

# WH- AND MULTIPLE WH- QUESTIONS IN STANDARD ARABIC, ENGLISH, AND THE SLAVIC LANGUAGES AND LF-REPRESENTATION\*

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## **Abstract**

This paper aims to explore the syntax of *wh*- and multiple *wh*- questions within the Minimalist framework. It first introduces Chomsky's (1995) treatment of *wh*-movement in English on the basis of which movement of question words in Standard Arabic will be analyzed. It also examines question word raising in Standard Arabic both at PF and LF and shows how feature checking plays a crucial role in licensing features in the syntax. Moreover, the paper examines the interaction between the syntax of question word raising in Standard Arabic and the Minimal Link Condition (MLC). The last section illustrates how the LF-representation plays a significant role in the syntax of multiple questions in Standard Arabic, English and the Slavic languages; it shows that Standard Arabic, like English, does not allow overt multiple *wh*-movement at PF (but rather at LF), while other languages do (the Slavic languages do permit overt multiple *wh*-questions to move overtly to [Spec, CP] for feature checking considerations). In other words, the focus of this paper is on the interaction between multiple *wh*-questions and their LF-component in Standard Arabic in relation with the other languages with respect to movement operations operating in covert syntax.

**Key words:** *Wh*-raising, covert, LF-representation, checking, minimal, multiple questions.

## **1. Introduction**

This paper intends to point out that world languages exhibit interesting phenomena with regard to the syntax of overt/covert *wh*-movement. The objective of this paper is to examine the syntax of *wh*- and multiple *wh*- questions in the light of the Minimalist framework and to show the similarities and differences between Standard Arabic and English, on the one hand, and between Standard Arabic and the Slavic languages, on the other. We attempt to show that many languages permit overt *wh*-movement to [Spec, CP] to take place in overt syntax (like Standard Arabic

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and English), other languages do not allow overt raising of *wh*-words (like Chinese and Japanese). In the latter type of languages, *wh*-raising to [Spec, CP] has to undergo covert movement at LF, thus obeying the principle of Procrastination. Furthermore, the paper sheds light on the fact that the LF-component of a grammar is the component which converts the syntactic structures produced by merger and movement operations into LF-representations. Our objective is to examine multiple *wh*-questions at LF and to show that LF is the level at which representations include only semantic features.

This paper is organized as follows. In sections 2, 3 and 4, we first introduce the broad outlines of Chomsky's (1995) Minimalist account of *wh*-movement and feature checking in English as the basis for our Minimalist analysis which addresses movement of Standard Arabic question words extracted from subject and object positions of simple finite sentences. This analysis shows that Standard Arabic permits only question words derived with the normal VSO order, and not the SVO order. Furthermore, the Minimalist assumption that the raising of a *wh*-operator to [Spec, CP] is highly motivated by the need for a morphological Q-feature (= *wh*-feature) to be licensed in the checking domain of [<sub>CP</sub> [Spec [<sub>C</sub>+Q] ...]] will be validated by our morpho-syntactic analysis of question word movement in Standard Arabic. It is this analysis which reveals that the Standard Arabic question word (which originates in the subject or object position of a simple finite sentence) undergoes an obligatorily overt movement to [Spec, CP] for feature checking and that it cannot stay *in-situ* in overt syntax. In section 5, we illustrate how the Minimal Link Condition (MLC) works in the syntax of Standard Arabic question words and why it demands that links in movement chains should be as short as possible. In section 6, we show how the LF-representation plays a crucial role in the syntax of multiple question word movement in Standard Arabic and English. We also illustrate how overt multiple *wh*-raising is allowed in some languages (the Slavic languages, for instance) while it is not at all permitted in languages like Standard Arabic and English. Further, this paper concludes that Standard Arabic (like English) only allows one question word to move overtly to [Spec, CP] for feature checking while the rest of the question words in the sentence have to move at LF.

## 2. *Wh*-Raising in English: Chomsky (1995)

Following Watanabe's (1991) analysis of *wh*-movement, Chomsky (1995:199) points out that there is no parametric difference with regard to *wh-in-situ* phenomenon. Chomsky (1995:199) observes that differences between languages (such as that between English and Japanese) "reduce to morphology," more specifically to, "the internal morphology of the *wh*-phrases." Chomsky stresses that the raising of the *wh*-operator is ever overt, contrary to the principle of Procrastination, and goes on to argue that the basic assumption of "economy of derivation" is that operators are driven by morphological necessity, since they are "last resort". The Minimalist assumption here is that there are certain features which must be licensed in what Chomsky calls the checking domain of a head, otherwise

the derivation will crash. Hence, raising of a *wh*-operator to [Spec, CP] has to be motivated by such a requirement. Given this, Chomsky points out that raising of a *wh*-operator to [Spec, CP] is driven by the need for a morphological Q-feature to be licensed and proposes that in a simple interrogative clause C (COMP) contains an underlying abstract affixal question Q. In a language like English, C has a strong Q-feature, as does the operator that raises to it.<sup>1</sup> This can be shown in (1), using Chomsky's (1995: 293) example (1a) to illustrate the point.

- 1a. Q[<sub>IP</sub> Who fixed the car]
- b. [<sub>CP</sub> ↑ [c' [+Q] [<sub>IP</sub> Who fixed the car]]]
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It can be observed that the proposed operator feature, which Chomsky takes to be the Q- or *wh*-feature, is assumed to be present in the D-structure (i.e. at LF) of an interrogative clause, which in turn distinguishes itself from its declarative counterpart. For licensing the features of an appropriate C, Chomsky (1995:199) points out that "the operators raise for feature checking to the checking domain of C: [Spec, CP], or adjunction to Spec (absorption), thereby satisfying their scopal properties." Chomsky (1995:199) assumes, on the basis of Watanabe (1991), that the Q-feature is strong in all languages, "the *wh*-operator feature is universally strong."

### 3. Feature Checking in English and Standard Arabic

It has been assumed in the Principles and Parameters framework of Chomsky (1991) that verbs are inserted from the lexicon in their bare form, i.e., they are uninflected for tense and agreement. Such verbs pick up their tense and agreement inflection as a result of syntactic movement which adjoins them with inflectional categories.

However, in the Minimalist approach Chomsky (1993; 1995; 1998; 1999; 2000) introduces the theory of checking as an alternative to the derivational approach to inflectional morphology; it is assumed that verbs are inflected for features in the lexicon and are inserted into derivations already inflected rather than in their bare form. The verb features are then checked against their corresponding features encoded in the inflectional categories. Chomsky (1993; 1995) takes [I] to be mnemonic for the inflectional categories, feature checking takes place in the configuration [<sub>i</sub><sup>o</sup> [V ] I ] which is derived by the syntactic operation of head-adjunction. If the features of [V] and [I] match, [I] has to disappear and [V] proceeds to PF, where it is spelled out as a single phonological word. But if the features of [V] and [I] do not match, [I] surfaces into PF and the derivation is to crash at that level. It is assumed within the Minimalist approach that PF rules are supposed to 'see' only inflected [V].

<sup>1</sup> Haegeman and Guéron (1999: 547), on the other hand, propose that *wh*-movement checks the [+ *wh*] feature and "creates a specifier – head relation between [+WH] feature on a head (C in embedded clauses; T in Foc in root clauses) and the *wh*-phrases in its specifiers."

Furthermore, Chomsky (1993; 1995) points out that once a feature is checked in the syntax, it disappears which means that it is no longer available to the computation. At LF, all features must be checked. Any remaining unchecked feature causes the derivation to crash. On this basis, it follows that main verbs move to [I], if not overtly then covertly. This means if the verb does not check its features in overt syntax, it has to do so in covert syntax.

Moreover, Chomsky (1995: 196) observes that the inflectional categories such as T, Agr<sub>s</sub> and Agr<sub>o</sub> have their own features that correspond to those features encoded in the verb in the lexicon; Chomsky calls these features V-features. The function of such V-features is to check the morphological properties of the verb taken from the lexicon. Furthermore Chomsky (1995: 197) assigns two functions for the morphological elements T and Agr, that is, check features of the verb which move to them, and they check properties of the DP that raise to their Spec. In other words, the inflectional categories T, Agr<sub>s</sub> and Agr<sub>o</sub> (which have the function of licensing the V-features of V) also have the function of checking the NP-features of the DP that move to their specifier position.

However, Chomsky (1995:351-354,377) dispenses with Agr altogether in later versions of the Minimalist Program, in an attempt to overcome certain problems that faced the earlier versions of the Minimalist Program. In this connection, Chomsky (1995:351) argues that "there is no need to deal with optionally strong Agr." He points out that because Agr consists of strong features "it cannot attract raising", (p.351). It should be noted that Chomsky has already suggested that the subject and object NPs/DPs raise to the checking domain of Agr, where they "enter into a checking relation with features of T or V adjoined to Agr ...", (p.351). Given this, Chomsky dispenses with weak Agr and suggests that covert raising has to target T and V. This is observed in Chomsky's (1995: 351) words: "But with weak Agr gone, covert raising must target T and V directly."

Moreover, on the basis of the French and English-type languages, Chomsky assumes that Agr is not in the lexicon and indicates that Agr "occurs in highly restricted ways", (p.351). Hence, in his last statement in the final chapter of the Minimalist Program, Chomsky (1995: 377) suggests the elimination of Agr from the lexical inventory and stresses that the question of its existence is narrowed. Let us quote Chomsky's (1995: 377) own words in this connection:

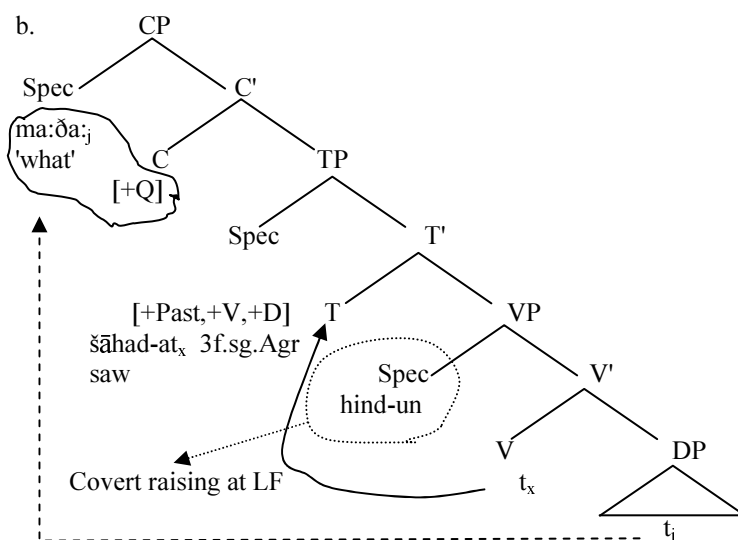
"As matters stand here, it seems reasonable to conjecture that Agr does not exist and that  $\Phi$ -features of a predicate P, though –Interpretable, are like the Interpretable  $\Phi$ -features of nouns in that they are part of P in the numeration, added optionally as P is selected from the lexicon."

Having introduced briefly the earlier versions of Chomsky's (1993; 1995) feature checking of the Minimalist Program, we, however, adopt Chomsky's (1998; 1999; 2000) later developments which seem to be more economical and logical since the number of checking operation steps has been reduced in a given phase. Chomsky's (2000) basic idea is that uninterpretable inflectional features enter into agreement relations with interpretable inflectional features. Chomsky (2000: 2)

assumes that "the  $\Phi$ -features of T (tense) are uninterpretable and agree with the interpretable  $\Phi$ -features of a nominal that may be local or remote, yielding the surface effect of noun-verb agreement." Chomsky adopts the conclusion that the agreement relation removes what he calls the uninterpretable features from "the narrow syntax", a process which allows derivations to converge at the LF component. Chomsky (2000) has improved the areas of weakness in the earlier versions of the Minimalist Program by presenting a new Minimalist technique in handling syntactic phenomena relating to the checking of Case and agreement features and alternative word-order possibilities.

First let us illustrate how the checking theory of Minimalism works in the syntax of the question words of Standard Arabic in the following example and its clause-structure in (2).

- 2a. ma:ða:    ša:had – at    hind – un    t<sub>ma.ða:</sub> ?  
 what    see-pst-f.sg.    Hind-nom.  
 'What did Hind see t<sub>what</sub>?'



Following Chomsky's (1995; 1998; 1999; 2000) Minimalist analysis, let us dispense with Agr for the same reasons discussed in Chomsky (1995: 351-354), and which we have introduced above. Given feature checking considerations, (2) demonstrates that the verb *ša:had-at* 'saw-she' has to undergo overt raising to the head T position of TP for feature licensing. Given the Minimalist assumptions of the Theory of Feature Checking that strong features force overt raising in the syntax, the obligatory movement of the verb in (2) is driven by the requirement to check the strong morphological features of the tense. Following Chomsky's (1995: 350-

352,364) analysis of tense in English, we assume that T(tense) in Standard Arabic is specified for two categorial features, namely the [+V] feature and the [+D] feature. The feature [+V] determines the interaction between the tense and the verb, while the feature [+D] determines its interaction with the subject. The [+V] feature must be checked by verbal heads, while the [+D] feature can be checked by nominal heads. This is illustrated in the clause-structure of the Standard Arabic example in (2) above, where we demonstrated overt raising of the verb and covert raising of the subject DP, given the VSO word order. On the basis of our assumption, we argue that the overt movement of the verb in (2) is to check the tense categorial feature, namely the feature [+V], since the verb is the only legitimate candidate to do this job, through head-to-head movement. Moreover, we assume that T(tense) in Standard Arabic has uninterpretable  $\Phi$ -features which enter into agreement relations with interpretable features on the tensed verb, thus yielding noun-verb agreement, in the process of feature checking in the syntax. Further, it is this agreement relation that removes the uninterpretable features, thus allowing the derivation to converge at LF, as shown in (2) above.

On the other hand, the subject DP *hind-un* 'Hind' in (2) does not have to move overtly for feature licensing to [Spec, TP] because the subject DP in VSO word order exhibits the weak D-feature which makes it unable to move in overt syntax. Hence, the overt raising of the subject to [Spec, TP] in VSO order is barred by the principle of Procrastination, which prefers delaying movement until LF. Therefore, the subject DP can move covertly at LF for checking its Case and agreement features. The following section will address the issue of why the question word in Standard Arabic, as in (2) above, has to obligatorily raise to [Spec, CP] for feature checking considerations.

#### 4. Question Word Raising in Standard Arabic Minimalist Terms

The basic assumptions of the checking theory have been introduced in the preceding section, where we have also demonstrated how Arabic data interact with the Minimalist assumptions of the checking theory. In this section, we show the interaction between question word raising in Standard Arabic and feature checking of Chomsky (1995; 1999; 2000).

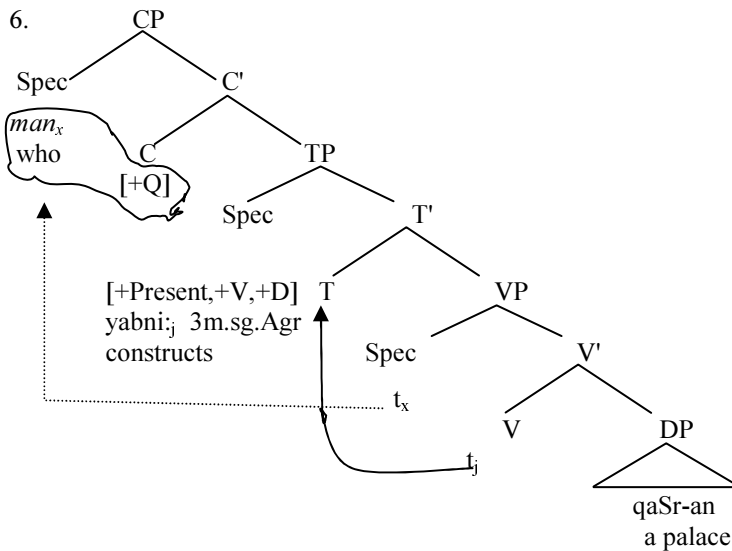
Chomsky's (1995; 1999; 2000) Minimalist Program places a significant emphasis on feature checking considerations. In accounting for *wh*-raising in English, Chomsky (1995: 289) proposes that raising of a *wh*-operator to [Spec, CP] is driven by the need for a morphological Q-feature to be checked via the Spec-head configuration. Moreover, we assume that in a simple interrogative clause of Standard Arabic C has a strong feature of Q and that the question operator which raises to it (i.e. C) has also a strong Q-feature that raises overtly for feature checking. This implies that the question word raising in Standard Arabic is overt. This means that due to the strong feature of Q the question word operator in Standard Arabic is motivated to raise overtly to license its own morphological features against that of the interrogative C under the Spec-head agreement relation



Moreover, in order to show that question word raising undergoes overt movement to [Spec, CP], let us consider the following ungrammatical example in (5), where the question word is assumed to remain *in-situ* in overt syntax.

5. Spell-Out: \* $[_{CP} [_{C'} [+Q] [_{IP} \text{yabni:} \quad \text{man} \quad \text{qaSr} - \text{an}]]]$   
 3m-sg-construct-pres. who palace-acc-indef.

The ungrammaticality of (5) is a further support of our argument that the question word movement in Standard Arabic is an obligatory operation and takes place in overt syntax. And if it were covert, (5) could have been correct (but it is not so). The reason why (5) is rendered ungrammatical lies in the fact that the question word *man* 'who' has to raise overtly to Spec-head configuration of  $[_{CP} \text{Spec} [_{C'} [+Q] \dots]]$  in order to check its strong features under the Spec-head relation. It follows that *man* 'who' in (5) cannot wait until LF, thus disobeying the principle of Procrastination, which prefers delaying question word movement until LF, as in Chinese, Japanese ... etc. The Minimalist assumptions of checking theory assume that any strong feature must be licensed before Spell-Out, because any strong feature left unchecked, causes the derivation to crash, as shown in (5) above. This can further be illustrated in the following clause-structure in (6), where the question word *man* 'who' undergoes overt raising, thus causing the derivation to converge.





(6) shows that the question word *man* 'who' is forced to raise overtly because it is driven by the need to license its own *wh*-feature against C in the checking domain of Spec-head relation, ensuring that the Economy Principle is satisfied. Chomsky (1995) emphasizes that checking is accomplished by movement in the sense that a head with matching morphology raises to the functional head to license its abstract features or else a maximal projection with certain features moves to derive a specifier - head relation with the head in question. It is thus apparent that all movement is motivated by the checking of abstract head features or specifier features of functional heads. Further, a head feature has to be licensed by head-movement and a specifier must be checked by a maximal projection in a specifier-head relation. Chomsky (1993; 1995) also stresses that all features must be checked in order for them to be interpretable.

It should be pointed out that Standard Arabic differs from English with regard to the position of the extraction of the subject DP. In the Minimalist Program Chomsky stresses that the following example of English in (7) is interpreted as a *wh*-question, though it has all the overt syntactic properties of IP.

7. Q[<sub>IP</sub> who will fix the car]

We, however, argue that the difference between Standard Arabic and English in this regard can be attributed to word order variation. English is a rigid SVO language while Standard Arabic is a VSO language which also has an alternative in finite clauses.<sup>2</sup> The theoretical evidence that Standard Arabic disallows the SVO order to derive question words can be illustrated in the following example in (8).

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<sup>2</sup> See Fakih (2003; 2005) for more detailed analyses on this issue.

- 8a. \* $[\text{CP } \text{man } [\text{C } [+Q] ] [\text{IP } \text{ʔahabba } \text{zawjat-a-hu} ]]$  SVO order  
 who love-pst.3m.sg. wife-f.sg-acc-his
- b.  $[\text{CP } \text{man } [\text{C } [+Q] ] [\text{IP } \text{ʔahabba } \text{t}_{\text{man}} \text{zawjat-a-hu} ]]$  VSO order  
 who love-pst.3m.sg. wife-f.sg-acc-his  
 'Who loved his wife?'
- c. \* $[\text{CP } \text{ma:ða:} [\text{C } [+Q] ] [\text{IP } \text{hind - un } \text{katab-at } \text{t}_{\text{ma:ða:}} ]]$  SVO  
 Hind-nom. wrote what
- d.  $[\text{CP } \text{ma:ða:} [\text{C } [+Q] ] [\text{IP } \text{katabat } \text{hind un } \text{t}_{\text{ma:ða:}} ]]$  VSO  
 wrote wrote what  
 'What did Hind write?'
- e. \* $[\text{CP } \text{mata:} [\text{C } [+Q] ] [\text{IP } \text{hind - un } \text{waSalat } \text{t}_{\text{mata:}} ]]$  SVO  
 Hind-nom. Zaid-nom. what
- f.  $[\text{CP } \text{mata:} [\text{C } [+Q] ] [\text{IP } \text{waSalat } \text{hind - un } \text{t}_{\text{mata:}} ]]$  VSO  
 arrived Hind-nom. what  
 'When did Hind arrive?'

The reason why (8a), (8c) and (8e) are not acceptable can be accounted for in terms of word order: the SVO is not the right word order to derive question words.<sup>3</sup> Rather, question words must always be construed with the normal VSO word order, as shown in (8b), (8d) and (8f). Our argument is along the lines of the very traditional Arab grammarians (like Sibawayh (768)<sup>4</sup>, Ibn Malik (1203),<sup>5</sup> Ibn Hisham (1211)<sup>6</sup> as well as of modern Arab grammarians (such as, Abdul Raof (1998), among others), who accept the derivations in (8b), (8d) and (8f) and reject the derived structures in (8a), (8c) and (8e),<sup>7</sup> for the reason that the former constructions satisfy the basic rules of grammaticality in Arabic VSO word order in that the question word should not be followed by the subject NP; rather it should be followed by the verb, as shown in (8b), (8d) and (8f).

<sup>3</sup> It may be noted that (8a) can be acceptable in the varieties of Arabic, but not in Standard Arabic.

<sup>4</sup> Sibawayh, (768) [Reprinted in 1973] *Al-Kitāb* [The Book], Part II, Cairo: Bulaq Press.

<sup>5</sup> Ibn Malik (1203) [Reprinted in 1986] *Awdah Al-Masaalik* [The Clearest Ways] vol. II. Beirut: Daar Ihiya Al-Turaath Al-ʿarabi.

<sup>6</sup> A. Ibn Hisham (1211) *Qatr Al-Nada wa Ballu Al-Sada* [Dewdrops]. Beirut: Al-Maktaba Al-ʿasriyya.

<sup>7</sup> Abdul-Raof H. (1998) *Subject, Theme, and Agent in Modern Standard Arabic*. London: Curzon Press. Abdul-Raof (1998: 46-55) asserts that what determines the VSO order as the basic word order of Standard Arabic is interrogativity, among other things. Abdul-Raof points out that the interrogativity must always be derived with the VSO word order.



t<sub>x</sub>

### 5. The Minimal Link Condition in Standard Arabic Question Phrases.

The Minimal Link Condition (MLC) is a principle of grammar requiring that links in movement chains should be as short as possible (hence constituents should move from one position to another in the shortest possible steps). This entails that shorter movements are preferable to longer ones. Let us now illustrate the interaction between the MLC and the syntax of question words in Standard Arabic, as demonstrated in (11).

- 11a. yataḍakkaru            al-Tullabu            [ʔayy-a    qalam-in  
remember- pres    def-students-nom    which-acc    pen-gen

Q[ʔa<sup>c</sup>Ta            <sup>c</sup>amr-un    t<sub>ʔayy-a qalam-in</sub>    li – hind – in]]  
give-pst            Amr-nom                            to-Hind-gen

- b. yataḍakkaru al-Tullab-u            [ʔayy-a            qalam-in  
remember-pres    def-students-nom    which-acc    pen-gen

Q[ʔa<sup>c</sup>Ta            <sup>c</sup>amr-un    t<sub>ʔayy-a qalam-in</sub>    li – man]]  
give-pst            Amr-nom                            to-whom

'The students remember [which pen Q[Amr gave to whom]]'.

The difference between (11a) and (11b) is that the object DP, in the embedded sentence, is replaced by the question word *li-man* 'whom' in (11b). Let us assume (following Chomsky (1995: 294)) that (11b) is interrogative with the complementizer Q'. If (11b) is taken to be a root construction, then the strong feature of the complementizer Q' can be eliminated by substitution of a question word in the checking domain of [Spec, Q]. But if it is embedded, then again the question word substitutes [Spec, Q'], as demonstrated in (12).

12. guess [Q' yataḍakkaru    al-Tullab-u            [ʔayy-a    qalam- in  
    remember-pres    def-students-nom    which-acc    pen - gen

Q[ʔa<sup>c</sup>Ta            <sup>c</sup>amr-un    t<sub>ʔayy-a qalam-in</sub>    li – hind – in]]  
give-pst            Amr-nom                            to-Hind-gen

'Guess [Q' the students remember [which book Q[Amr gave t to whom]]]

According to Chomsky (1995: 295), whether (12) is embedded or not, there are still two question words (i.e. *ʔayya-a qalam-in* 'which pen' and *li-man* 'to whom') which are taken to be candidates for raising to [Spec, Q'] to license the strong features. Such feature checking takes place under Spec-head relation. Under raising (12) can yield (13a) and (13b).



It is due to parametric variations among languages that there are languages which require that movement of the question word in a simple question expression is overt, while it is covert in other languages, like Japanese. English and Standard Arabic, however, represent the first type of languages where overt movement of the question word in a simple sentence is obligatory, as it takes place in overt syntax. Japanese, on the other hand, leaves the *wh*-word *in-situ*, thus disobeying overt movement of the *wh*-word, while Colloquial French allows both types of *wh*-movement options: overt *wh*-movement and *in-situ* (or covert) movement.

In this section, we compare the four languages (Standard Arabic, English, Japanese and (Colloquial) French) with a view to identifying the parameter responsible for variation between them. The basis of analysis is the work of Huang (1982) which compares Chinese to English, and the work of Lasnik and Saito (1992) on Japanese as well as the work of Chomsky (1995; 1998; 1999) and Ouhalla (1999).

Let us now consider (14), (15) and (16) to illustrate the point – Japanese (14) and French (15) and (16) – data are cited from Ouhalla (1999: 441- 442).

- 14a. John – wa nani – o kaimasita ka ?  
 John-top what-acc bought Q
- b. Spell-Out: [<sub>CP</sub> [<sub>IP</sub> John-wa [<sub>VP</sub> [<sub>DP</sub> nani-o] [<sub>V</sub> kaimasita]]] ka / [+Q]]
- 15a. qui as-tu vu?  
 who have-you seen
- b. Spell-Out: [<sub>CP</sub> qui [<sub>C</sub> as [<sub>IP</sub> tu [<sub>I'</sub> t<sub>as</sub> [<sub>VP</sub> vu t<sub>qui</sub> ...
- 16a. Tu as vu qui?  
 you have seen who  
 'Who have you seen?'
- b. Spell-Out: [<sub>CP</sub> [<sub>C</sub> [+Q] [<sub>IP</sub> tu [<sub>I'</sub> as [<sub>VP</sub> vu qui ...
- c. LF: [<sub>CP</sub> qui [<sub>C</sub> [+Q] [<sub>IP</sub> tu as vu t<sub>qui</sub> ...

Standard Arabic and English, on the other hand, show a contrasting example to that of Japanese in the sense that the question word, in their syntax, must undergo overt movement to [Spec, CP] for feature checking before Spell-Out in order for the derivation to converge, as demonstrated in (17) and (18).

- 17a. ma:ða: taktubu al – bint – u t<sub>ma:ða:</sub> ?  
 what 3f.sg-write-pres. def-girl-nom  
 'What does the girl write t<sub>what</sub> ?'
- b. Spell-Out: [<sub>CP</sub> ma:ða: [<sub>C</sub> [+Q] [<sub>IP</sub> taktubu al-bint-u t<sub>ma:ða:</sub> ]]
- c. LF: [<sub>CP</sub> ma:ða: [<sub>C</sub> [+Q] [<sub>IP</sub> taktubu al-bint – u t<sub>ma:ða:</sub> ]]

- d. Spell-Out: \*taktubu al-bint-u ma:ða:?  
3f-sg.write-pres. def-girl-nom what
- e. Spell-Out: \*[<sub>CP</sub> [<sub>C'</sub> [+Q] [<sub>IP</sub> taktubu al-bint-u ma:ða: ]]
- 18a. What did John buy?
- b. Spell-Out: [<sub>CP</sub> what [<sub>C'</sub> did / [+Q] [<sub>IP</sub> John buy t<sub>what</sub> ]]
- c. [<sub>CP</sub> what [<sub>C'</sub> did / [+Q] [<sub>IP</sub> John buy t<sub>what</sub> ]]
- d. Spell-Out: \*John bought what?
- e. Spell-Out: \*[<sub>CP</sub> [<sub>C'</sub> [+Q] [<sub>IP</sub> John I [<sub>VP</sub> bought what ....

(17) and (18) are in support of Chomsky's (1993; 1995) proposal that movement is driven by the need to check some morphological features. (17a) of Standard Arabic and (18a) of English show that the moved question words to [Spec, CP] are forced to move in order to check their *wh*-features against the strong Q-feature hosted in C position, before Spell-Out. Any strong feature left unchecked before Spell-Out will cause the derivation to crash, as in (17d) and (18d); the question word here cannot remain *in-situ* until LF to check its features. (17) and (18) provide further support to the Minimalist assumptions that the feature [+Q] is encoded in both C and the *wh*-word and that its checking domain is the Spec-head configuration [<sub>CP</sub> Spec [<sub>C'</sub> [+Q] ... ]]. This assumption suggests that [Spec, CP] must involve at least one question word to check the strong [+Q] feature of C, if not overtly then covertly. Moreover, all question words in a given sentence should be in [Spec, CP] at LF representation to check their [+Q] feature. The data in (14), (15) and (16) show that although the question word remains *in-situ* in overt syntax in Japanese and Colloquial French simple *wh*-questions, it must raise to the relevant [Spec, CP] at LF for reasons relevant to the interpretation of *wh*-questions. Japanese and Colloquial French simple *wh*-questions have a representation identical to that of Standard Arabic and English, with the *wh*-word located in the relevant [Spec, CP] at LF for reasons relevant to the interpretation of *wh*-questions. In all representations shown above of the four languages, the *wh*-word occupies the scope-taking position that corresponds to the position of the logical operators in the logical representation.

Given such assumptions just spelled out, it appears that the [+Q] feature of C is strong in Standard Arabic and English, since overt movement of a question word to [Spec, CP] is obligatory, while it is weak in Japanese because the *wh*-word of the latter occurs in covert syntax. Japanese *wh*-movement is licensed at LF, for it obeys the requirements of Procrastination. Colloquial French, on the other hand, allows both types of *wh*-movement, i.e., weak and strong (If it is weak, overt movement of a *wh*-word to [Spec, CP] is barred by Procrastination. If it is strong, then a *wh*-word moves overtly to [Spec, CP], thus satisfying the Economy Principle).

Given the above argument, Chomsky (1995:191ff.) adopts a different view where he assumes that the [+Q] feature of C is universally strong in all languages (following Watanabe's 1991 assumptions). This implies that all languages undergo

overt movement of *wh*-word to [Spec, CP]. Watanabe's (1991) analysis of Japanese suggests that the overt movement in Japanese *wh*-questions is due to a null *wh*-operator originating inside the *wh*-word. Watanabe's conclusion shows that despite the fact that the moved element is null, the movement takes place in overt syntax and it is therefore a clear indication of *wh*-movement.<sup>8</sup> Therefore, Chomsky's proposal that the [+Q] feature of C is strong in all languages supports the claim that even *wh-in-situ* languages involve some kind of overt *wh*-movement (Ouhalla, 1999: 443).

Furthermore, our analysis intends to account for the difference between languages relating to whether they move or do not move the *wh*-word in simple *wh*-questions. It thus turns out that there is a three-way variation in this respect found in (i) Standard Arabic and English, (ii) Japanese and (iii) Colloquial French. Ouhalla (1999: 306) indicates that this variation is attributed to variation relating to the level at which the principle which (Ouhalla suggests) requires a [+Q] – CP to have a *wh*-specifier is satisfied. Ouhalla then assumes the following *wh*-movement parameter in (19).

19. A [+Q] – CP must have a [+Q] – specifier.

We have shown that both Standard Arabic and English move the question word obligatorily to [Spec, CP] in overt syntax. Japanese differs radically in that it apparently never moves the *wh*-word to [Spec, CP] in overt syntax which in turn suggests that the *wh*-word remains *in-situ* in Japanese syntax. Colloquial French, on the other hand, can either move the *wh*-word or leave it *in-situ* in overt syntax.<sup>9</sup> A closer look at the preceding analysis reveals that in Standard Arabic and English Ouhalla's *wh*-movement parameter is satisfied at PF, while in Japanese it is satisfied at LF. Interestingly enough, it can be satisfied either at PF or at LF in Colloquial French.

## 6.2. Multiple *Wh*-Movement in the Slavic Languages

Due to parametric variations among languages with regard to the application of overt *wh*-movement, it can be shown that in Standard Arabic and English-type languages only one *wh*-word has to undergo overt *wh*-movement to [Spec, CP], while in Chinese-type languages *wh*-words must remain *in-situ* in overt syntax due to the fact that the latter only undergo covert *wh*-movement at LF. The Slavic languages (Bulgarian, Serbo-Croatian, Czech, Polish and Russian), on the other hand, show an interesting phenomenon in that they allow multiple *wh*-movement to [Spec, CP] in overt syntax. This means that adjunction and multiple adjunction of question word to [Spec, CP] must apparently be allowed.<sup>10</sup> In this connection,

<sup>8</sup> Lasnik and Saito (1992) argue that Japanese lacks overt *wh*-movement altogether.

<sup>9</sup> (cf. Huang (1982) and Lasnik (1992) for similar issues).

<sup>10</sup> Haegeman and Guéron (1999: 551 ff.) show that Hungarian also permits multiple *wh*-movement to, what they call, [Spec, FocP] in overt syntax. They cite the following example (1) from Puskas (1992).

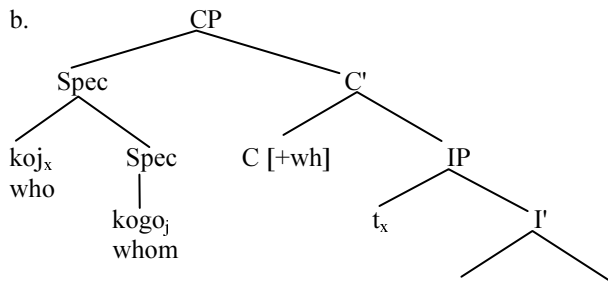


Culicover (1997: 188) asserts that multiple *wh*-movement cannot be ruled out universally due to the fact that the Slavic languages permit the raising of multiple *wh*-words to [Spec, CP] in overt syntax. Let us illustrate this in (20) – examples cited below are from Rudin's (1988: 445-501).

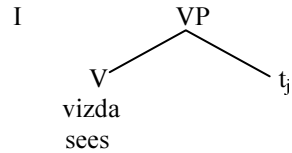
- 20a. kto cto kogda skazal ? Russian  
 who what when said  
 'Who said what when?'
- b. koj kogo vizda? Bulgarian  
 who whom sees  
 'Who sees whom?'
- c. ko kago vidi? Serbo-Croatian  
 who whom sees  
 'Who sees whom?'
- d. kdo koho videl? Czech  
 who whom saw  
 'Who saw whom?'
- e. kto co robil ? Polish  
 who who did  
 'Who did what?'

Given the preceding data of the Slavic languages, two types of structures must be distinguished with respect to the raising of multiple *wh*-words. The first type shows that in languages like Bulgarian, all the *wh*-words are adjoined at [Spec, CP]. That is, each *wh*-word adjoins to the one to the right of it, thus yielding a left-branching structure. In such type of languages, the moved *wh*-words are a single constituent because the entire sequence must function as a unit. (21) illustrates Bulgarian type-languages.

- 21a. [CP [Spec [koj] kogo] C [+wh] [IP vizda]]  
 who whom sees

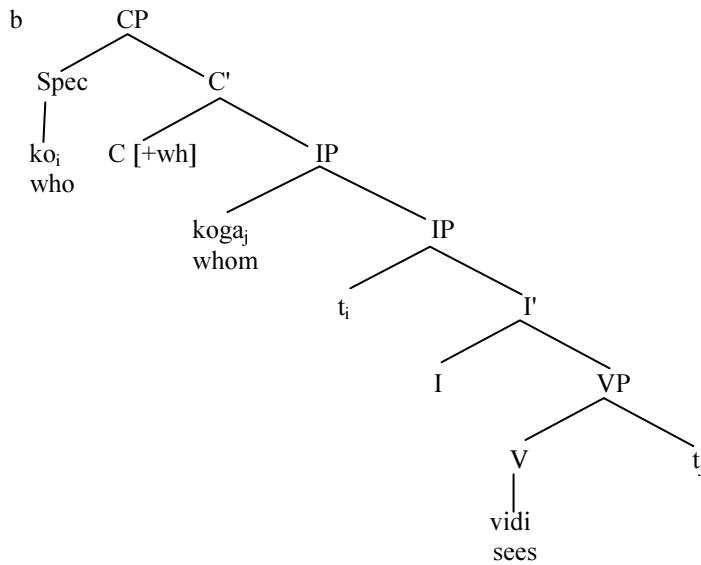


- 
- 1. ki nit tatott ?  
 who what sees  
 'Who sees' what?'



The second type demonstrates that there are other languages like Serbo-Croatian, Polish and Czech, where the leftmost *wh*-word adjoins to [Spec, CP], while the one to the right of it adjoins to IP. (22) demonstrates Serbo-Croatian type-languages.

22a. [CP [Spec ko ] C [+wh] [IP koga [IP vidi ]]]  
           who                  whom          sees



It can be noted that Rudin's (1988) analysis provides evidence supporting the structural difference between the two types of languages, discussed above. Culicover (1997: 191), on the other hand, observes that the evidence appears to be strong in Bulgarian-type languages (where the *wh*-words form a single constituent), but he points out that the claim that *wh*-words in Serbo-Croatian type languages adjoin to IP seems to be weak and more controversial.

On the other hand, Boskovic's (1999: 169 -183) account of multiple feature checking shows that there is a difference between Bulgarian and Serbo-Croatian multiple *wh*-fronting constructions: in the latter multiple *wh*-words are fronted for reasons independent of the *+wh*-feature of C (though all *wh*-words must be fronted

in Serbo-Croatian questions). This confirms, Boskovic argues, that such fronting is not driven by the checking of this feature.<sup>11</sup>

The preceding line of analysis shows that both types of languages above undergo overt multiple *wh*-movement and their feature checking takes place in overt syntax. This phenomenon is, however, not found in many languages among which are Standard Arabic and English which do not allow overt multiple *wh*-movement, that is, they only permit one *wh*-word to raise overtly to [Spec, CP], while the other *wh*-words undergo covert *wh*-movement at the LF component; this will be demonstrated in the following sections.

### 6.3. Multiple Questions and LF Movement in English

This section investigates multiple *wh*-questions in English and the significant role of LF movement in the syntax of *wh*-words. The LF-component of a grammar is the component which converts the syntactic structures produced by merger and movement operations into LF-representations. Our objective is to examine multiple *wh*-movement at LF in English and show that LF is the level at which representations include only semantic features. In other words, the focus, here, is on the interaction between multiple *wh*-questions in English and their LF-component with respect to movement operations operating in covert syntax. Let us illustrate this in (23).

23a. Who saw what?

b. [CP who [C[+Q] [IP t<sub>who</sub> bought what ]]

c. LF: [CP [Spec what [who]] [C [+Q] [IP t<sub>who</sub> bought t<sub>what</sub> ]]

A closer look at (23) demonstrates that only one *wh*-word is permitted to raise overtly to [Spec, CP]. This overt *wh*-movement is driven by the need to check some relevant features via Spec-head agreement relation. Moreover, if we look at the LF representation of English multiple *wh*-questions in (23) above, we find that they undergo covert raising of *wh-in-situ* and adjunction to the *wh*-word already in [Spec, CP], as illustrated in (23c). The covertly moved (second) *wh*-word should be able to check its [+Q] feature against C under Spec-head relation; feature checking of *wh*-words takes place here at LF (i.e. in covert syntax), as shown in the grammatical (23c). To provide further evidence in support of the fact that the analysis in (23) is correct, let us consider (24).

<sup>11</sup> In his comparative analysis of multiple *wh*-fronting in languages like Bulgarian, Japanese and German, Grewendorf (2001: 87-122) argues that as multiple *wh*-fronting in Bulgarian consists of moving overtly a single *wh*-cluster to [Spec, CP], Japanese multiple *wh*-fronting "constitutes covert instances of this process of *wh*-cluster formation". The formation of *wh*-cluster in Bulgarian is driven by the assumption that *wh*-elements can act as landing sites for *wh*-raising. Grewendorf attributes this process, in Bulgarian, to a morphological property of *wh*-words.

## 24. \*What who saw?

The derived structure in (24) is not allowed in English in overt syntax, for the reason that overt multiple *wh*-movement is also ruled out. Taking the LF component into consideration, then English must permit multiple *wh*-movement in what Chomsky (1995) calls covert syntax. This implies that (24) can be regarded as an LF-representation, not a Spell-Out representation. In this connection, Culicover (1997: 187) rules out multiple *wh*-movement in positions where there is no landing site for more than one *wh*-word. In order to achieve this, Culicover points out that *wh*-movement is required to be structure-preserving and non-structure-preserving adjunction of a *wh*-word has to be checked. This can be shown in (25), using Culicover's examples (p. 187).

## 25a. \*Where how many books did you put?

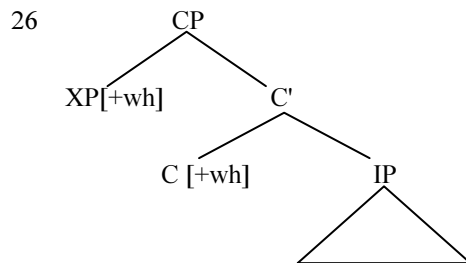
b. How many books did you put where?

d. \*When where do you plan to go?

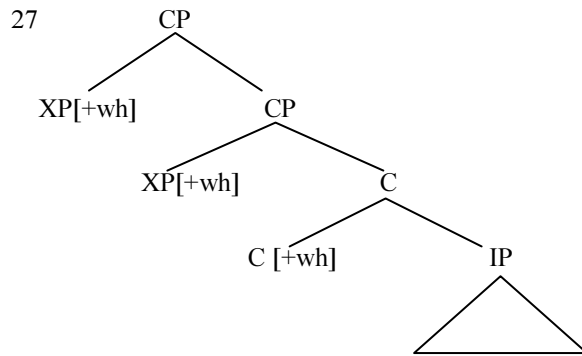
e. Where do you plan to go when?

Given (25), Culicover points out that if a sentence contains more than one *wh*-word, only one *wh*-element raises to [Spec, CP] because of the structure-preserving principle, and those that do not move in overt syntax move at LF representation.

Culicover's analysis suggests that there must be a landing site for a moved *wh*-word and a licensing mechanism under which a raised *wh*-word may appear at Spell-Out only in [Spec, CP]. This entails that the Spec-head agreement relationship with the head C checks and then licenses the moved *wh*-element in [Spec, CP], as shown in the configuration in (26).

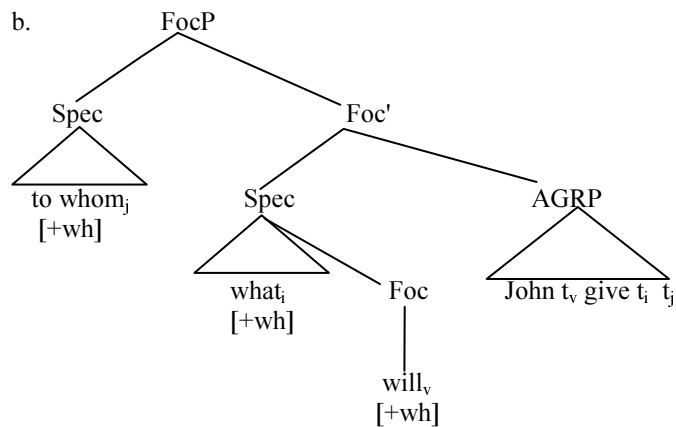


Given (26), adjunction of a second XP [+wh] to CP will lead to the failure of the second one to be checked, assuming that [+wh] agrees with a unique specifier (Culicover 1997: 187). This can be demonstrated in (27).



Furthermore, in their analysis of *wh-in-situ* and multiple questions in English, Haegeman and Guéron (1999: 547) stress that English allows only one *wh*-word to move overtly in order to create the specifier-head relation with the relevant head (Foc in (25b)), while other *wh*-elements remains *in-situ* inside the AGRP domain, as shown in (28b).

28a. What will John give to whom?



As shown in (28), the *wh*-element *what* moves overtly to license the [+wh] feature that encodes the interrogative force of the clause, while the *wh*-word *to whom* remains *in-situ*. Both *wh*-elements *what* and *to whom* are taken to be *wh*-operators binding variables. Haegeman and Guéron view the process by which two *wh*-operators are linked as *wh*-absorption – a process that follows from X-bar theory of phrase structure. Hence, these *wh*-elements comply to a process of absorption that converts them into a single element.

We have already pointed out that Chomsky (1995: 289) suggests that raising of a *wh*-operator to [Spec, CP] is driven by the need to license some morphological features. Chomsky also proposes that the interrogative C hosts a strong Q-feature.

This entails that the *wh*-operator raises to check its relevant features via Spec-head configuration [<sub>CP</sub> Spec [<sub>C</sub> [+Q] ...]]. But the questions that arise here are: what about multiple *wh*-questions? Does the preceding Minimalist analysis provide a generalization that involves the syntactic treatment of multiple questions? Chomsky (1993; 1995) argues that (in the same way already proposed in Chomsky 1973) the *wh*-words that are *in-situ* overtly remain *in-situ* at LF. Chomsky goes further to show that such *wh*-elements are interpreted in the appropriate C without raising to that C at any level of representation.

However, as far as Chomsky's treatment of *wh*-operator is concerned, Lasnik (1999: 80) points out that there are arguments against Greed<sup>12</sup> and in turn offers an alternative to Greed which he calls Enlightened Self-interest<sup>13</sup> "we must identify a driving force, in particular (under Greed) a morphological feature of that *wh* that must be checked". Lasnik's analysis suggests that that feature has to make a distinction between the *wh* that raises from the ones that do not, on the assumption that "if all had the feature, the unmoved ones would cause the derivation to crash" (p. 80). Lasnik shows that the feature should not simply freely be assigned to any *wh*-word because there will be no description of Standard Superiority effect, as illustrated in (29).

29 \*What did who buy?

The ungrammaticality of (29) is due to the free assignment of the Q-feature to *what* and not to *who*, with consideration that *what* would be the highest *wh* capable of moving. In this regard, Lasnik (1999: 80) argues that "these problems disappear once Greed is relaxed to Enlightened Self Interest". What Lasnik is trying to say is that the interrogative COMP has the strong Q-feature which can be checked by any *wh*-operator: the Q-feature of the operator need not be checked since it can survive to the interface level (assuming that the Q-feature has some semantic content). Hence, Lasnik concludes that Enlightened Self Interest, but not Greed, permits the raising of an operator to [Spec, CP] to be entirely for the benefit of the target COMP.

#### 6.4. Multiple Questions and LF Movement in Standard Arabic

World languages display interesting phenomena with respect to the syntax of *wh*-movement. Many languages allow overt *wh*-movement to [Spec, CP] to take place in overt syntax (like Standard Arabic and English), some other languages do not permit overt *wh*-movement (like Chinese and Japanese). In the latter type of

<sup>12</sup> 'Greed' is a principle of grammar (proposed by Chomsky 1995) which specifies that constituents move only in order to satisfy their own morphological requirements, i.e., this movement is driven by selfish reasons.

<sup>13</sup> 'Enlightened Self Interest' is a principle of grammar suggested by Lasnik (1995) to the effect that constituents move in order to satisfy the morphological requirements of other constituents (e.g. auxiliaries undergo inversion in questions like *can you help me?* because the interrogative C contains a Q affix which needs a head to attach to).







operator. This implies that the interpretation of question elements in (32) have to be encoded at the LF component. The question words in (32) have to be represented as question operators binding variables. In order to represent the operator force of the question word which has not undergone movement, that question word to be viewed as moving at the LF component. Our analysis assumes that the *in-situ* question word *man* 'to whom' in (32), which has not undergone movement, is raised at LF; *li-man* 'to whom', being *in-situ* in overt syntax, raises covertly and adjoins to the moved question word in covert syntax. We suggest that the raising of a question word operator to [Spec, CP] in Standard Arabic is driven by the need to check some morphologically relevant features, via Spec-head configuration [<sub>CP</sub> Spec [<sub>C</sub> [+Q] ...]]. We also assume that the question words in Standard Arabic which remain *in-situ* are interpreted without moving to the Spec of CP at any level of representation.

Let us now examine adjunct question words involved in multiple questions in Standard Arabic and see if they pattern with subject question words, given (covert) extraction at LF. (33) and (34) illustrate this.

- 33a. *lima:ða:* *qul – ta* *ma:ða:?*  
 why said-you what  
 'Why did you say what?'
- b. Spell-Out: [<sub>CP</sub> *lima:ða:* [<sub>C</sub> [+Q] [<sub>IP</sub> *qul - ta* *ma:ða:* *t<sub>why</sub>* ]]  
 why said-you what
- c. LF: [<sub>CP</sub> *ma:ða:*] [*lima:ða:*] [<sub>C</sub> [+Q] [<sub>IP</sub> *qul-ta* *t<sub>ma:ða:</sub>* *t<sub>i ma:ða:</sub>* ]]  
 what why said-you
- 34a. \**ma:ða:* *qul – ta* *lima:ða: ?*  
 what said-you why  
 'What did you say why?'
- b. Spell-Out: \* [<sub>CP</sub> *ma:ða:* [<sub>C</sub> [+Q] [<sub>IP</sub> *qul - ta* *t<sub>ma:ða:</sub>* *lima:ða:* ]]  
 what said-you why
- c. LF: \* [<sub>CP</sub> *lima:ða:*] [*ma:ða:*] [<sub>IP</sub> *qul-ta* *t<sub>ma:ða:</sub>* *t<sub>lima:ða:</sub>* ]]  
 why what said-you

A closer look at (33) reveals that an object question word (i.e. *ma:ða:* 'what') can raise to a [Spec, CP] position which is already filled with another question word. (34), however, demonstrates that an adjunct question word (i.e. *lima:ða:i* 'why') cannot move to a [Spec, CP] position that is already filled with another question word. Given this, we assume that adjunct question words in Standard Arabic pattern with subject question words with respect to (covert) extraction of LF-movement, just as they do with respect to movement in overt syntax.

## 7. Summary

Given the Minimalist assumption that the raising of a *wh*-operator to [Spec, CP] is highly motivated by the need for a morphological Q-feature to be licensed in the checking domain of [<sub>CP</sub> [Spec [<sub>C</sub>+Q] ... ]]], we have pointed out that the Standard Arabic question word (which originates in the subject or object position of a simple finite sentence) has to undergo an obligatorily overt movement to [Spec, CP] for feature checking and that it cannot stay *in-situ* in overt syntax. Given the checking theory of Minimalism and how it works with reference to question word raising in Standard Arabic interrogative structures, we have shown that a question word in Standard Arabic undergoes overt raising to [Spec, CP] for feature checking considerations; this movement is driven by the requirement that the question word has strong morphological features (i.e., *wh*-features) which must be licensed against those of [+Q] – hosted in the head C of CP – under the Spec-head agreement relation that takes place in the checking domain of [<sub>CP</sub> Spec [<sub>C</sub> [+Q] .... ]]]. Besides exploring the syntactic behavior of the Minimal Link Condition (MLC) in Standard Arabic question words and how it works in Standard Arabic syntax, we have also pointed out the similarities and differences between Standard Arabic and English in terms of question word movement and feature checking operations both at PF and LF, taking into account the consequences of the VSO and SVO word orders in both languages (i.e., Standard Arabic and English).

Given the analysis of LF-representation in Minimalism, we have discussed overt *wh*-movement languages (Standard Arabic and English) and *wh-in-situ* languages (Japanese and Chinese) and have arrived at the conclusion that Standard Arabic is shown to be an overt *wh*-movement language. We have also shown that unlike the Slavic languages (which permit multiple question word movement to [Spec, CP] in overt syntax), Standard Arabic (like English) does not allow overt multiple raising of question words to [Spec, CP]. Rather, it permits only one question word to move overtly to [Spec, CP], while the rest of the question words in the sentence move at LF for feature checking considerations.

Seeking a refined account of the nature of the syntax of *wh*- and multiple *wh*-raising in Standard Arabic remains a central research programme in linguistic analysis. Moreover, changes in the theories will inevitably result in changes in the solutions, which is the situation in any scientific discipline. Therefore, the assumptions and suggestions presented in this study can hopefully be improved as the theories improve; however, it is crucial to continue our attempts at linguistic explanation in order to arrive at a better understanding of the human capacity for language. It is my hope that this study will prove to be a modest contribution to scholarship in the modern syntactic analysis of *wh*- and multiple *wh*-movement in Standard Arabic under the Minimalist framework.

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