii) [CP [**who**]i did-$C_{[+wh, 1\text{-}Spec, Q]}$ [A/A'P only Mary showed any respect for ti]]?

[11] If is often assumed that the *the-hell* modification is disallowed for wh-phrases in situ. However, given the standard assumption that SpecIP is a derived subject position (see (41)), a more accurate generalization about the distribution of the *the-hell* modification is that it is permitted only in wh-moved positions, namely SpecCP and SpecA/A'$_{[Q]}$.

This analysis predicts that if a matrix verb selects $C_{[+wh]}$, wh-subjects should permit the *the-hell* modification, since $C_{[+wh]}$ can select A/A'$_{[Q]}$. The prediction is borne out, as shown in (42a). As is standardly assumed, in contrast to *think*, verbs like *wonder* and *ask* can select $C_{[+wh]}$. Under the proposed analysis, this entails that the embedded wh-subject in (42) can occupy SpecA/A'P, as illustrated in (42b). (The embedded C in (42) bears the feature [0-Spec], since the wh-subject does not move to its specifier.)[12]

(42) a. Who wonders/asks who the hell left? [adapted from Ippolito (2024)]
b. Who wonders/asks [$_{CP}$ $C_{[+wh, 0\text{-}Spec]}$ [$_{A/A'P}$ [$_{QP}$ who the hell]$_i$ A/A'$_{[Q]}$ [$_{vP}$ t_i left]]]?

The discussion thus far raises another possibility, however: the embedded head $C_{[+wh]}$ might select IP as its complement, with the wh-subject occupying SpecIP for the EPP, and then moving to the embedded SpecCP (required by the Spec requirement), as illustrated in (43).

(43) Who wonders/asks [$_{CP}$ $C_{[+wh, 1\text{-}Spec, Q]}$ [$_{IP}$ [$_{QP}$ who] I [$_{vP}$ t_i left]]]? [⇒ Disallowed]

The potential derivation in (43) must be ruled out, since embedded wh-subjects, unlike wh-objects, do not move to SpecCP, as shown by the contrast in (14), repeated as (44).

(44) a. ?Mary wonders which book, for John, Peter should buy.
b. *Mary wonders which student, for John, should buy that book.

Furthermore, as discussed in section 2 (examples (12)-(13)), matrix wh-subjects, in contrast to matrix wh-objects, are exempt from the one-word host restrictions on contracted auxiliaries (Kaisse 1983). Embedded wh-subjects exhibit the same exemption, as shown in (46), further suggesting that embedded wh-subjects do not move to SpecCP.[13]

(45) Who wonders whose food's burning?

Note, incidentally, that (43) cannot be ruled out by a sectional restriction between C and I; the example in (44), involving movement of a wh-object, demonstrates that the relevant interrogative C head can select the head I. Additionally, (41) suggests that the embedded wh-subject *who* in (43) can, in principle, occupy the embedded SpecIP.

(46) Who wonders [$_{CP}$ [$_{QP}$ what]$_j$ $C_{[+wh, 1\text{-}Spec, Q]}$ [$_{IP}$ John$_i$ I [$_{vP}$ t_i read t_j]]]?

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[12] Another possibility would be to assume that *wonder* directly selects A/A', which is an option that could in principle be accommodated under Bošković's (2024) system. However, I do not adopt this view in this paper, since it would require additional justifications.

[13] However, we cannot clearly tell whether embedded wh-objects, as in (i), are subject to the restriction, since there is an interfering factor: the sub-aux inversion is disallowed independently in the embedded context.

(i) *Who wonders whose food's/is the dog eating?

Then, how can such movement to CP in (43) be ruled out?[14] As suggested in Section 4.1, an anti-locality constraint might block movement of *who* to CP (since *who* in SpecIP is on a border position close to CP). Alternatively, an economy constraint may rule it out; (42b) involves a more economical derivation than (43), as the latter requires an additional step of movement to CP. Consequently, (42b) is chosen over (43).[15]

5. Conclusion

This paper has examined the syntax of English wh-subjects, addressing theoretical and empirical issues that arise under Bošković's (2024) proposal. Following Bošković (2024), I posited that English wh-subjects do not move to SpecCP, but to the mixed A/A' position, SpecA/A'P. The primary theoretical contribution of this paper is to propose that the interrogative $C_{[+wh]}$, must establish structural dependencies with the wh-subject in SpecA/A'P through two mechanisms: (i) selection of the A/A'$_{[Q]}$ head by $C_{[+wh]}$, and (ii) an Agree relation between $C_{[+wh]}$ and the wh-subject.

The empirical consequences of this approach are substantial. First, the required Agree relation provides a straightforward explanation for the intervention effects observed when interveners like negation intervenes between the wh-subject and $C_{[+wh]}$. Second, the selectional constraint accounts for the restricted distribution of aggressively non-D-linked wh-phrases (e.g., *who the hell*), correctly predicting their availability in embedded environments only when the main verb selects the interrogative $C_{[+wh]}$. I have also suggested that the immobility of wh-subjects from SpecA/A'P to SpecCP follows either from an anti-locality constraint or from economy considerations.

The proposed analysis further suggests that investigations of related phenomena such as the interaction between Superiority and wh-movement may have wide-reaching implications. In particular, as briefly noted in this paper, positing two distinct positions for wh-movement and their associated selectional dependencies would offer a new perspective on these phenomena. I leave exploration of these issues for future research.

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[14] The same question arises with wh-subject questions in the matrix domain, as in (i).

(i) Who left?

[15] Note, however, that the wh-subject in SpecIP can undergo non-local movement to the specifier of the matrix $C_{[+wh]}$, as illustrated in (i) (with intermediate positions for movement suppressed). In the matrix domain, *who* can only occupy the matrix SpecCP and thus the economy principle is not operative.

(i) $[_{CP}\ [_{QP}\ \text{Who}]_i$ do you think $[_{IP}\ t_i$ left]]?

(i) also shows that *[$_{QP}$ who]* can occupy the embedded SpecIP in the course of derivation. This in turn suggests that the potential derivation in (43) cannot be ruled out by stipulating that *who* in SpecIP does not project to QP and thus cannot move to SpecCP.

References

Agbayani, B. 2000. Wh-subjects in English and the vacuous movement hypothesis. *Linguistic Inquiry* 31, 703-713.

Beck, S. and S.-S. Kim. 1997. On wh- and operator scope in Korean. *Journal of East Asian Linguistics* 6, 339-384.

Beck, S. 2006. Intervention effects follow from focus interpretation. *Natural Language Semantics* 14(1), 1-56.

Bošković, Ž. 2012. On NPs and clauses. In G. Grewendorf and T. E. Zimmermann, eds., *Discourse and Grammar: From Sentence Types to Lexical Categories*, 179-242. Berlin: de Gruyter.

Bošković, Ž. 2013. Phases beyond clauses. In L. Schürcks, A. Giannakidou and U. Etxeberria, eds., *The Nominal Structure in Slavic and Beyond*, 75-128. Berlin: de Gruyter.

Bošković, Ž. 2014. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry* 45(1), 27-89.

Bošković, Ž. 2016. On the timing of labeling: Deducing comp-trace effects, the subject condition, the adjunct condition and tucking in from labeling. *The Linguistic Review* 33(1), 17-66.

Bošković, Ž. 2020. On the coordinate structure constraint, across-the-board movement, phases, and labeling. In J. van Craenenbroeck, C. Pots and T. Temmerman, eds., *Recent Developments in Phase Theory,* 133-186. Berlin: Mouton De Gruyter.

Bošković, Ž. 2024. On wh and subject positions, the EPP, and contextuality of syntax. *The Linguistic Review* 41(1), 7-58.

Branigan, P. 1992. *Subjects and Complementizers*. Doctoral dissertation, MIT, Cambridge, MA, USA.

Cable, S. 2010. *The Grammar of Q: Q-particles, Wh-movement, and Pied-piping*. New York: Oxford University Press.

Carstens, V., N. Hornstein and T. D. Seely. 2016. Head-head relations in *Problems of Projection*. *The Linguistic Review: Special Issue on Labeling* 33(1), 67-86.

Chomsky, N. 1986. *Barriers*. Cambridge, MA: MIT Press.

Chomsky, N. 2000. Minimalist inquiries: The framework. In R. Martin, D. Michaels and J. Uriagereka, eds., *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, 89-155. Cambridge, MA: MIT Press.

Chomsky, N. 2001. Derivation by phase. In M. Kenstowicz, ed., *Ken Hale: A Life in Language*, 1-52. Cambridge, MA: MIT Press.

Chomsky, N. 2008. On phases. In R. Freidin, C.P. Otero and L. Zubizarreta, eds., *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud*, 133-166, Cambridge, MA: MIT Press.

Chung, S. and J. McCloskey. 1983. On the interpretation of certain island facts in GPSG. *Linguistic Inquiry* 14(4), 704-713.

den Dikken, M. and A. Giannakidou. 2002. From hell to polarity: "Aggressively non-d-linked" wh-phrases as polarity items. *Linguistic Inquiry* 33(1), 31-61.

Erlewine, M. 2016. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural Language and Linguistic Theory* 34(2), 429-479.

Erlewine, M. 2017. Why the null complementizer is special in complementizer-trace effects. *MIT Working Papers in Linguistics* 80, 371-380. Cambridge, MA.

Erlewine, M. 2020. Anti-locality and subject extraction. *Glossa: A Journal of General Linguistics* 5(1), 84.

Fitzpatrick, J. 2006. *The Syntactic and Semantic Roots of Floating Quantification*. Doctoral dissertation, MIT. Cambridge, MA, USA.

Gallego, Á. 2017. The EPP in labeling theory: Evidence from Romance. *Syntax* 20(4), 384-399.

Ginzburg, J. and I. A. Sag. 2000. *Interrogative Investigations*. Palo Alto, CA: CSLI Publications.
Henry, A. 2012. Phase edges, quantifier float and the nature of (micro-) variation. *Iberia* 4(1), 23-39.
Holmberg, A. and T. Hróarsdóttir. 2003. Agreement and movement in Icelandic raising constructions. *Lingua* 113, 997-1019.
Ippolito, M. 2024. The hell with questions. *Journal of Semantics* 41, 53-76.
Kaisse, E. 1983. The syntax of auxiliary reduction in English. *Language* 59(1), 93-122.
Kotek, H. 2014. Intervention out of islands. In L. Kusmer and J. Iyer, eds., *Proceedings of the Annual Meeting of the North East Linguistic Society (NELS)* 44, 234-246. Amherst, MA: GLSA.
Kotek, H. 2016. Covert partial wh-movement and the nature of derivations. *Glossa: A Journal of General Linguistics* 1(1), 25.
Kotek, H. 2019. *Composing Questions*. Cambridge, MA: MIT Press.
McCloskey, J. 2000. Quantifier float and wh-movement in an Irish English. *Linguistic Inquiry* 31(1), 57-84.
Messick, T. 2020. The derivation of highest subject questions and the nature of the EPP. *Glossa: A Journal of General Linguistics* 5(1), 1-12.
Mizuguchi, M. 2014. Phases, labeling and wh-movement of the subject. Paper presented at *the 32nd Conference of the English Linguistic Society of Japan*, Gakushuin University, Tokyo.
Pesetsky, D. 1987. Wh-in-situ: Movement and unselective binding. In E. Reuland and A. ter Meulen, eds., *The Representation of (In)Definiteness*, 98-129. Cambridge, MA: MIT Press.
Pesetsky, D. 2000. *Phrasal Movement and Its Kin*. Cambridge, MA: MIT Press.
Pesetsky, D. and E. Torrego. 2001. T-to-C movement: Causes and consequences. In M. Kenstowicz, ed., *Ken Hale: A Life in Language*, 355-426. Cambridge, MA: MIT Press.
Rizzi, L. 1982. *Issues in Italian Syntax*. Dordrecht, Netherlands: Foris.
Rizzi, L. 1997. The fine structure of the left periphery. In L. Haegeman, ed., *Elements of Grammar: A Handbook of Generative Syntax*, 281-337. Dordrecht, Netherlands: Kluwer.

Examples in: English
Applicable Languages: English
Applicable Level: Tertiary

