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Wh-questions in Singapore English tell us what about questions with declarative syntax?

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Bobaljik & Wurmband (2015) have recently developed a hypothesis that no language truly mixes *wh*-movement and *wh-in-situ* structures in its syntax, with seemingly optional *wh-in-situ* in a *wh*-movement language being analyzed as a question with declarative syntax. In this paper, we will present novel data from Colloquial Singapore English (CSE) which question this hypothesis. Instead of assuming that the Q-feature of the interrogative C_{WH} head in a language must be specified in a binary manner (valued or unvalued), we will propose that this feature is underspecified in languages such as CSE. The proposed amendment is not only sufficiently restrictive to cover the type of languages predicted by B&W's original hypothesis, but also flexible enough to accommodate languages with a mixed *wh*-system. We will further argue that contact-based explanations, though plausible, do not have to be taken as a reason for CSE to develop this specific trait, which could have developed under independent, non-contact situations. This position is supported by Malay and Ancash Quechua, two non-contact languages which nonetheless exhibit optional *wh-in-situ* like CSE.

Keywords: question with declarative syntax; wh-movement; wh-in-situ; underspecification; CSE

1 Introduction

In their recent attempt to re-assess the important role of syntactic selection within the minimalist framework, Bobaljik & Wurmbrand (2015; hereafter B&W) propose that what appears to be optional *wh-in-situ* in an otherwise *wh*-movement language such as English is actually a question with declarative syntax (DSQ) – a declarative syntactic structure which is associated with interrogative semantics/pragmatics at the level of speech act. The authors show that this analysis is supported by the cross-linguistic generalization, tested against 10 typologically different languages, that the in-situ construction is systematically blocked as the complement of an interrogative-seeking verb such as *ask* and *wonder*. The reason, they claim, is that such a construction, being syntactically a declarative clause, cannot satisfy the syntactic selection requirement of the verb. In this short remark, we will present our new data from Colloquial Singapore English (CSE) which question the robustness of B&W's typological generalization. We will then propose a minor modification to B&W's original system to accommodate the particular *wh*-movement profile of this English-lexified contact variety while maintaining their essential theoretical claims. Our suggested modification, in turn, leads one to predict that in principle, there should be some other languages which develop the same *wh*-movement profile as CSE, but without any contact-induced grammatical changes, and hence present themselves as problematic for B&W's generalization. We will show that this prediction is indeed borne out in Malay (Cole & Hermon 1998) and Ancash Quechua (Cole 1982).

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This remark is structured as follows. In section 2, we will review B&W's generalization and their analysis thereof. In section 3, we will establish that CSE is a *wh*-movement language, just like standard varieties of English, but also allows in-situ *wh*-questions, just like Mandarin Chinese. In section 4, we will introduce our crucial examples showing that CSE allows both *wh-in-situ* and *wh*-movement options as syntactic CP complements of interrogative verbs such as *ask* and *wonder*. We conclude that the availability of the *wh-in-situ* strategy in this context contradicts B&W's central conjecture behind their generalization that no language truly mixes *wh*-movement and *wh-in-situ* structures. In section 5, we will propose a minor modification to B&W's original system to accommodate the *wh*-movement profile of CSE while essentially keeping their central theoretical assumptions intact. We will point out further that our proposed amendment leads us to predict that some other languages which have the CSE-like *wh*-movement profile should, in principle, exist even without any language contact, unlike CSE. We will show that Malay and Ancash Quechua facts bear out this prediction. Section 6 is the conclusion.

2 Two types of *wh-in-situ* and DSQs in *wh*-movement languages

B&W propose that what appears to be an optional, non-echo, in-situ *wh*-question in *wh*-movement languages is a DSQ, namely, a syntactically declarative clause with an in-situ *wh*-phrase in focus which manages to carry interrogative force merely as a semantic/pragmatic speech act. B&W argue that this DSQ analysis of the apparent *wh-in-situ* phenomenon in otherwise *wh*-movement languages is supported by the cross-linguistic generalization shown in (1).
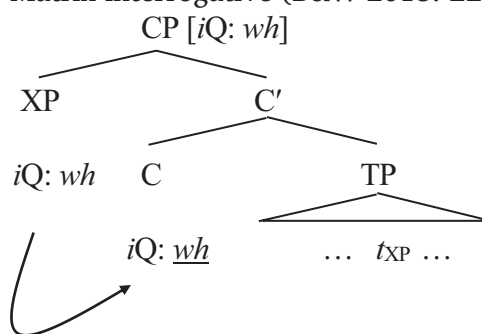
(1)   DSQ/*wh-in-situ* generalization:

        If a language has *wh*-movement (to Spec,CP), then *wh*-movement is obligatory in indirect questions.
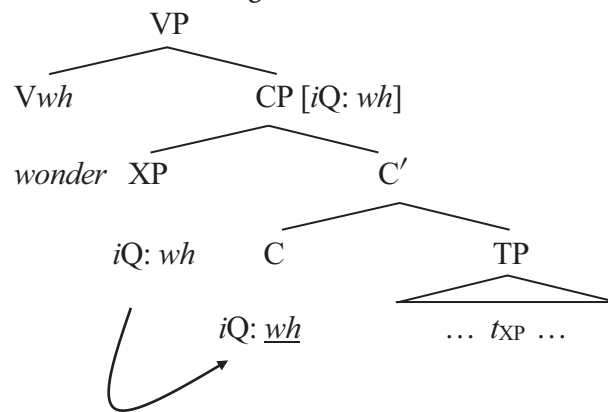
        Equivalently: If a *wh*-movement language allows 'optional' *wh-in-situ,* the *in-situ* construction is blocked in selected questions. (B&W 2015: 13)

The reason why the generalization holds under B&W's system is as follows. They assume that for all languages, a syntactic interrogative clause involves an interrogative complementizer, C_{WH}. They further assume that the relevant C in a *wh*-movement language is endowed with a certain featural property which triggers overt *wh*-movement into its specifier. To fully appreciate their system, consider the syntactic derivations shown in (2a, b) as a point of illustration.

(2)   a.   Matrix interrogative (B&W 2015: 22)

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b. Embedded interrogative (B&W 2015: 22)

VP
V*wh* CP [*iQ*: *wh*]
wonder XP C′
iQ: *wh* C TP
iQ: *wh* … *t*_XP …

B&W implement overt *wh*-movement in a *wh*-movement language within the Reverse Agree framework (Wurmbrand 2014), which essentially states for our present purposes that an unvalued feature of a given lexical item is valued by the corresponding valued feature of another lexical item only if the latter c-commands the former: see Wurmbrand (2014) and B&W (2015: 21) for further technical details on feature valuation and Agree. In (2a), the C_{WH} head is introduced into the syntactic workspace with an unvalued but interpretable Q-feature. Given the Reverse Agree framework, then, this unvalued feature can only be valued by a c-commanding *wh*-phrase endowed with the valued Q-feature. This valuation requirement is correctly satisfied only if there is overt *wh*-movement, as depicted in (2a), yielding a syntactically interrogative clause, i.e. a CP typed as *iQ*: *wh*; otherwise, the Q-feature of the C head would remain unvalued, causing the derivation to crash. The CP so typed can subsequently be merged with an interrogative verb such as *ask* and *wonder*, which syntactically selects this particular type of CP, as shown in (2b).[1] In other words, an interrogative-seeking predicate cannot be merged with a CP which is not appropriately typed as *iQ*: *wh* via overt *wh*-movement, for this merger operation is blocked by syntactic selection.

B&W hypothesize that DSQs are syntactically declarative CPs without C_{WH}, with their interrogative interpretation as a *wh*-question being computed in the semantics/pragmatics component due to the inherently interrogative meaning/function of *wh*-expressions. The syntactic structure associated with DSQs, thus, is as shown in (3).

(3) DSQ (B&W 2015: 21)

(CP) ➡ pragmatics: interrogative
(C) TP
[declar] [*wh*-XP]_FOC

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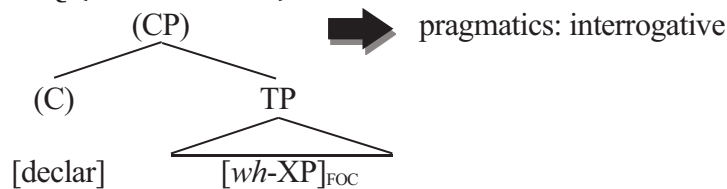
[1] An anonymous reviewer asks how the required c-command relationship can be met within the Reverse Agree framework when the moving *wh*-phrase is internally complex, as in *which book* or *what kind of fruit*, in which case the *wh*-word itself cannot c-command the C head to valuate its unvalued Q-feature. We simply assume that in such a case, the valued Q-feature of the *wh*-word may percolate onto its dominating DP so that the entire *wh*-phrase may be endowed with the Q-feature. This way, the newly derived "lexical item" now c-commands the C head, as desired.

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Consequently, DSQs cannot occur as syntactic interrogative complements of an interrogative-seeking predicate. Note that there is no comparable obligatory selectional requirement imposed on matrix interrogative CPs. This gives rise to potential optionality with respect to overt *wh*-movement within a matrix clause. Under B&W's system, overt *wh*-movement takes place in a matrix clause if headed by the C_{WH} endowed with the unvalued Q-feature, as shown in (2a), whereas the DSQ option obtains in the clause if headed by the declarative C head, as shown in (3). It follows then that the in-situ construction (namely, DSQs), though possible in principle in matrix questions, is systematically blocked in selected questions in a *wh*-movement language, as explicitly stated in (1).

B&W show that the generalization in (1) is supported in the following 10 languages they surveyed: English, German, Dutch, Icelandic, American Sign Language, Brazilian Portuguese, Spanish, Russian, Polish, and French. To illustrate the generalization using (standard varieties of) English, it has been reported in the literature (Postal 1972; Ginzburg & Sag 2000; Huddleston & Pullum 2002; Pires & Taylor 2007) that English speakers may use information-seeking, non-echo, in-situ *wh*-questions in several well-demarcated pragmatic circumstances such as legalistic questions, quiz-show questions, and requests for further information to flesh out situationally salient contexts. Some examples of the in-situ construction in Standard English are shown in (4).

(4)   B&W (2015: 14–15)

    a.   So, your boy's name is **what**?

    b.   Major, you want this stuff **where**?

    c.   "Now," said Umbridge, looking up at Trelawney, "you've been in this post **how long**, exactly?"

However, the in-situ construction is systematically prohibited in the presence of an interrogative-selecting verb. This point is witnessed by the ungrammaticality of the examples in (5a-c), which embed the matrix in-situ questions shown in (4a-c) in the syntactic complement of verbs like *ask* and *wonder*.

(5)   B&W (2015: 17)

    a.   *He asked me your boy's name is **what**.

    b.   *I wonder I should put this stuff **where**.

    c.   *Umbridge asked Trelawney she's been in the post **how long**.

B&W point out that other languages such as Mandarin Chinese, Turkish, and Japanese do permit in-situ questions as syntactic complements of interrogative predicates. Example (6c) proves this point in Mandarin Chinese.

(6)   *Mandarin Chinese* ((6a) and (6c) from Cheng 2003: 103, as cited in B&W 2015: 16–17)

    a.   Hufei   mai-le   **shenme**?
           Hufei   buy-PFV   what
        'What did Hufei buy?'

    b.   ***Shenme**   Hufei   mai-le?
           what   Hufei   buy-PFV
        'What did Hufei buy?'

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> c. Botong xiang-zhidao [$_{CP}$ Hufei mai-le **shenme**]?
> Botong want-know Hufei buy-PFV what
> 'Botong wants to know what Hufei bought.'

The Mandarin Chinese-type pattern is consistent with the generalization in (1), for Mandarin Chinese (as well as Turkish and Japanese, for that matter) is not a *wh*-movement language, to begin with. Given B&W's system outlined above, it must be the case that, in a genuine *wh-in-situ* language such as Mandarin Chinese, the dependency between the interrogative C_{WH} and a *wh*-phrase should be satisfied without overt *wh*-movement, either through covert *wh*-movement (Huang 1982; Pesetsky 2000) or unselective binding (Pesetsky 1987; Tsai 1994; see also Reinhart 1997 for an alternative in-situ analysis in terms of choice functions). Under the former analysis, *wh*-movement takes place covertly, but otherwise, the syntactic derivation proceeds in the same way as overt *wh*-movement in (2a). Under the latter analysis, we may assume that the C_{WH} head is introduced into the syntactic workspace with a valued Q-feature, so that overt *wh*-movement will not be triggered by the valuation requirement and hence cannot take place on grounds of economy. In this case, then, the whole CP headed by the relevant C head is interpreted as a syntactically interrogative question by means of unselective binding, according to which the valued Q-feature of the C head binds (another valued Q-feature contained within) an in-situ *wh*-phrase. This way, the CP with an in-situ *wh*-phrase in a *wh-in-situ* language is appropriately typed as an interrogative clause without overt *wh*-movement so that it can further merge with an interrogative-selecting predicate, as attested in (6c). In this paper, we will assume the unselective binding approach to interrogative clause typing for true *wh-in-situ* languages such as Mandarin Chinese and return to some empirical evidence for this approach in section 5.2.

It should be clear from the exposition above that B&W's analysis argues that apparent cases of in-situ *wh*-questions in an otherwise *wh*-movement language are all DSQs, a point supported by their novel, cross-linguistically robust observation that such questions, though in principle available and facilitated under various contexts in matrix questions, are systematically prohibited once they are selected by interrogative-seeking matrix predicates. We have also observed that other languages such as Mandarin Chinese allow the in-situ *wh*-construction in selected questions, the reason being that the Q-feature of the C_{WH} head in this type of language is valued, so that the syntactically interrogative CP can be created by unselective binding instead of overt *wh*-movement in languages such as English. Given these two observations, B&W's generalization in (1) entails an explicitly typological prediction that "[i]n their syntax languages are either *wh*-movement or *wh-in*-situ (more accurately, *wh-in-FOCUS*) but no language (that we know of) truly mixes both constructions." (B&W 2015: 14).[2] To phrase this point in formal terms within B&W's framework, the generalization in (1) embodies an all-or-nothing claim regarding the availability of the two types of the C_{WH} head, namely that a language can only ever have either the C with the unvalued Q-feature (as in Standard English) or the C with the valued Q-feature (as in Mandarin Chinese).[3]

In the next two sections, we will show that the *wh*-question paradigm in CSE is problematic for B&W's generalization and conclude that B&W's all-or-nothing claim regarding the availability of the different types of the same interrogative C_{WH} head in a single language does not survive close scrutiny.

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[2] This typological conjecture is also implied by B&W (2015: 13), which reads thus: "Our specific focus is to synthesize a body of literature on the phenomenon of 'optional' (non-echo) *wh-in-situ* in *wh*-movement languages, arguing ultimately that syntactically, the phenomenon as such may not exist."
[3] We would like to thank an anonymous reviewer for pointing this out.

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3 *Wh*-questions in CSE: Optional *wh-in-situ* in an otherwise *wh*-movement language

It has been well documented in the growing body of literature on CSE (Chow 1995; Bao 2001; 2015; Kim et al. 2009; Yeo 2010; 2011; Sato 2013) that this English-lexified contact variety permits both *wh*-movement and in-situ *wh*-questions. Examples (7–10) illustrate the availability of these two options with *what* and *where* in both matrix and cross-clausal contexts.[4]

(7)   Kim et al. (2009: 129)
    a.   **What** Mary eat?
       'What did Mary eat?'

    b.   Mary eat **what**?
       'What did Mary eat?'

(8)   Chow (1995: 25)
    a.   **Where** John can buy the durians?
       'Where can John buy the durians?'

    b.   John can buy the durians **where**?
       'Where can John buy the durians?'

(9)   Sato (2013: 306)
    a.   **What** you think she buying ah?
       'What do you think she is buying?'

    b.   You think she buying **what** ah?
       'What do you think she is buying?'

(10)   Yeo (2010: 9)
    a.   **Where** you think I go?
       'Where do you think I went?'

    b.   You think I go **where**?
       'Where do you think I went?'

There are two arguments showing that *wh*-phrases in CSE undergo regular overt *wh*-movement into [Spec,CP], as in Standard English. One argument comes from the so-called *Doubly-Filled Comp Filter* (Chomsky & Lasnik 1977), a surface constraint which blocks the co-occurrence of a *wh*-phrase and a complementizer within the same CP region. The effect of this filter is illustrated in (11).

(11)   *Mary know [$_{CP}$ **what**$_i$ [$_{C'}$ {that/if/whether} [$_{TP}$ he buy t_i]]]?

The example is correctly excluded by the filter if we assume that *what* undergoes overt *wh*-movement into [Spec,CP]. The other argument is concerned with sluicing in CSE. It has been most commonly assumed since Merchant (2001) and much subsequent work (see also Chung et al. 1995 for an alternative LF-copy theory of sluicing) that sluicing results from regular overt *wh*-movement of a *wh*-phrase into [Spec,CP], followed by TP-deletion in the phonological component. Example (12) shows that CSE has sluicing.

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[4] Unless otherwise indicated, all the CSE examples and their acceptability judgements are based on the authors' fieldwork sessions with 13 native speakers of CSE, who have all completed an intermediate course on generative syntax and hence are familiar with basic tenets of the generative framework and the acceptability judgement task. See also footnote 5.

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(12)   Zechy bought something expensive, but I don't know [$_{CP}$ **what**$_i$ [$_{C'}$ C$_{WH}$ [TP he bought ti]]].

Given that regular *wh*-movement is a prerequisite for sluicing, the grammaticality of (12) indicates that CSE has *wh*-movement. The two considerations above, therefore, show that CSE is an overt *wh*-movement language on a par with Standard English and other languages discussed by B&W.

4 *Wh-in-situ* questions in CSE as a genuine challenge for B&W's generalization

We have established in section 3 that CSE is a *wh*-movement language which also has the option of in-situ *wh*-questions. The presence of overt *wh*-movement in this variety means under B&W's system that it occurs in order to type a CP as a syntactic interrogative question (*iQ: wh*), with apparent in-situ *wh*-questions being instantiations of DSQs. B&W's system, therefore, predicts that such questions in CSE, being DSQs, should be blocked as interrogative complements of interrogative verbs. This prediction is not borne out. Examples (13–14) show that both overt *wh*-movement and in-situ structures are available as an interrogative CP complement of the verb *wonder* in CSE. These two structures are also freely available when they occur as a syntactic complement of another verb, *ask*, as witnessed by the grammaticality of (15).[5]

(13)   a.   I wonder [$_{CP}$ **what**$_i$ Mary bought t_i already].
            'I wonder what Mary has already bought.'

       b.   I wonder [$_{CP}$ Mary bought **what** already].
            'I wonder what Mary has already bought.'

(14)   a.   I wonder [$_{CP}$ **what**$_i$ John bought t_i for Peter].
            'I wonder what John bought for Peter.'

       b.   I wonder [$_{CP}$ John bought **what** for Peter].
            'I wonder what John bought for Peter.'

(15)   a.   John ask [$_{CP}$ **who**$_i$ the rice is for t_i].
            'John asked who the rice was for.'

       b.   John ask [$_{CP}$ the rice is for **who**].
            'John asked who the rice was for.'

As stated in section 2, B&W's theory of selection prohibits DSQs from being selected by interrogative verbs. Following the theory, then, the in-situ *wh*-questions in the (b)-examples of (13–15) are not DSQs. Indeed, there are two independent arguments against the DSQ analysis of the examples. First, B&W point out that in-situ *wh*-phrases in a *wh*-movement language, as DSQs, may occur within an embedded clause headed by the non-interrogative, declarative complementizer *that*, as shown in (16).

(16)   B&W (2015: 16)
       And the defendant claimed that he was standing **where**?

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[5] We consulted 13 native speakers of CSE about the movement vs. in-situ pairs in (13–15), and the result was as follows. 11 of them reported that they find both variants acceptable, though five of this group of speakers expressed a slight preference for the movement variant. The remaining two speakers, on the other hand, did not accept the in-situ variant but found only the movement variant acceptable. We therefore take it that CSE does permit the in-situ *wh*-question as a syntactic interrogative complement, leaving further investigations of this inter-speaker variation for another occasion.

Thus, if the in-situ *wh*-questions in (13–15) were DSQs, we would predict that they should occur as CPs headed by the same complementizer. This is not the case, as shown in (17a–c), however. These examples show that in-situ *wh*-phrases cannot occur in this context. Note that this co-occurrence restriction cannot be attributed to the *Doubly-Filled Comp Filter* (see section 3), for the *wh*-phrases are not in [Spec,CP].[6]

(17) a. I know [$_{CP[-WH]}$ (* that) Mary buy **what** already].
          (cf. I know that Mary buy **book** already.)

      b. I know [$_{CP[-WH]}$ (* that) John buy **what** for Peter].
          (cf. I know that John buy **present** for Peter).

      c. I know [$_{CP[-WH]}$ (* that) the rice is for **who**].
          (cf. I know that the rice is for **Mary**).

The second argument against the DSQ analysis of in-situ *wh*-questions in CSE comes from the complete lack of any semantic-pragmatic restriction imposed on the use of such questions in this English variety. We have seen in section 2 that the in-situ construction in standard varieties of English, or DSQs in B&W's theory, is only available in a range of special semantic-pragmatic contexts such as quiz-show questions and legalistic questions. Such a characterization, however, does not hold true for the corresponding in-situ *wh*-questions in (13–15) and (7–10), for the existing literature on CSE *wh*-questions observe, and our native speaker consultants of CSE (cf. notes 4 and 5) indeed confirm, that both *wh*-movement and in-situ constructions are equally acceptable without imposing any additional semantic-pragmatic context to facilitate one variant over the other. We take this property of CSE in-situ questions to indicate that they are bona fide *wh-in-situ* configurations.[7] In section 5.2, we will present further arguments for the *wh-in-situ* analysis of in-situ *wh*-questions in CSE.

The conclusion that CSE is a *wh*-movement language which allows the genuine *wh-in-situ* option in selected questions, therefore, is problematic for B&W's generalization that no language truly mixes genuine *wh-in-situ* and *wh*-movement structures. Recall that this generalization was a corollary of their feature-based system of *wh*-question licensing through syntactic selection. Given the Reverse Agree framework, overt *wh*-movement must take place in a *wh*-movement language such as Standard English because the unvalued Q-feature of the C_{WH} head must be valued by the valued Q-feature of a c-commanding *wh*-phrase. As implied from the generalization in (1), B&W's theory critically assumes that a language can have either the C_{WH} with the unvalued Q-feature or the C_{WH} with the valued Q-feature. Due to this all-or-nothing assumption, all instances of apparent in-situ *wh*-questions in a *wh*-movement language must be analyzed as DSQs in B&W's theory. More generally, then, their generalization would predict that no language can truly conflate *wh-in-situ* and *wh*-movement structures. We therefore conclude that the availability of the true *wh-in-situ* construction in the CSE examples in (13–15) presents a genuine challenge for B&W's typological generalization.

(i) a. *I {wonder/ask} [$_{CP\,[+WH]}$ that Mary bought **what** already].
     b. *I {wonder/ask} [$_{CP\,[+WH]}$ that Mary bought **book** already].

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5 *Wh*-questions in CSE and the feature specification of the C_{WH} head

We have shown that CSE, an overt *wh*-movement language like standard varieties of English, allows the Chinese-style genuine *wh-in-situ* configuration as a syntactic complement selected by interrogative verbs, contrary to the prediction made by B&W's theory. The data introduced in those sections show that CSE grammar permits both *wh*-movement and *wh-in-situ*, in matrix clauses (7a, b, 8a, b, 9a, 10a) or in embedded clauses (9b, 10b, 13a, b, 14a, b, 15a, b). The question now is how CSE grammar can produce these two syntactic options, the co-existence of which should be blocked within a single grammar under B&W's theory. In this section, we will suggest a minor technical modification to B&W's theory to accommodate the CSE profile while still keeping their essential theoretical claims to maintain their empirical coverage. More specifically, we will propose to drop their assumption that the C_{WH} head in a language can only have one type of feature structure, i.e., *either* the valued Q *or* the unvalued Q, and argue instead that in some languages such as CSE, the C head may well be underspecified with respect to its value, so that its Q-feature may enter the derivation either valued or unvalued. We will show that this underspecification approach also correctly predicts the co-existence of *wh*-movement and *wh-in-situ* options in selected questions in Malay (Cole & Hermon 1998) and Ancash Quechua (Cole 1982), two other languages which are also shown to be problematic for B&W's typological generalization/analysis.

5.1 A micro-parametric feature underspecification in CSE: C_{WH} [*u/v*Q]

To accommodate the CSE *wh*-paradigm within B&W's overall system, we propose here that the C_{WH} head in CSE may enter the syntactic derivation with either the valued or the unvalued Q-feature. Our proposed modification to B&W's theory is schematically illustrated in Table 1. Here, [*u*Q] stands for an unvalued Q-feature. [*v*Q] stands for a valued Q-feature. [*u/v*Q] indicates that the Q-feature may be either unvalued or valued. Finally, [Q] stands for a Q-feature which has no room for any valuation in the syntactic workspace, i.e., a Q-feature which is neither unvalued nor valued.

B&W's generalization was designed to cover the typological profile of the two types of languages mentioned in the first two rows. In languages such as Standard English, the C_{WH} [*u*Q] requires overt *wh*-movement into [Spec,CP]. All in-situ *wh*-questions are DSQs and hence are not embeddable as syntactic complements of interrogative verbs. In languages such as Mandarin Chinese, the C_{WH} [*v*Q] results in unselective binding, so that the dependency between the head and the *wh*-phrase is satisfied in-situ, yielding genuine *wh-in-situ* configurations which can meet the selectional requirement of interrogative verbs.

Our central proposal here is that the valuation of C_{WH} does not need to be binary: the head can also come with either the valued or unvalued Q-feature, as indicated in the third row (i.e., C_{WH} [*u/v*Q]), contrary to B&W's assumption that a language can have only one featural-type of the interrogative C_{WH}. Expectedly, this type of language can combine properties from English-type and Chinese-type languages so that overt *wh*-movement

	Language examples	Overt *wh*-movement	Unselective binding	DSQs	Embeddability in selected questions
C_{WH} [*u*Q]	English	+	–	+	–
C_{WH} [*v*Q]	Chinese	–	+	(+)	+
C_{WH} [*u/v*Q]	CSE	+	+	(+)	+
C_{WH} [Q]	NA	NA	NA	(+)	–

Table 1: Valuability of the Q-Feature of the C_{WH} Head.

and *wh-in-situ* emerge as two equally available mechanisms to create syntactically interrogative CPs. There is the fourth logical possibility shown in the final row (i.e., C_{WH} [Q]), where the C_{WH} is endowed with no value slot. We believe that this technical possibility is excluded on an independent ground: under the reasonable assumption that all languages have "*wh*-questions" as a universal semantic template, the C head with no appropriately specified Q-feature would not be able to send any proper instructions to the syntactic computation to derive such questions. This would then result in the violation of the LF legibility condition, formulated one way or another, to the effect that C_{HL} must prepare an articulate syntactic structure to be appropriately mapped onto the interrogative *wh*-question in the semantic interface component. However, we choose to remain agnostic regarding the availability of DSQs in this hypothetical language type. According to B&W, DSQs are declarative syntactic structures which have interrogative semantics due to the inherent interrogative meaning/function of *wh*-phrases. As such, this type of language may still retain DSQs, which are then not embeddable in selected questions.

One question remains in our proposed amendment (as well as in B&W's system, for that matter): whether Mandarin Chinese and CSE allow DSQs in matrix interrogative sentences, in addition to genuine *wh-in-situ*.[8] Recall that the DSQ option should be universally available, as it is based on the inherent interrogative force of *wh*-words. Consequently, nothing should, in principle, prevent these two languages from utilizing this option in matrix clauses, which are not required to be typed as interrogative through unselective binding. However, it seems plausible to believe that neither CSE nor Mandarin Chinese actually makes use of DSQs as an alternative in-situ strategy, given the undeniable fact that matrix *wh*-questions in these languages are not subject to special semantic-pragmatic constraints which characterize DSQs in a *wh*-movement language. We nonetheless leave an in-depth investigation of the trade-off relation between unselective binding and DSQs in genuine *wh-in-situ* languages for another occasion as an important topic for future research.

5.2 CSE *wh*-in-situ and unselective binding: Non-*wh*-variables and island-insensitivity

In this section, we will provide two pieces of evidence in favor of the unselective binding analysis of *wh-in-situ* questions over the covert *wh*-movement alternative in CSE. This point is important for our present purposes because the Chinese-like properties of CSE *wh*-questions crucially depend on the availability of its [vQ] feature, which, in turn, triggers unselective binding. Under the covert *wh*-movement analysis, on the other hand, the Q-feature would necessarily be specified as [uQ] in CSE so that a CP may be properly typed as a syntactic interrogative complement. In that case, then, our underspecification approach in Table 1 would not stand.

The first piece of evidence for the unselective binding analysis in CSE comes from a non-interrogative use of *wh*-words in CSE. According to the unselective binding approach, an interrogative Q-element is assumed to existentially quantify all in-situ *wh*-phrases in a sentence as individual *wh*-variables (Heim 1982). Such an analysis, then, is supported if *wh*-words in CSE may also be used as variables bound by some other operator different from the interrogative Q-element/operator. Examples (18a-c) show that *wh*-variables in CSE such as *what, who*, and *where* can occur as individual variables bound by a non-interrogative operator in the context of universal quantification. This observation, however, is difficult to capture or mysterious at best under the (covert) *wh*-movement analysis of *wh-in-situ* in CSE.

(18)   a.   I **what** also never eat.
              'For all *x*, I didn't eat *x*.'

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[8] We would like to thank an anonymous reviewer for asking this question.

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b. I **who** also never meet.
'For all *x*, I didn't meet *x*.'

c. I **where** also never go.
'For all *x*, I didn't go to *x*.'

d. *I **why** also never cheat.
'For all *x*, I didn't cheat because of *x*.'

Note that the adverbial *wh*-word *why* cannot be used as a variable in this context, as shown by the ill-formedness of (18d). This pattern also makes sense because *why* denotes a function over a higher-order entity, not an individual, and hence cannot be interpreted through unselective binding. Now, given this observation, our current analysis predicts that *why*-questions in CSE can only be licensed through the C_{WH} with the unvalued Q-feature, namely via overt *wh*-movement, as in Standard English, as opposed to other nominal *wh*-questions headed by *who, what* and *where*, which may occur in-situ (recall (7-10)). This prediction is indeed borne out in (19).

(19) Chow (1995: 38-39)
a. **Why** Mary must leave early?
b. *Mary must leave early **why**?

The second piece of evidence for the unselective binding analysis of *wh-in-situ* in CSE is concerned with the island-insensitivity of a *wh-in-situ* phrase within the CP complement of an interrogative-seeking matrix predicate. Recent works on the syntax of *wh*-questions in CSE (Kim et al. 2009; Yeo 2010; 2011; Sato 2013) point out that CSE allows not only full *wh*-movement and *wh-in-situ,* as shown in (20a) and (20c), respectively, but also partial *wh*-movement, as shown in (20b).

(20) a. **What**$_i$ John think Mary eat t_i?
b. John think **what**$_i$ Mary eat t_i?
c. John think Mary eat **what**?

What is noteworthy about *wh*-questions in CSE is that the partial *wh*-movement derivation is blocked in CSE when an island boundary intervenes between the surface position of the partially moved *wh*-phrase and the specifier of the matrix scopal CP. Consider examples (21a-c) to illustrate this point.

(21) a. ***What**$_i$ John like [$_{DP}$ the man that think Mary eat t_i]?
b. ***John like [$_{DP}$ the man that think **what**$_i$ Mary eat t_i]?
c. John like [$_{DP}$ the man that think Mary eat **what**]?

(21a) is ungrammatical because overt *wh*-movement of *what* crosses the complex DP island boundary. What is interesting is that (21b) is ungrammatical despite the fact that the partially moved *wh*-phrase does not seem to cross the relevant boundary, unlike in (21a). The ungrammaticality of (21b) falls into place, however, if we assume that the *wh*-phrase in the intermediate specifier of CP undergoes covert *wh*-movement into the specifier of the matrix interrogative CP, triggering the island violation. Given this result, the grammaticality of the in-situ variant shown in (21c), in turn, indicates that *wh-in-situ* in CSE does not involve any syntactic *wh*-movement, either overt or covert, but is licensed instead by some in-situ mechanism such as unselective binding.

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Keeping this point in mind, consider now example (22), where the *wh*-phrase *what* remains in-situ within the interrogative CP complement of the interrogative-selecting matrix predicate *wonder*.

(22)   John wonders [$_{CP}$ C$_{WH}$ Mary like [$_{DP}$ the student who ate **what**]]?

If this example involved covert *wh*-movement of *what* into the specifier of the intermediate CP selected by the matrix verb, it would result in ungrammaticality due to the violation of the complex DP island constraint, for we have just seen in (21b) that covert *wh*-movement is sensitive to the same constraint. The grammaticality of (22), on the other hand, naturally falls into place if the *wh*-phrase is interpreted in-situ through unselective binding, because this mechanism triggers no island violations, as shown in (21c). The observations made here thus support our unselective binding analysis of *wh-in-situ* in CSE.

5.3 Feature underspecification or contact dynamics? Evidence from Malay and Ancash Quechua

In this section, we would like to investigate whether the CSE-type optional *wh-in-situ* is an exclusive by-product of contact-induced grammatical changes or instead due to a purely mechanical feature-level adjustment with respect to the (under-)specification of the C$_{WH}$ head. We will argue in this subsection that contact-based explanations, though plausible, do not have to be taken as a reason for CSE or any other language to develop this specific trait, which could have developed under independent, non-contact situations.[9] This position is supported by Malay and Ancash Quechua – two non-contact languages which nonetheless exhibit optional *wh-in-situ* like CSE and hence present themselves as further challenges for B&W's typological generalization.

It has been a consensus view in the literature on CSE (Bao 2001; 2015; Bao & Lye 2005; Sato 2011; 2013; 2014; see also many other references cited therein) that its syntax has received non-negligible, systemic, contact-induced influences from various regional varieties of Chinese, including Hokkien, Cantonese, Mandarin and, to a lesser extent, vernacular varieties of Malay (Bazaar Malay and Baba Malay), in diverse syntactic areas such as pro-drop/argument ellipsis, bare conditional structures and, importantly for our purposes, the syntax of *wh*-questions. Given the merits of the Chinese substratist explanation amply documented in the CSE literature, one may well suggest, with some degree of confidence, that the availability of both the *wh-in-situ* and *wh*-movement options in this particular English variety owes itself to grammatical changes brought about by constant contact pressures imposed by Standard English (the lexifier language) and Sinitic (the substrate language) within its dynamic, endogenous contact ecology. Indeed, as we saw in (6), Mandarin Chinese uses *wh-in-situ* in both matrix and embedded questions. The contrast between (23a) and (23b) further demonstrates that, in fact, this option is the only grammatical choice available in selected questions in Mandarin Chinese.

(23)   *Mandarin Chinese*
         a. *Wo   xiang-zhidao   [$_{CP}$ **shenme**$_i$ Mali   yijing   mai-le t_i].
             I   want-know   what   Mary   already   buy-PFV
             'I wonder what Mary has already bought.'

         b. Wo   xiang-zhidao   [$_{CP}$ Mali   yijing   mai-le   **shenme**].
             I   want-know   Mary   already   buy-PFV   what
             'I wonder what Mary has already bought.'

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[9] We thank an anonymous reviewer for suggesting this mode of explanation, adopted in this paper.

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Despite the obvious merits of a contact-based substratist explanation of the emergence of optional *wh-in-situ* in CSE, our proposed analysis, which simply consists of a micro-parametric underspecification of the valuation of the Q-feature of the C_{WH} head couched within B&W's framework, actually suggests otherwise, namely that the existence of contact roots is not a necessary condition for a given language to develop a specific formal property – optional *wh-in-situ* in the present case. In other words, our system leads us to expect that there should be some language which possesses the relevant syntactic property out of non-contact paths of development without any substratal influences from the languages it has interacted with. Indeed, Malay fits this description. Examples (24-25) show that this language permits *wh*-movement as well as *wh-in-situ* in the syntactic complement of the verb *bertanya* 'to ask'.[10]

(24)   *Malay*
     a.   Dia bertanya [$_{CP}$ **apa**$_i$ kamu   telah   beli t_i].
         he   ask   what   you   PST   buy
         'He asked what you bought.'

     b.   Dia bertanya [$_{CP}$ kamu   telah   beli   **apa**].
         he   ask   you   PST   buy   what
         'He asked what you bought.'

(25)   *Malay*
     a.   Saya mahu bertanya kamu [$_{CP}$ **ke mana**$_i$ kamu telah pergi t_i semalam].
         I   want   ask   you   to   where   you   PST   go   last night
         'I want to ask you where you went last night.'

     b.   Saya mahu bertanya kamu [$_{CP}$ kamu telah pergi **ke mana** semalam].
         I   want   ask   you   you   PST   go   to   where   last night
         'I want to ask you where you went last night.'

Two considerations indeed show that in-situ *wh*-questions in Malay are not DSQs, but rather genuine *wh-in-situ*. First, given B&W's system, the very availability of the in-situ *wh*-question, as shown in (24b) and (25b), provides ipso facto evidence that it instantiates *wh-in-situ*; if it were a DSQ, it would not be able to be embedded in selected CPs. Second, as is the case in Mandarin Chinese and CSE, in Malay, there is no known special semantic-pragmatic restriction on the use of in-situ questions in matrix and embedded questions of the kind which conditions in-situ structures in an otherwise overt *wh*-movement language like Standard English. We take this observation to further support the view that Malay possesses true *wh-in-situ*. Accordingly, Malay presents itself as another language problematic for B&W's generalization/analysis.

We adopt Cole & Hermon's (1998) analysis and suggest that *wh-in-situ* in Malay is licensed by unselective binding in the same way that *wh-in-situ* in Mandarin Chinese and CSE is. This analysis correctly explains their observation that nominal question words in Malay such as *apa* 'what' can work as individual variables bound by some non-interrogative operators, as shown in (26a, b).

(26)   *Malay* (Cole & Hermon 1998: 239)
     a.   Dia tidak membeli apa-apa   untuk saya.
         he   NEG   buy   what-what   for   me
         'He did not buy anything for me.'

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[10] We thank Muhammad Faiz B. Rosli for providing the Malay examples here. Cole & Hermon (1998: 230) also mention two examples where *tanya* 'to ask' selects the CP complement within in-situ *wh*-phrases.

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b. Dia tidak membeli apa-pun   untuk saya.
    he   NEG   buy   what-what   for   me
    'He did not buy anything for me.'

In (26a), the *wh*-word *apa* 'what' is successfully bound as a non-*wh*-variable by the existential quantifier expressed in the form of reduplication. Similarly, in (26b), the same *wh*-word is bound by the existential quantifier –*pun* 'also'. The ability of certain *wh*-words to serve as non-*wh*-variables is, then, correctly captured by the unselective binding analysis of *wh-in-situ* in Malay. Recall further from section 5.2 that the adverbial *wh*-phrase *why* in CSE cannot be licensed in-situ via unselective binding, as shown in (18d), because it denotes a function over a higher-order entity, not an individual. Accordingly, this *wh*-phrase must be licensed by overt *wh*-movement, as triggered by the valuation requirement of the unvalued Q-feature of the C_{WH} head. Given this observation, our analysis also correctly predicts that, as first noted by Cole & Hermon, the Malay equivalent of CSE *why*, *kenapa*, not only lacks any function as a non-*wh*-variable but also undergoes obligatory overt *wh*-movement, as shown in (27–28), respectively.

(27) *Malay* (Cole & Hermon 1998: 244)
      a. *Siti tak   pukul anak-nya   kenapa-kenapa.
          siti   NEG   hit   child-3SG   why-why
          'She did not hit her child for any reason.'

      b. *Siti tak   pukul anak-nya   kenapa-pun.
          siti   NEG   hit   child-3SG   why-also
          'She did not hit her child for any reason.'

(28) *Malay* (Cole & Hermon 1998: 226)
      a. **Kenapa** Fatimah   menangis?
          why   Fatimah   cry
          'Why did Fatimah cry?'

      b. *Fatimah   menangis **kenapa**?
          Fatimah   cry   why
          'Why did Fatimah cry?'

The Malay data reported above thus indicate that the underspecification of the valuation requirement on the Q-feature of the C_{WH} head (i.e., [u/vQ]) may arise in a given language without any contact-induced grammatical changes, though it could have been triggered in the particular case of CSE.

Ancash Quechua exhibits the same profile with CSE and Malay with respect to optional *wh-in-situ*, and hence raises another challenge to B&W's generalization. Cole (1982) observes that this Quechuan variety allows overt *wh*-movement and *wh-in-situ*.[11] From our careful reading of Cole's data concerning *wh*-questions in this variety and his descriptions thereof, there is no evidence to suggest that the in-situ construction is subject to any special semantic-pragmatic restrictions, which has been shown to constrain the use of in-situ *wh*-questions/DSQs in an overt *wh*-movement language. Given this observation, what is notable is that not only the overt *wh*-movement but also the *wh-in-situ* structures can be used as a syntactic interrogative complement selected by an interrogative verb such as *tapuy* 'to ask', as illustrated by the grammaticality of both (29a) and (29b).

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[11] We would like to thank an anonymous reviewer for bringing Cole's work to our attention.

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(29)   *Ancash Quechua* (Cole 1982: 52)
     a.   (Qam) tapurqonki [$_{CP}$ **ima-ta**$_i$ María munanqanta José t_i rantinanta].
        you   asked   what-ACC María wants   José   buy
        'You asked what María wants José to buy.'

     b.   (Qam) tapurqonki [$_{CP}$ María munanqanta José **ima-ta**   rantinanta].
        you   asked   María wants   José what-ACC buy
        'You asked what María wants José to buy.'

Cole (1982) further points out that in Ancash Quechua, overt *wh*-movement is subject to island constraints whereas *wh-in-situ* is not. This contrast is illustrated below with the complex DP island.

(30)   *Ancash Quechua* (Cole 1982: 42–43)
     a.   ***Ima-ta-taq**$_i$ qam kuyanki [$_{DP}$ t_i suwa-q   nuna-ta]?
        what-ACC-Q   you   love   steal-NOM man-ACC
        '*What do you love the man who stole?'

b.   Qam kuyanki [$_{DP}$ **ima-ta**   suwa-q   nuna-ta]?
     you   love   what-ACC steal-NOM man-ACC
     'You love the man who stole what?'

Reflecting the then-standard theoretical assumption within the Extended Standard Theory (see Huang 1982, among others) that S-Structure movement, not LF movement, is subject to Subjacency, Cole (1982) himself took the absence of the island effect in (30b) as an indication that covert *wh*-movement involved there is not subject to island effects. We have a different interpretation of the relevant fact from Cole's, however. In section 5.2, we have presented independent evidence from CSE that partial *wh*-movement, an instance of covert *wh*-movement, does obey island effects: see also Cole & Hermon (1998) for supporting evidence for the same conclusion from partial *wh*-movement in Malay. Given this independent evidence, we believe that the island-insensitivity of *wh-in-situ* in Ancash Quechua, as shown in (30b), actually supports the unselective binding analysis over the covert *wh*-movement alternative. With this being said, we must leave a more careful investigation of other potential evidence for the unselective binding analysis of *wh-in-situ* in Ancash Quechua for another occasion due to the inaccessibility of further data and information on *wh*-questions in this Quechuan variety. At any rate, to the extent that this analysis holds true, the preliminary survey conducted here of the *wh*-question paradigm in this language lends further credence to our view that the C$_{WH}$ in a language can be underspecified and come with either value with respect to its Q-feature, independently of whether its grammar is shaped in contact situations.

6 Conclusion

In this remark, we have presented novel examples showing that CSE permits optional *wh-in-situ* in both matrix and embedded interrogative clauses. We have argued that the availability of the *wh-in-situ* configuration in selected questions in CSE poses an empirical challenge to B&W's otherwise cross-linguistically robust generalization that no language may truly mix English-type overt *wh*-movement and Chinese-type *wh-in-situ* structures. We have presented a minor modification to B&W's system to capture the genuine optionality of *wh*-movement in CSE, according to which the C$_{WH}$ head in this variety may enter the syntactic derivation with either the valued Q-feature or the unvalued Q-feature. Although it is reasonable to claim that this underspecification in CSE may have arisen from its

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intense contact with English (lexifier) and Chinese (substrate), we have also suggested that the existence of contact roots does not have to be taken as a necessary condition for a given language to develop genuine *wh*-movement optionality in its grammatical system because nothing in principle seems to block the logical possibility that the Q-feature may enter the syntactic workspace with either value. To support this suggestion, we have documented preliminary data showing that Malay and Ancash Quechua exhibit the same *wh*-movement profile as CSE, despite the fact that they are not contact languages.

Abbreviations

3 = third person, ACC = accusative, NEG = negation, NOM = nominative, PFV = perfective, PST = past tense, Q = question particle, SG = singular

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Competing Interests

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