

On Wh-movement and the Nature of Wh-Phrases – Case Re-Examined¹

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The difference in wh-movement vs. wh-in-situ strategies in the formation of wh-questions cross-linguistically is often attributed to the fact that wh-elements differ in their morphological properties. This paper argues that wh-expressions are universally the same in that they are underspecified wh-proforms whose semantics/ quantificational force is undetermined while in a lexicon. Once selected for computation a wh-proform can be combined with another element (particle/suffix) resulting in interrogative, relative, existential or universal functional constructs. We argue that the driving force of wh-movement is the internal need of a [+ Q]-feature of a question operator to be in an appropriate position, where it can be interpreted at the interfaces.

1. Introduction

Wh-questions is a type of syntactic structure that is found universally. Natural languages, however, employ different means to form wh-questions. The two general strategies distinguished by linguists are wh-in-situ and wh-movement.

- (1) Wh-in-situ:
Hufei chi-le *shenme* (ne)? (Chinese)
Hufei eat-Aspect what
'What did Hufei eat?'
- (2) Wh-movement:
*What*_e did John eat *t*_e

In example (1) the wh-phrase *shenme* 'what' remains in the position where it originates. In contrast, in English a wh-phrase undergoes clause initial movement leaving a copy/trace in the base position (cf. (2)). Yet at the level of semantics both (1) and (2) receive the same interpretation, independently whether wh-movement happens or not.

The difference in wh-question strategies is often attributed to the fact that cross-linguistically wh-elements are not identical in nature. Indeed a number of research (Cheng 1991, Ouhalla 1996, Aoun and Li 1993, among others) argue that wh-expressions in natural languages differ as far as their morphological and syntactic properties are concerned. The claim is that in languages like Chinese, Japanese and Hungarian wh-words are polarity items void of any quantificational force of their own. The argument is based on the fact that, in these languages, wh-elements that function as interrogatives can also act as universal and existential quantifiers. Hence the interpretation of a wh-word must be determined in the sentential context depending on an element that binds a wh-expression and assigns its quantificational force. At the same time, in

languages like English, wh-elements are argued to be ‘true’ wh-phrases in that they are unambiguously wh-interrogatives.

The present article challenges this view. We argue that wh-words contained in a language lexicon are the same cross-linguistically, in that they are wh-proforms whose quantificational force is underspecified. The semantics of a wh-element is determined in a computational space depending on what element a wh-word is combined with. Consequently, the [+Q]-feature responsible for the interrogative interpretation of a wh-phrase (and a sentence) is not an inherent property of a wh-element (or a functional head) but a feature of a question operator (OP_Q). This operator can either be associated with a wh-phrase resulting in a wh-movement strategy or be realised on a functional head leading to a wh-in-situ question strategy. This alternation depends on what parameter is instantiated for a particular language.

The paper is organised as follows. Section 2 examines the case of wh-movement within Minimalism. It is shown how different versions of the Minimalist theory (Chomsky 1995, 2000, 2001) explain the mechanism of wh-movement, as well as problems associated therewith. In section 3, an alternative proposal on the nature of wh-elements and the cause of wh-movement is suggested. Section 4 illustrates application of the proposal to cross-linguistic data. Section 5 offers a critical overview of the existing approaches. Section 6 shows the advantages of the suggested proposal by summarising the findings and drawing some conclusions.

2. Wh-Movement in Minimalism

Originally in Minimalist Program (1995), Chomsky suggests that wh-movement is triggered by a strong operator feature of the functional C-head: “the natural assumption is that C may have an operator feature and that this feature is a morphological property of such operators as wh-. For an appropriate C, the operators raise for feature checking to the checking domain of C: [Spec, CP]” (1995: 199) thereby satisfying their scopal properties. If the operator feature on C is strong, movement is overt (e.g. English), and, consequently, if the operator feature is weak, wh-movement is postponed until LF (e.g. Chinese). However, the trigger of movement, overt or covert, is always located on a target.

In Minimalist Inquiry (2000), Chomsky modifies the proposal, dispensing with LF movement: all movement operations must happen before the point of Spell-Out. Wh-movement in this framework has the following mechanism: “the wh-phrase has an uninterpretable feature [wh-] and an interpretable feature [Q], which matches the uninterpretable probe [Q] of a complementizer” (2000: 44). The uninterpretable probe [Q] on C seeks the goal, a wh-phrase, and once the probe locates the goal, the uninterpretable features (on both probe, F[Q], and goal, F[wh]) are checked and deleted. This feature checking is done by means of Agree, no movement is involved. Note that, according to Chomsky, the uninterpretable [wh-] feature of a wh-phrase is “analogous to structural Case for nouns” (ibid.: 21), consequently it does not have an independent status, but is a reflex of certain properties of Q.

The C-head in this version has only an uninterpretable Q feature. The uninterpretable probe [Q] on C cannot be an operator, as it is checked and deleted. The interpretable [+Q] feature, which is presumably a question operator, is assigned to a wh-phrase.

Since uninterpretable features are checked without triggering movement, in order to account for displacement of a wh-phrase, Chomsky postulates an EPP-feature on a C head. He suggests that the EPP-feature of C is similar to the EPP-feature of T. It requires [Spec, CP] to be filled which results in the displacement of a wh-phrase. However, the status of the EPP feature of C in Chomsky's theory is not very clear.

In 'Beyond Explanatory Adequacy' (2001), Chomsky tries to elaborate on the dubious nature of the EPP feature, attributing it some 'semantic function'. Namely, OCC (former EPP) is available only when "it contributes to an outcome at SEM that is not otherwise expressible" (ibid.: 10). And further, "we can think of OCC as having the 'function' of providing new interpretation" (ibid.: 10). Thus OCC now is not just an uninterpretable feature of C, but a feature which indirectly contributes to the semantics of a sentence.

Notice that Chomsky does not address the issue of the nature of wh-elements. In 'Minimalist Inquiry' he suggests that "the wh-phrase has an uninterpretable feature [wh-] and an interpretable feature [Q]" (ibid.: 44). From this follows that wh-phrases must be the same cross-linguistically. The difference in wh-strategies (wh-movement vs. wh-in-situ) lies in the properties of a functional C-head: the presence or absence of the OCC/EPP feature responsible for displacement.

The main criticism that can be levelled against this proposal is the role of the interpretable Q-feature. Chomsky suggests that Q is realised on a wh-phrase. Being interpretable, Q determines the semantics of a sentence (and of a wh-element) marking it as interrogative; moreover, the operator's properties are associated with the feature. It is logical to assume that Q should be the trigger of wh-movement. However, in Chomsky's scheme Q is, in fact, a 'free-rider' which lands in an appropriate operator position, [Spec, CP] not for its own need, but due to some properties of the C-head that need to be satisfied.

Wh-in-situ languages posit another problem for the approach. The interpretable Q feature with its operator's properties is realised on a wh-phrase. The uninterpretable Q of C is checked in Agree configuration. Since no wh-movement is observed in wh-in-situ languages it implies that the C-head does not have the OCC feature. Covert movement is no longer an option in this approach. Then the question is how does the operator get to an appropriate scope position in wh-in-situ languages?

The phenomena of wh-movement and nature of wh-elements have received an extensive coverage in linguistic literature, yet none of the suggested approaches are unproblematic. This paper is another attempt to provide an explanation. The next section presents an alternative proposal.

3. The Suggested Approach

3.1 General framework

The present proposal draws from Minimalism as its theoretical platform. The language faculty is held to consist of a lexicon (the 'optimal coding' of lexical idiosyncrasies) and a computation system (a mechanism that generates linguistics expressions). Lexical entries when selected for

computation can be assigned optional formal features required for items' particular occurrence. The outcome of the computational operations are derivations (sound-meaning pairs) which are mapped to PF (Phonological Form) and LF (Logical Form) levels of linguistic representations where they are interpreted by sensorimotor (SM) and conceptual-intentional (C-I) interfaces. The whole system functions based on the economy considerations, disallowing superfluous operations and elements.

In this framework all derivational operations occur in a single computational space. We adopt a modular view of the computational space distinguishing phonological, morphological and syntactic components (Di Sciullo 1996):

(3) *Modularity of Computational Space (MCS):*

The computational space includes interacting types of derivations leading to optimal target types of configurations. (Di Sciullo 1996: 5)

The derivation of linguistic objects (words, sentences/phrases) proceeds simultaneously in each module. Modular nature of the computational space, however, does not force a linear feeding relation between the components. Indeed it allows parallel computations and virtual projections at the interfaces.

All displacement operations in a language are assumed to be a result of internal feature-driven mechanism. We argue that wh-movement is driven by an interpretable Q feature realised on a wh-phrase. Following Chomsky (1995), we assume that operator properties are associated with the Q-feature. Consequently, the position of Q determines the position of a question operator. In order to obtain the required scope interpretation at SEM interface, the question operator must appear in the CP domain. Assuming that no movement operations happen at LF (Chomsky 2000, 2001) then, if any operator movement is required, it must apply before the point of Spell-Out in Narrow Syntax. Accordingly, natural languages would fall into two groups: (1) those in which question operator with its Q-feature is realised on a wh-phrase (wh-movement languages), and (2) those in which question operator is directly merged in a position within CP space where it is interpreted (wh-in-situ languages).

Realised on a wh-phrase, question operator appears within the TP domain. If no wh-movement occurs, the operator remains within A-level. In this position it cannot take the required scope as LF interface cannot 'see' it. The sentence fails to get interrogative reading resulting in non-convergent derivation. In other words, the claim is that the Q-feature of a question operator realized on a wh-phrase (not the OCC feature of a C-head) triggers movement of a wh-expression to the CP space. Once a wh-phrase moves to CP, the question operator gets the right scope and Q marks the sentence as a question. Moved wh-element leaves a trace in its base position, or to use more recent terminology, moved wh-phrase is copied in its base position identifying the place of a variable bound by a question operator in CP.

In contrast, in wh-in-situ languages question operator carrying Q-feature is merged with a functional head.³ Initially it appears in an appropriate scope position where it is interpreted by LF. No wh-movement is required. A wh-element in its base position is an overt copy that marks the place of a variable bound by the question operator in the functional domain.

3.2 Morphological make-up of wh-elements

Our contention is that no wh-element is inherently interrogative. Q-feature, which is always interpretable, exists as a property of a question operator that is a part of a lexicon.

The questions that arise in this regard are:

- (i) If the Q feature is a property of a question operator, what is the lexical entry for a wh-element?
- (ii) What kind of relation exists between a question operator and a wh-phrase and where does this relation establish?

We argue that wh-elements contained in a language lexicon are universally the same in that they are wh-proforms whose quantificational force is underspecified. This means that while in a lexicon a wh-proform bares no features and, consequently, has no specific semantic content. In its logical representation a wh-proform is a variable. The semantics and quantificational force as well as operator properties of this variable are determined in a computational space when an item is selected for computation. If a sentence is intended to be a question then a [+Q] question operator is selected for computation at the same time. It is in a morphological module of a computational space that the two are merged forming an interrogative wh-phrase. Alternatively a wh-proform can be merged with an existential/ universal suffix resulting in an existential/ universal quantifier.

We argue this type of a lexical entry for wh-elements is found in both wh-movement and wh-in-situ language. The difference between the two types of languages lies in the fact that in the former a [+Q] question operator is merged with a wh-proform turning it into an interrogative wh-phrase; in contrast, in the latter, the question operator is directly merged with a functional head, sometimes being realised at PF as a question particle. In this case a wh-element functions as a variable overtly marking the position in which a wh-phrase is interpreted. In both cases, the merge is done in the computational space.

The idea of the uniform nature of wh-elements is independently argued in Di Sciullo (2003, 2005). This theory provides an additional support for the claim advocated here and we consider it briefly below.

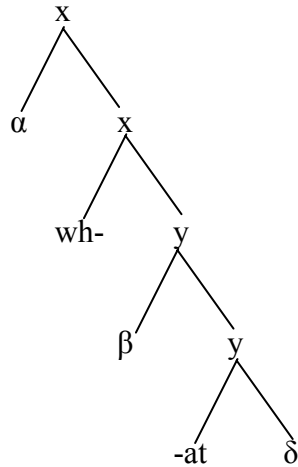
Di Sciullo (2003, 2005) proposes that morphological objects represent structured sets of relations and that functional constructs like wh-words and complementizers are articulated on the basis of asymmetric relations of the Morphological Shell (M-Shell), as in (3):

$$(4) \quad [x \text{Op } x [R y [R z]]]$$

The configuration in (4) comprises two layers, namely, the operator/variable layer, (Op, x) and the Restrictor layer, (y (R z)). The structure in (4) is “independent of specific categorial features. In fact, it is a part of the morpho-conceptual feature structure of all functional categories” (2003: 15).

According to this hypothesis, the wh-word ‘what’ is formed on the bases of two morphemes that are in asymmetric relation: obligatory wh- affix and another obligatory constituent ‘-at’. Both constituents are heads that project specifier and complement positions structurally represented in (5).

(5)



The structure in (5) is a morphological construct derived in a morphological component of the computational space. Elementary trees, however, are part of the lexicon. Di Sciullo (2003) assumes that the specifier position in the upper layer of the morphological tree is the locus of the operator feature, while the head of this projection is the locus of the variable feature. In this hypothesis features (such as *wh*, *Q*, etc.) are properties of elementary trees contained in a lexicon. These features are not valued/ activated until an elementary tree is selected for computation and merged with another tree.

Exhibiting certain differences, the present hypothesis and the Asymmetry theory share the same general underlying assumption, namely that lexical entries for *wh*-elements (or minimal trees on the basis of which *wh*-elements are built) are universally the same. Their semantics is not determined in a lexicon, but in a computational space after an item is selected for computation.

3.3 Status of the *Q*-feature

It follows from the hypothesis that languages do not fall into those where a [+*Q*] feature is incorporated with a *wh*-word in a lexicon, on the one hand, and those in which a *wh*-constituent gets its interrogative force in the sentential context on the other.

The present assumption is based on the following observation. The interrogative interpretation of a sentence is determined by the presence of a [+*Q*] feature. Minimalist theory assumes that all operations occur in a computational space. This means that no features can be assigned to a constituent in a lexicon or at PF. Then, hypothetically, three options are possible with regard to feature assignment, namely (i) *Q* is an inherent property of either a *wh*-element or of a *C* head contained in a lexicon, (ii) question operator bearing a [+*Q*]-feature is always merged either with a *wh*-proform or with a *C* head in the computational space, (iii) in some languages *Q* is incorporated with a *wh*-element/ functional head in a lexicon, while in others it is assigned in computational space. Intuitively, option (ii) is preferable over options (i) and (iii). We consider each of them in turn, showing that indeed only option (ii) meets the requirements of an ‘optimal design’.

Option (i) is problematic for several reasons. Cross-linguistic data demonstrate that most languages use the same morphological base to form interrogatives, indefinites, relatives as well as existential and universal quantifiers (see Nishigauchi 1990, Cheng 1991, Haspelmath 1997 among others). In some languages the difference in semantics is achieved with the help of particles, as examples from Japanese illustrate:

(6) John-wa *nani-o* tabe-masi-ta ka?⁴
 John-Top what-Acc eat-Past Q-particle
 ‘What did John eat?’

(7) a. *dare-ka* (Aoun & Li 1993)
 who
 ‘someone’
 b. *dare-mo*
 who
 ‘everyone’
 c. *dare-mo*
 who
 ‘anyone’

In Japanese questions, the bare form functions as a wh-phrase (cf. (6)), while particles *-ka* and *-mo* are used to form existential and universal quantifiers and a polarity item (cf. (7)).

However, many languages have the same PF realisation for interrogatives and relatives as data from English and Russian show:

(8) a. *Where* did you go last night? (Interrogative)
 b. I know the store *where* he bought it. (Relative)

(9) a. *Gde* ty byl vchera vecherom?⁵ (Interrogative)
 Where you were yesterday night
 ‘Where were you last night?’

b. Ya znayu magazin *gde* on kupil eto pal’to. (Relative)
 I know store where he bought this coat.
 ‘I know the store where he bought this coat.’

Some languages have the same PF form for interrogatives and indefinites, witness German example in (10):

(10) a. *Wer* kommt da? (Interrogative) (Haspelmath 1997)
 ‘Who is coming?’

- b. Da kommt *wer*. (Indefinite)
'Someone is coming.'

Assuming that a Q-feature were incorporated with a *wh*-element in a lexicon would imply that the lexicon should contain at least two identical entries, an interrogative and a relative/indefinite, with the only difference that the former, but not the latter, had a [+Q] feature. Such lexicon would prove redundant, and hence is expected to be banned by economy considerations.

A similar line of argumentation can be applied to *wh*-in-situ languages. Supposedly a lexicon could have an entry of C which is [+Q]. Such a lexicon should also contain a [-Q] C in order to build non-interrogative derivations. Again such lexicon would not satisfy the economy.

Secondly, if a Q feature were inherent to *wh*-elements, multiple *wh*-questions would contain more than one question feature. However, the presence of a single Q suffices to interpret a sentence as interrogative. Consider Japanese example of a multiple interrogation:

- (11) *Dare-ga naze kai-ta dono honga omosiroi-desu ka*
who-Nom why wrote which book-Nom interesting be QP
'Which book that who wrote why is interesting?'

The sentence in (11) contains three *wh*-phrases, yet only one question particle appears in the sentence. If, as we assumed, the question particle is an overtly realised [+Q] question operator then (11) shows that the presence of a single question feature is sufficient to determine an interrogative interpretation of all *wh*-phrases in a sentence. Hence economy considerations should ban the presence of more than one question feature per sentence.

The fact that in English multiple *wh*-questions just one *wh*-phrase undergoes clause-initial movement may suggest that only the moved *wh*-phrase carries the Q feature.

- (12) *What did he buy for whom?*

In (12) *what* moves clause initially while *for whom* stays in its base position. As a result of movement the question operator (that presumably is merged with *what*) appears in the position where it takes the required scope; [+Q] feature marks the sentence as interrogative. Being within CP, the operator is able to provide interrogative reading for the in-situ *for whom* (that does not carry Q feature and is a variable) by means of c-command.

The counterargument could be that some languages (e.g. East-European languages) require obligatory fronting of all *wh*-phrases in a question. We suggest that in these languages the first *wh*-phrase, similar to English, moves because it carries Q-feature. Movement of the other *wh*-phrase is triggered by a Focus feature. This point is discussed later in the paper.

Behaviour of English *which* provides further supports that only one *wh*-phrase can host a Q-feature in a clause. Pesetsky (1987) claims that *which* is different from the rest of *wh*-phrases because it is always discourse linked. He further assumes that being discourse-linked *which* does not undergo LF movement. Pesetsky concludes that similar to indefinites, *which* is not a quantifier and receives its interpretation in Baker's style, that is, by means of unselective

binding. In other words, *which* although functioning as interrogative does not have a [+Q] feature of its own.

Based on the above discussion it appears that neither a functional head nor a wh-element could incorporate Q feature in a lexicon. Therefore, option (i) can be disregarded.

Option (iii) seems to be least economical, hence the least attractive. This assumption would allow the instantiation of four possible values of the UG parameter regarding Q feature: 1) Q is inherent to a wh-phrase; 2) Q is incorporated with a functional head in a lexicon, 3) Q is assigned to a wh-phrase in a computational space, 4) Q is assigned to a functional head in a computational space. However, it was just demonstrated that the hypothesis of Q being incorporated in a lexicon presents problems for both wh-in-situ and wh-movement languages. Hence the only possible option left is (ii), namely, the Q feature exists as a property of a question operator which can be combined with a wh-element and this strictly happens in a computational space.

Summarising the above discussion the conclusion is that wh-proforms contained in a lexicon do not incorporate a question feature and hence have no inherent quantificational force of their own. The semantics of a wh-element is undetermined until it is selected for computation. If a derivation is intended to be a question, question operator bearing Q feature is selected from the lexicon at the same time. It is in the computational component that Q can be combined either with a wh-element (in wh-movement languages) or with a C head (wh-in-situ languages).

4. Application of the Proposal

4.1 *Wh-movement languages*

This section demonstrates the application of the proposal to language data. It was shown (cf.(9)) that Russian has the same morphological realisation for interrogatives and relatives. Similar to other Slavic languages, Russian uses the same wh-stem to build existential and universal quantifiers. The interrogative reading of wh-words takes a bare form:

- (13) kto 'who'
 chto 'what'
 kuda 'where' (directional)
 kak 'how'

Clause-initial wh-movement is obligatory in Russian wh-questions:

- (14) *Kuda* _e ty khodil vchera vecherom t_e?
 Where you went yesterday night
 'Where did you go last night?'

According to the hypothesis it means that for an interrogative use a wh-proform is combined with a question operator resulting in an interrogative wh-phrase. Presence of the [+Q]-

feature triggers movement of a wh-phrase to the left periphery thus allowing the operator to take the required scope at the same time marking the sentence as interrogative.

The existential reading is derived from a bare wh-stem plus certain affixes. Russian has two existential suffixes that attach to a stem, *-to* and *-nibud'*:⁶

(15) *Kto-to* postuchal v dver'.
 someone knocked in door
 'Someone knocked on the door.'

(16) *Kto-nibud'* obyazatel'no pridet.
 someone inevitably come-fut
 'Someone will inevitably come.'

The existential suffixes *-to* and *-nibud'* differ in terms of specificity. They preserve this meaning independently of a wh-stem which they attached to.

(17) *kogda-to*: (specific) Ya ego kogda-to uzhe vstrechal.
 sometime: I him sometime already met
 'I have met him already (sometime ago).'

(18) *kogda-nibud'* (non-specific) My kogda-nibud snova vstretimsya.
 sometime We someday again meet
 'We will see each other again someday.'

Since the meaning of existential suffixes is the same independently of wh-elements, it would be 'uneconomical' for a lexicon to contain all possible entries of existential quantifiers. Instead the lexicon contains a wh-proform free of any semantic 'filling' and lexical entries for existential suffixes. The semantics of a wh-construct is determined depending on which suffix a wh-element is combined with. This operation is executed in the computational space.

Wh-elements in their bare form can also function as quantifiers in certain affective environment in Russian:

(19) *Kto by* ne prishel on nikogo ne primet.
 who particle not come he nobody not receives
 'Whoever comes he will not receive them.'

(20) *Chto by* ty ne kupil emu vse ravno ne ponravitsya.
 what particle you not buy he altogether not like
 'Whatever you buy he will not like it anyway.'

Since no affix appears in (19) and (20) we assume that quantificational force of wh-elements is determined by a particle 'by'. In such instances, wh-expressions in Russian are

similar to those in Chinese in that the quantificational operator is disjoint from a variable and exists independently. The Chinese data will be discussed in the next section.

Consider now English examples. The interrogative reading of wh-elements in English, similar to Russian, takes a bare form:

(21) who, what, when, where

English follows the Russian pattern to form certain quantifiers. Thus *somewhere* and *somehow*, similar to Russian counterparts, are built on a wh-stem with an existential affix ‘some’:

(22) a. some + where = somewhere
 exist. element + wh-element
 b. gde + to = gde-to (Russian)
 where + particle = somewhere
 wh-element + exist. element

(23) a. some + how = somehow
 exist. element + wh-element
 b. kak + to = kak-to (Russian)
 how + particle = somehow
 wh-element + exist. element

English equivalents of Russian quantifiers in (19) and (20) are wh-elements with a suffix ‘ever’:

(24) Whoever comes, he will not receive him/her.

(25) Whatever you buy, he will not like it.

It means that ‘ever’ in English plays the same function as the particle *by* in Russian, namely to determine quantificational force of a wh-element. Note that in contrast with Russian, English suffix attaches to a wh-element. In certain affective environments, a bare form of a wh-element can function as a quantifier in English:

(26) It does not matter what you buy, he will not like it.

Nishigauchi (1990) claims that in sentences like (26) the *no matter/ it does not matter* “has the characteristics of the unselective binder, which determines the quantificational force of a wh-expression” (ibid.: 181).

Consider German data, example (10a) repeated here as (27):

- (27) *Wer* kommt da?
'Who is coming?'

According to the proposal German interrogative wh-phrase *wer* differs minimally from the existential quantifier *wer* 'someone' in that the former is combined with a [+Q] operator, which is absent in the latter.

- (28) Da kommt *wer*. (=Jemand (**wer*) kommt da.)
'Someone is coming.'

The absence of the [+Q] feature in (28) results in the lack of wh-movement: there is no relevant mechanism that can trigger movement. Wh-element must remain in its base position.

The question that may arise in this respect is why question operator can only be combined with wh-proforms but not other items contained in a lexicon? For example, a question feature can be assign to German *wer* but not *jemand* or *er*. In more general terms what prevents overgeneralization?⁷ Probable answer is suggested in Di Sciullo's (2003, 2005) theory. She argues that Spec of the minimal tree in the upper layer is the locus of the operator. The position must be filled by an appropriate operator. In the case of interrogatives this is a question operator, for relatives another type of operator appears in the Spec of the minimal tree. Extending this view, it is possible to suggest that wh-proforms, but not other elements of the lexicon have some operator properties which allow them to be combined with certain operators (question, relative or existential). Morphological properties of such linguistic objects as *jemand* or *er* can have different specification disallowing the presence of a question operator. However additional research is necessary to identify and classify those properties which is beyond the scope of this paper.

4.2 *Wh-in-situ languages*

Let us now examine the data of wh-in-situ languages. Japanese forms wh-questions by using so-called wh-in-situ strategy when a wh-element appears in its base-generated position, while a question particle *ka* surfaces at the clause periphery:

- (29) John-wa *nani*-o tabe-masi-ta ka?
John-Top what-Acc eat-Past Q-particle
'What did John eat?'

The difference between Japanese and wh-movement languages considered in the previous section is that, in the former, the [+Q] question operator is realised on a functional head surfacing at PF as a question particle *ka*. Thus the operator appears in the position where it receives an appropriate scope and can be interpreted at LF. A wh-element in its base position functions as a variable.⁸

Existential and universal reading in Japanese is achieved by means of certain particles that adjoin to a wh-element (example (7) repeated here as (30)):

- (30) a. *dare-ka*
 ‘someone’
 b. *dare-mo*
 ‘everyone’
 c. *dare-mo*
 ‘anyone’

Thus in the formation of existential and universal quantifiers, Japanese acts similarly to Russian and English. Namely, the operator that determines quantificational semantics is combined with wh-elements themselves forming a complex structure.

Similar to Japanese pattern is found in Chinese wh-questions, namely wh-elements do not contain question operator functioning only as variables:

- (31) *hufei chi-le shenme (ne)?*
 Hufei eat-Asp what Qwh
 ‘What did Hufei eat?’

In (31) the operator properties are associated with the Q feature that is realised at PF as a question particle *ne*. Note that question particle can be null sometimes in Chinese.

Chinese differs from Japanese in the way it forms existential and universal quantifiers. Namely wh-elements do not incorporate operator in their morphological structure. The existential reading is achieved when a wh-word appears in the scope of negation, (32), or in yes/no questions, (33):

- (32) *guojing mei-you mai shenme* (Cheng 1991)
 Guojing not have buy what
 ‘Guojing didn’t buy anything’ (but also as ‘What didn’t Guojing buy?’)

- (33) *qiaofeng mai-le shenme ma*
 Qiaofeng buy-Asp what Qyes/no
 ‘Did Qiaofeng buy anything?’
 *’For what thing such that Qiaofeng bought it or not?’

Occurring with an adverb *dou* ‘all’, wh-elements get the reading of universal quantifiers:

- (34) *botong shenme dou chi*
 Botong what all eat
 ‘As for Botong, he eats everything’

Wh-elements in Japanese and Chinese are argued to be indefinites, whose quantificational force is determined only in sentential context (Nishigauchi 1990, Cheng 1991). Consider data from Hindi and Iraqi Arabic (IA). Unlike in Chinese and Japanese, wh-elements in Hindi and IA are claimed to be ‘true’, that is, unambiguously wh-phrases. Their behaviour, however, are very

similar to those ones in Chinese and Japanese. Namely, in questions wh-elements in Hindi and IA remain in their base positions, no movement involved:

- (35) *anu kyaa karnaa jaantii hai* (Hindi) (Dayal 1996)
 Anu what do-Inf know present
 “What does Anu know to do?”
- (36) *Mona shaafat meno?* (IA) (Wahba 1991)
 Mona saw who
 “Who did Mona see?”

Following Chomsky (2000, 2001) we assume that no movement happens at LF. Moreover, Dayal (1996) illustrates that wh-movement is not always possible at LF in Hindi.⁹ Wahba (1991) also illustrates that LF movement in the case of wh-phrases is restricted in IA. This means that in order to get the required scope the question operator must appear in an appropriate position at PF. Since neither Hindi nor IA uses question particle we assume that in both languages the question operator is null at PF. Similar points are made in Ouhalla (1996). Ouhalla argues that wh-elements in IA do not incorporate question operator in their structure. The “operator is taken to be simply a Comp marked with the feature [+wh]” (Ouhalla 1996:697).

The similarities in the formation of wh-questions in Hindi and IA, on the one hand, and Chinese and Japanese, on the other hand, suggest that, all things being equal, IA and Hindi pattern with Chinese and Japanese in that a [+Q] question operator is directly merged in a required position in the functional domain, wh-elements being variables identifying the base position.

A question that may arise in this respect is how the relation between the question operator in CP and a wh-element within VP is established. We assume that language faculty has just one interrogative interpretable feature, name it Q. Following Chomsky (2000) we take wh-feature to be a reflex of certain properties of Q, “analogous to structural case for nouns” (ibid.: 21), hence having no independent status. Appearing in the functional domain, Q determines the general semantic meaning of a sentence marking it as interrogative. Thus a structure without a wh-element but with a [+Q] C is interpreted as a yes/no question. With a wh-element present in a derivation the sentence gets the reading of a wh-question. The support for this claim comes from Japanese:

- (37) *Tanaka-kum-wa [dare-ga nani-o tabe-ta ka] boe-te-i-masu-ka*
 Tanaka Top who Nom what-Acc eat past QP remember is QP
 ‘Does Tanaka know who ate what?’
 Not ‘For which x, x a person, does Tanaka know what x ate?’
 Not ‘For which y, y a thing, does Tanaka know who ate y?’

(37) contains two question particles, one is in the main clause and the other is in the embedded clause. Both wh-elements, however, appear in the embedded clause. The question particle of the embedded clause determines the scope of the embedded wh-elements. Neither of

them can take scope beyond its clause. The question particle of the matrix clause does not bind any wh-element. Consequently, the sentence is interpreted as a yes/no question.

Korean data offers further supports for this hypothesis:

- (38) Mary-ka *mues-ul* sat *ni?*
Mary-Nom wh-element-Acc bought *Qparticle*
a. ‘What did Mary buy?’
or
b. ‘Did Mary buy something?’

(38) has reading of a wh-question as well as a yes/no question. The question is how the disambiguation and necessary interpretation of (38) is achieved at LF. Kim (1991) accounts for these data by relying on the difference in the position of a question particle. This proposal is considered below.

One possible explanation could be that a language lexicon contains two question features: one responsible for the interrogative interpretation of wh-questions and another for the semantics of yes/no questions. This approach, however, is problematic as it requires the existence of two question features, which appears to be redundant.

We propose that a language has just one Q feature and that its function is twofold: (i) to mark the illocutionary force of a sentence; and (ii) to introduce an operator that determines the scope of a wh-phrase and binds a variable. Note that the second function is activated only when a wh-element is selected for computation. That is, appearing in a sentence Q determines its general semantic meaning as a question. The more specific information on whether a question is general (questioning the entire proposition, i.e. yes/no) or specific (questioning one constituent, wh-) can be expressed by other means, namely in syntax.

In example (38a), a wh-question, the Q-feature is realised on a functional head, while a wh-phrase acts as a variable in the base position. Q merged in the CP space marks the illocutionary force of the sentence as a question and at the same time it determines the scope of the wh-phrase by means of c-command. The wh-element is focused, that is, marked by the Focus feature.

In the yes/no question, example (38b), similar to a wh-question, Q is directly assigned to a functional head. However, the main difference distinguishing yes/no questions from wh-questions is that, in the former, the whole proposition is questioned. In other words, in yes/no questions the whole proposition is marked [+Focus], consequently it forms one constituent to which an interrogative marking is applied. The Q-feature cannot ‘look’ inside the proposition hence assign interrogative force to a wh-element. A wh-element within the questioned proposition is not within the direct scope of the Q-feature, thus it is interpreted as an indefinite.

4.3 Multiple wh-fronting languages

This section offers a brief discussion on multiple wh-fronting. A group of natural languages (East European including Polish, Czech, Hungarian, Russian among others) exhibit obligatory multiple wh-fronting in wh-questions. This issue has received extensive coverage in linguistic

literature (see Rudin 1988, Cheng 1991, Simpson 1999, Grewendorf 1999, Bošković 1997, 1998, 1999). In this paper we adopt the solution proposed in Zavitnevich-Beaulac (2002).

This approach suggests that a question with multiple interrogation cannot be a request for new information, but is a demand for additional information (identification/ clarification) of already specified context. The assumption is based on the fact that a request for new information allows at most one focus (which in question is replaced by a question word). Sentences with contrastive focus presuppose two elements which are contrasted (although the second element can often be omitted but easily recovered from the context). In questions the two contrasted elements are replaced by two wh-constituents:

- (39) John went to the theatre and Mary to the cinema.
Who went where?

Note that in (39) an inquirer knows both the identity of the subjects as well as the places being attended, no information is new. The question is a request for additional clarification.

Languages like English do not have a designated position associated with contrastive focus. In such language focus can either be marked by stress or, alternatively, identified by a cleft construction, but not by movement.

Most East-European languages do move contrastively focus constituents to the left periphery, thus having a structure-specific position associated with Focus (see Kiss 1995, Horvath 1986). As a result in questions contrastively marked wh-elements also undergo movement to the functional domain.¹⁰ Thus the contention is that in multiple wh-questions movement of the first wh-phrase is triggered by a question feature that it incorporates. Second wh-element moves because of its Focus feature that needs to be checked. Moreover, we argue that this feature assignment is not arbitrary and is motivated by discourse related factors. Consider Russian data:

- (40) a. *Kto kuda poshel?*
Who where went
“Who went where?”
b. *Kuda kto poshel?*
“Who went where?”

Both (a) and (b) questions are grammatical. However, (40a) is a discourse neutral question which is reflected in the order of wh-constituents with subject preceding the object.¹¹ An inquirer is interested in matching people with places. In contrast (40b) is a request for clarification: an inquirer is more interested in what places were visited, than in matching people and places. Under this reading *kto* ‘who’ does not have an interrogative reading, but is similar to English “each” in context like: “Where did each of you/them go?”¹² For the detailed analysis of this issue see Zavitnevich-Beaulac (2002).

4.4 Additional Issues

The proposed approach predicts that if a language merges the question operator with a wh-proform it would exhibit wh-movement, and if a question operator is merged with a functional head no wh-movement would be observed. However, the converse prediction does not necessarily prove true, that is, wh-displacement observed at PF cannot serve as an indicator that a [+Q] question operator is merged with a wh-element. Language behaviour is often influenced by relevant discourse factors and displacement operations can be due to different reasons.

Cole and Herman (1998) report, that Malay employs wh-in-situ, wh-movement as well as partial wh-movement strategies to form wh-questions:

- (41) *Kenapa* awak fikir dia pergi
Why you think he leave
'Why do you think he left?'
- (42) Ali memberitahu kamu tadi Fatimah baca *apa*
Ali informed you just now Fatimah read what
'What did Ali tell you Fatimah was reading?'
- (43) Kamu percaya ke *mana* (yang) Mary pergi
you believe to where (that) Mary go
'Where do you believe that Mary went?'

It may appear that Malay allows optionality having both options: (i) when a question operator is merged with a wh-element and (ii) when it is combined with a functional head, which is indeed the conclusion that Cole and Hermon reached.

Optionality presents a problem for minimalist theory. We argue that a language should have just one strategy to express one syntactic phenomenon, unless it is two different numerations. Apparent optionality is assumed to be a result of the influence of discourse factors or work of other mechanisms. Indeed Saddy (1992) argues that seeming wh-movement found in Bahasa Indonesian (BI), a wh-in-situ language, is in fact focus movement which is indicated by the presence of a focus particle *yang*:

- (44) *Siapa yang* men-sintai Sally
who Foc trans-loves Sally
'Who loves Sally?'

Thus displacement of a wh-element in BI is not a result of a wh-proform being merged with a question operator, but is caused by Focus considerations. Malay belongs to the same language group as BI and the two languages share many properties including the use of a focus marker *yang*, verbal transitive marker *men(g)* as well as some other characteristics. Consequently, the parallel in the behaviour of BI can be extended to Malay and wh-displacement can be viewed not as a result of wh-, but focus movement.

Wahba (1991) analysing Iraqi Arabic data illustrates that this wh-in-situ language sometimes can front wh-phrases:

- (45) a. Mona shaafat meno?
Mona saw who
“Who did Mona see?”
- b. Meno Mona shaafat?

However, Ouhalla (1996) discussing IA data suggests that wh-in-situ vs. wh-movement strategies result in different semantics (individual vs. functional reading).

It was illustrated earlier that different order of wh-phrases in multiple wh-questions in Russian, that may appear to be optional, produces different semantic effect (section 4.3). The logical conclusion is that seeming optionality results from interplay of discourse or other factors, which have an effect on the semantic interpretation of a structure.

The question that may arise in this regard is whether it is possible on the basis of independent evidence to determine if a question operator is associated with a wh-proform or a functional head.¹³ The short answer is ‘no’. It was just demonstrated that PF observable data do not necessarily provide clear answer to this question.

Moreover, even in languages with obligatory wh-movement (a question operator is merged with a wh-proform) an interrogative wh-phrase can lack a [+Q] feature remaining in-situ as in the case of multiple interrogation in English (section 3.3). Alternatively an interrogative wh-phrase can move not because it carries a question feature, but due to the presence of a Focus feature, as in multiple wh-questions in Slavic languages (section 4.3).

Morphology cannot serve as an indicator of the position of the question operator either. It was illustrated that interrogatives and relatives, as well as existential and universal quantifiers can have the same PF realisation and question operator merged in CP can be overt or null.

The position of a [+Q] question operator in a particular language can be determined by observing language behaviour in different syntactic structures and discourse situations. Wh-movement serves as one, but not only indicator. It is clear that there still remain some unanswered questions and the subject requires further research.

This section demonstrated the work of the proposal in application to the data of natural languages. We pointed out some problematic issues that the proposal faces. In the following section the existing approaches on the nature of wh-elements are reviewed.

5. Existing Theories on the Nature of wh-elements.

The existing theories on wh-nature considered below can be classified into two types, namely (1) those that view wh-words as indefinites; and (2) those that argue wh-words to be quantifiers. Wh-movement or lack of it, of course, is explained depending on which approach is adopted. The common feature of these proposals is that they accentuate on the difference in wh-elements, hence sub-categorising wh-phrases into different grammatical classes cross-linguistically.

5.1 Wh-elements as Indefinites

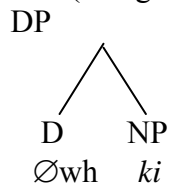
The idea of wh-elements being indefinite pronouns was originally proposed by Nishigauchi (1990). Observing that Japanese wh-elements can function as interrogatives as well as universal and existential quantifiers, Nishigauchi suggests that “WH-phrases in natural language comprise a class of quantificational expressions - linguistic expressions which are associated with the notion of scope” (ibid.: 1). He concludes that the function of a wh-phrase cannot be defined when taken independently but only in a larger syntactic environment in which the wh-phrase finds itself. Nishigauchi proposes that in Japanese “WH-phrases are devoid of semantic content and should be treated as ‘variables’ in the logical representation (ibid.: 12-13). The quantificational force of a wh-phrase is determined by a certain class of quantificational elements, namely particles *ka* and *mo* located in the Comp.

Cheng (1991) extends Nishigauchi’s original proposal to Chinese and East European languages. She observes that in Chinese as well as Hungarian and Polish wh-words are similar to those in Japanese in that in addition to having interrogative reading, they can function as existential or universal quantifiers. Cheng concludes that wh-words in those languages are indefinite NPs that lack inherent quantificational force. They require a trigger to licence them and a binder to determine their quantificational force.

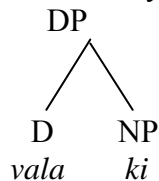
In Chinese a question particle (overt or null) serves as a binder contributing interrogative force to a wh-word (cf. (31)). Appearing in the scope of negation a wh-element is interpreted as a polarity item with a negative marker acting as a trigger (cf. (32)). When a wh-word is interpreted as a universal quantifier, the adverb *dou* ‘all’ serves both as a binder and a trigger (cf. (34)).

Unlike Chinese East European languages lack question-particles in Comp. The interrogative reading of wh-words takes a bare form, while the indefinite reading is derived from a bare form with certain affixes. Cheng proposes that semantics of wh-elements is contributed by determiners which is null in the case of interrogatives, (cf. (46) and is realised as an affix in the case of existential quantifiers, (cf. (47)):

(46) *ki* “what” (Hungarian)



(47) *valaki* “somebody” (Hungarian)



Since East-European languages lack question particles in C, Cheng proposes that C is not marked [+wh]. It gets [+wh] feature from a wh-phrase which moves to [Spec, CP]. Movement of a wh-phrase occurs because the null determiner of a wh-phrase needs to be licensed in a local Spec-head configuration with a [+wh] C head. Thus wh-movement produces a ‘double-effect’: first, it triggers Spec-head agreement, as a result of which C gets the [+wh] feature; and secondly, being marked [+wh] C in turn can licence the null determiner of a wh-phrase.

The problem with this hypothesis is that it does not explain what serves as a trigger of wh-movement, as Cheng’s account is circular: to be able to license the null determiner the C head needs a [+wh] feature and the null determiner of a wh-phrase in its turn must be licensed by a functional [+wh] head. Moreover, for multiple wh-questions where multiple wh-fronting is obligatory Cheng suggests that a determiner of each wh-phrase has to be licensed in a local Spec-head configuration with C. Note that movement of a single wh-phrase suffices to assign a wh-feature to C. The question is why, after raising of a single wh-phrase (C is marked [+wh]), do other wh-phrases need to undergo movement and cannot be licensed in their in-situ positions?

Cheng’s approach does not allow a unified explanation of similar linguistic phenomena. It was shown that English and Russian employ the same strategy to form certain quantifiers (cf. (22), (23)). Yet Cheng argues that in English *somewhere*, *somehow* an “element that contributes quantificational force to the core is incorporated with the core at the lexical structure. The existential licenser is not separable from the core in syntax” (ibid.: 107). For the Slavic counterparts, she proposes that the existential force is determined at S-structure, that is, the existential element adjoins to the core at PF. The question is why in one language the element that assigns existential force supposedly adjoins to a stem in a lexicon, while in the other it does in syntax? Assuming that the language faculty has an optimal design, both English and Russian are expected to employ the same strategy to form semantically identical constructs. However, this does not follow from Cheng’s hypothesis.

Moreover, old English indefinite ‘somebody’ *nāthwā* is built on a wh-stem: *ne wāt hwā* ‘(I) don’t know who’.¹⁴ The fact that *nāthwā* contains a wh-element in its derivational structure suggests that old English, similar to Slavic, used the same ‘underspecified’ wh-stem to form both interrogatives and indefinites. Thus we can conclude that English wh-elements are not different from Slavic wh-elements and consequently, Cheng’s hypothesis makes wrong predictions.

Widely attested existing relation between interrogatives and indefinites in natural languages undermines the probability of Cheng’s argument. Haspelmath (1997), examining a sample of 100 world languages, demonstrates that 64 of them have interrogative-based indefinite pronouns.

Obviously the hypothesis of wh-elements being polarity items/indefinite NPs exhibits some problems. The explanation does not satisfy economy consideration as it is overloaded with stipulated elements and operations.

5.2 Wh-elements as Quantifiers

An alternative approach to the nature of wh-elements is suggested by Kim (1991). Kim argues that wh-elements in in-situ languages, like Korean and Chinese, are not indefinites and, therefore, cannot undergo LF wh-movement. Instead, they are quantifiers and hence must exhibit

quantifier raising. Kim argues that in wh-in-situ languages “wh-constructions have LF structures similar to those formed by quantifier phrases” (abstract).

Using Korean data Kim illustrates that interrogative sentences containing wh-elements are ambiguous:

- (48) Mary-ka *mues-ul* sat *ni*?
 Mary-Nom wh-element-Acc bought *Qparticle*
 ‘What did Mary buy?’
 or
 ‘Did Mary buy something?’

Ambiguity of (48), according to Kim, results from a morphological ambiguity of wh-elements. The LF representation of the question in (48) cannot account for this ambiguity, no matter whether *mues-ul* moves to CP, (49a), or adjoins to IP, (49b):

- (49) a. [CP *mues-ul* [IP Mary-ka [VP t sat ni]]]
 b. [IP *mues-ul* [IP Mary-ka [VP t sat ni]]]

What is crucial for sentence interpretation is the position of the question particle *ni*:

- (50) a. [IP *mues-ul* [IP Mary-ka [VP t sat] ni]]
 b. [CP [IP *mues-ul* i [IP *mues-ul* [IP Mary-ka [VP t i sat] t j]] ni j]

Kim proposes that the question particle generates within IP, and can move subsequently to CP. In (50a), the question particle remains in its base position within IP, while quantifier phrase *mues-ul* adjoins IP. The quantifier phrase is not within the scope of the particle, which fails to govern it. As a result, ‘*mues-ul*’ gets the reading of a polarity item and the sentence is interpreted as a yes/no question. In contrast, in (50b) the question particle raises to CP. From this position it is able to govern the quantifier phrase. Being within the scope of a question particle *mues-ul* is interpreted as a wh-phrase and the sentence receives an interpretation of a wh-question.

The main problem with Kim’s proposal is the origin of the question particle, namely, the IP domain. Since the question particle is responsible for the interrogative reading of a sentence (either yes/no or wh-question), logically, it should appear in the CP space, the functional domain where semantics of a structure is determined. However, according to Kim, in yes/no questions *ni* remains within IP. Kim’s theory relies on LF movement. Moreover, in case of wh-questions two types of LF movement are required: first, quantifier raising of a wh-element and, secondly, movement of a question particle from an IP to a CP position.

A similar claim of wh-words being quantifiers is made by Dornish (1998) on Polish data, a wh-movement language. Dornish observes that in multiple wh-questions of one Polish dialect, only the first wh-word moves clause-initially, while other wh-elements land in an immediately preverbal position:

- (51) *Co by Anna komu polecila?*
what cond.-aux. Anna to-whom recommend
'What would Anna recommend to whom?'

Preverbal position is the landing site for negative and existential quantifiers in Polish in neutral context as (52) and (53) demonstrate:

- (52) *Anna nikogo nie widziala.*
Anna nobody Neg saw
'Anna didn't see anybody.'

- (53) *Anna cos widziala.*
Anna something saw
'Anna saw something.'

Adopting Kiss's (1991) proposal, Dornish assumes that quantifiers, when they undergo overt movement, land in a VP-adjoined position, which is the case of wh-movement in the Polish dialect.

To further support her claim, Dornish adopts Huang's (1995) proposal of wh-phrases being existential quantifiers with an interrogative feature (who = wh +someone). She proposes that wh-elements in Polish are quantifiers formed on a [quant]-feature stem. Interpretable [quant] feature does not need to be checked, hence it cannot drive movement. The driving force of wh-movement is "the affix feature of the target" (ibid.: 21), which is parametrized for strength cross-linguistically. However, Dornish does not identify the exact nature of this feature and leaves "the final solution of this issue to further research" (ibid.: 22-23).

The proposal does not explain how the interrogative interpretation of wh-quantifiers is achieved. In Korean the question particle is assumed to determine the interrogative reading of a wh-element. Polish, however, lacks question particles in wh-questions. Consequently, some null determiner in the sense of Cheng needs to be stipulated.

Beside identified specific for each approach shortcomings, there exists one common problem in treating wh-expressions as quantifiers: quantifiers are hard to define as a grammatical class, as they lack any define characteristics. Indeed Gil (2001: 1277) examining a number of languages comes to the conclusion that "there is probably no language in which expressions of existential and universal quantification constitute a natural grammatical class to the exclusion of other expressions". In fact in many languages existential quantification is inextricably intertwined with singular number and/or indefinite. This point supports the hypothesis that quantifiers, similar to wh-phrase, are morphological constructs, but not grammatical entries stored in the lexicon.

Summarising the above discussion it appears that approaches that accentuate on the difference in the nature of wh-elements cross-linguistically do not seem to offer an unproblematic explanation for the cause of wh-movement. They are overloaded with additional mechanisms and operations.

6. Summary

The present paper considered the issue of the nature of wh-expressions cross-linguistically. It was shown that the question is not new in linguistic studies and has already received much attention. The existing research in the area, however, emphasize the difference in the nature of wh-elements overlooking the fact that wh-elements stored in a lexicon are essentially the same.

The main goal of the paper was to offer a unified approach to the nature of wh-elements and the trigger of wh-movement. We argued that lexical entries for wh-elements are the same cross-linguistically in that they are wh-proforms whose quantificational force is underspecified. The semantic content of wh-proforms is determined in the computational space depending on which element it is combined with.

The main advantage of the suggested approach is that it presents a unified account of cross-linguistic data, thus offering an optimal solution to a language design. The above discussion illustrates that a particular language is not limited just to one strategy in forming functional construct like interrogatives, existential and universal quantifiers, but has two options available, that is (i) when an operator appears together with a variable or (ii) the two surface in two distinct positions at PF.

The approach meets the requirements of a “good language design”. Lexicon does not contain similar entries with the only difference in their feature specification, but has a limited number of wh-proforms void of any quantificational force.

The proposal overcomes the shortcomings of the existing hypotheses. Linguistic phenomena that have the same structure in different languages are predicted to be formed in the same way. No stipulation and ad hoc mechanism are required.

Wh-movement is assumed to be a result of feature driven mechanism: the internal need of a [+Q] feature to be in a position where it can be interpreted by the interfaces and the need of the question operator to be in a position where it can take an appropriate scope considered to be the cause of wh-movement.

The hypothesis predicts that a language that merges question operator with a wh-element would exhibit wh-movement, and when the two are disjoint no wh-movement would be observed. Note that no LF-movement is presupposed in this approach; all movement operation should apply before the point of Spell Out.

The broader consequences of our proposal is that UG has a two value parameter setting for wh-questions (1) Q merged with a wh-element forming a wh-phrase; (2) a wh-element is a variable, whose scope is determined by the Q feature merged with a functional head. This binary setting results in variation of wh-movement vs. wh-in-situ question strategies in natural languages.

Notes

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³ For simplicity we refer to this position as CP, disregarding that some languages are claimed to host wh-phrases in the Focus projection.

⁴ This Japanese example and further data on Japanese is from Nishigauchi 1990.

⁵ Russian data here and further in the paper are from Zavitnevich-Beaulac 2002.

⁶ The two existential suffixes differ in terms of specificity: *-to* is specific ranging over a closed set of items, while *-nibud* is non-specific and has a wide scope ranging over unlimited number of subjects:

- (i) Emu *kto-nibud'* uzhe vse rasskazal.
him *someone* already everything told
'Someone has already told him everything.' (I think)
- (ii) Emu *kto-to* uzhe vse rasskazal.
him *someone* already everything told
'Someone has already told him everything.' (It is obvious)

⁷ I am thankful to the independent reviewer for pointing out this issue to me.

⁸ However, see Hagstrom (1995) for a movement analysis in Japanese wh-questions.

⁹ See Dayal (1996) for the discussion on the unavailability of LF movement in Hindi.

¹⁰ In fact Horvath (1986) argues that movement of wh-phrases in Hungarian is triggered not by Q, but Focus feature.

¹¹ See Comorovski (1989) on the order of wh-phrases in wh-questions.

¹² For detailed discussion of this issue see Zavitnevich-Beaulac (2002).

¹³ I am thankful to independent reviewer for raising this issue.

¹⁴ Data are from Haspelmath (1997)

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