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Focus Movement and the Nature of Uninterpretable Features*

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1. Introduction

Focus has been discussed in recent literature with respect to a variety of its properties (Kiss 1998, Zubizarreta 1998, Hale, Jelinek, Willie (to appear), among others). Within the Minimalist Program (MP), several questions emerge regarding the nature of focus movement and the syntactic restrictions governing this operation. First, is there any evidence indicating that focus movement is feature driven? In other words, is it subject to any principles governing the operation Move such as the Minimal Link Condition (MLC) (Chomsky 1995)? Second, if focus is a feature driven operation representing an instance of Move, how can we account for the optionality we observe with respect to this movement in some languages? More precisely, how can a feature only optionally trigger movement?

Within the Minimalist Program, the feature triggering the operation Move is considered to have an uninterpretable nature with no semantic or phonological content (Chomsky 1995 and work thereafter, Pesetsky and Torrego (to appear), among others). Thus if focus movement is feature driven, the feature triggering this operation must be of an uninterpretable nature. The issue of the existence of uninterpretable features is itself problematic for a theory whose goal is to go beyond the level of explanatory adequacy (Chomsky 2001).

This paper is an effort to address the question of the functional motivation of movement, focus in this case, and its formalization within a feature based system. Since uninterpretable features are considered to be the triggering force for Move, the nature of these features is examined, and an alternative analysis to Chomsky's (1995) proposal is suggested. Finally, the optionality of focus, a functionally motivated movement, is discussed, and a solution is proposed within a theory that prohibits the existence of optional operations.

The organization of this paper is as follows. Persian contrastive focus is discussed in section 2. Section 3 reviews the nature of uninterpretable features as discussed by Chomsky (1995, 1999, and 2001). An alternative proposal is offered in section 4. Section 5 examines the optionality of focus movement. Concluding remarks appear in section 6.

2. Focus Movement in Persian

Movement that represents discourse functions is not a new idea, and goes back to early seventies (Jackendoff 1973, Culicover and Rochemont 1983, and Rochemont 1986). Some authors have considered focus movement as an instance of Move triggered by a functional feature (Bailyn 2001, Kiss (to appear), among others).

Persian, a verb final Iranian language, exhibits two types of focus. One type appears within the VP, and receives an interpretation as denoting new information. The second type requires a heavy stress, motivates an optional movement out of VP, and

Second, the contrast between (3a) and (3b) below implies that MLC must be obeyed when two elements bearing the same feature compete for the same position. Otherwise, the derivation crashes.

- (3) a. [faghat be Kimea]_i man t_j se tâ KETAB dâd-am
 only to Kimea I three-PART book gave-1SG
 ‘It was only to Kimea that I gave three BOOKS.’ (I gave other people other things.)
- b. *se tâ KETAB man faghat be KIMEA t_j dâd-am.
 Intended meaning: It was three BOOKS that I gave only to KIMEA

In (3a), we have the *only*-phrase and the stressed direct object, both requiring identificational focus.¹ The *only*-phrase has moved while the direct object has remained in situ. By contrast, the direct object has moved in (3b), crossing the *only*-phrase in a higher position. The ill-formedness of (3b) indicates that focus movement must be subject to MLC.²

Similarly, in a double wh-construction, one of the wh-phrases may remain in situ. In that case, the MLC must be obeyed, as the contrast between (4a) and (4b) indicates.³

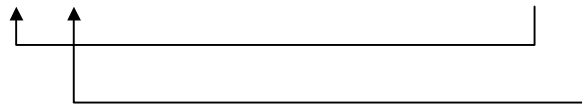
- (4) a. KI_i pro fekr mi-kon-i [_{CP} t_j bâ KI be-raghs-e]
 WHO thought PROG-do-2SG with WHO SUBJ-dance-3SG
 ‘WHO is it you think will dance with who?’
- b. *bâ KI_i pro fekr mi-kon-i [_{CP} KI_i t_j be-raghs-e]

The sentence in (4b) is grammatical if the wh-phrase in situ is not stressed. In that case, it is interpreted as an indefinite DP with no quantificational force (similar to *someone* in English): *with whom is it you think that someone will dance?*

The sentences in (3a) and (4a) indicate that focus movement is optional in Persian. This operation is optional in a number of other languages as well, such as Rumanian, Italian, and Catalan.⁴ I will come back to this issue in section 5.

Third, the surface order of two dislocated wh-phrases is also subject to a restriction, as illustrated by the contrast between (1a), repeated in (5a), and (5b) (see also the structure in (2)).

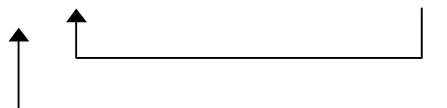
(5) a. KI_i bâ KI_j pro fekr-mi-kon-i [CP t_i t_j be-raghs-e]



WHO with WHO thought-PROG-do-2SG SUBJ-dance-3SG

Lit: It is WHO with WHO you think will dance?’

b. * bâ KI_j KI_i pro fekr-mi-kon-i [CP t_i t_j be-raghs-e]



This contrast is compatible with Richards' (1997, 2002) *tucking-in* condition: moveable elements have to move into the closest (i.e., the lowest) specifier of a head with multiple specifiers. In (5a), the lower wh-phrase has been tucked-in into the lower specifier of the same head, satisfying the tucking-in requirement.⁵ The ungrammaticality of the sentence in (5b) is due to the fact that the lower wh-phrase has not been tucked-in into the lower specifier, violating Richards' condition on Move.

The fact that focus movement is subject to conditions governing Move suggests that this movement is triggered by a feature. If this conclusion is on the right track, the feature triggering the movement must be an uninterpretable one, as proposed by Chomsky (1995) and others. A central question arises: what justifies the existence of uninterpretable features? In the following section I review the nature and the role of this element. An alternative proposal to the existing one is suggested in section 4.

3. The nature of uninterpretable features

Chomsky (1995:277) proposes that certain features enter into interpretation at Logical Form (LF) while others are uninterpretable and must be eliminated for convergence. This distinction is manifested in terms of [+/- interpretable] features. Categorical features generally and ϕ -features of nouns are interpretable features since they have to be visible at LF for the purpose of interpretation. Other features, including the Case features of T and V, are uninterpretable, and will cause the derivation to crash if they are not checked and eliminated by LF. Interpretable features do not need to be checked, and remain unchanged even if they are checked.

Furthermore, Chomsky (1995:281-3) suggests that the F feature of the target, rather than the F' feature of the moved element, is always uninterpretable. If the features of the moved element and the target were both interpretable, many unmotivated operations would be allowed. Consider the following example:

(6) ___ T seems [that Mary is the winner]

The categorial and ϕ -features of *Mary* have been checked in the embedded clause. But since these features are interpretable, they are unchanged. Furthermore, Chomsky considers the feature representing the Extended Projection Principle (EPP) as an interpretable feature of D. Thus it is not eliminated after checking. Therefore, a DP should be able to enter into multiple checking of EPP. Consequently, *Mary* could raise to the specifier position of the matrix sentence to check the EPP feature of the matrix T. This operation will yield the ill-formed string in (7):⁶

(7) **Mary*_i seems [that t_i is the winner]

The ungrammaticality of (7) is explained if the Case feature is uninterpretable, and is deleted after checking. That is, the moved DP, although satisfying EPP in the matrix clause, cannot satisfy the Case feature of the matrix T. Thus the uninterpretable Case feature of T remains unchecked, causing the derivation to crash.

Within the theory of Principles and Parameters, the sentence in (8) would be ruled out by the Case Filter, an isolated condition which was purely stipulative.

(8) *It seems John to be intelligent.

Within the Minimalist Program, (8) is ruled out since the Case feature of *John* remains unchecked, and thus this sentence becomes subject to the Case Filter. Given the uninterpretable Case feature within the MP framework, the Case Filter becomes an unnecessary condition. Within this framework, the ungrammaticality of (8) follows from the general principle of Full Interpretation (FI). That is, the uninterpretable Case feature, if not checked and eliminated, will not be interpretable at LF, and the derivation will crash due to FI. The same situation holds for other types of features that trigger movement. In the case of *wh*-constructions, C must have an uninterpretable feature which

needs to be checked and eliminated by LF. Thus overt wh-movement is triggered by the presence of this feature.⁷ The same situation should hold for focus movement, if this operation is feature driven as was claimed to be the case in the previous section.

Two problems emerge for this view: one empirical and one conceptual.

a. If the feature of the target is uninterpretable, and is eliminated after checking, how can we explain multiple overt wh-movements in languages that allow such operations? Similarly, how are multiple focus movements such as the one in (1a) justified? In both cases, the uninterpretable feature of the target would be eliminated after the first checking, leaving the other wh or focus phrases in situ, contrary to facts.

b. Uninterpretable features lack semantic and phonological content. How is the existence of such elements justified within a theory that seeks explanatory adequacy? I will first discuss the empirical problem stated in (a).

Lasnik (1999) suggests that if F', the feature of the moved element, were responsible for movement, we could explain the facts in languages that exhibit multiple wh-movements. Consider the following data taken from Serbo-Croatian.

- (9) a. Ko sta gdje kupuje?
who what where buys
'Who buys what where?'
- b. *Ko kupuje sta gdje?
- c. *Ko sta kupuje gdje?
- d. *Ko gdje kupuje sta? (Boskovic 1997, per Lasnik 1999)

The difference between Serbo-Croatian and English could be attributed to a parametric difference with respect to the number of specifiers of CP each language allows. The same

parametric difference holds between languages that allow more than one scrambled focus, and those that do not. The difference boils down to the number of specifier positions a functional head is allowed to have in a given language.⁸ This proposal also accounts for the ill-formedness of (7): The DP *Mary* has its Case checked in situ, and thus does not need to move to the specifier of the main clause, leaving the uninterpretable feature in T unchecked. In other words, (7) cannot be generated in the first place.

Lasnik's claim contradicts Chomsky (1995:281-283) who states that the triggering feature is in the head of the target position, not in the element that moves. Furthermore, this proposal must be based on the assumption that F can be checked more than once without being eliminated. This assumption accounts for LF movement of wh-phrases in languages like English where multiple overt wh-movement is not allowed: the wh-feature of the wh-phrase in situ covertly moves, and is checked before the uninterpretable F of the target is eliminated.

Although this analysis seems to explain the facts, we still face the conceptual problem with respect to uninterpretable features: how can we justify their existence? Chomsky (1999) recognizes this problem. He suggests that the language faculty may be close to perfect, but nevertheless, two potential imperfections can be identified: the existence of uninterpretable features and the 'displacement property' in the design of language. Chomsky states, however, that the displacement property is not an imperfection since it is motivated by interpretive requirements. That is, displacement has external motivation in terms of semantic interpretation and perhaps even processing. He goes on stating that uninterpretable features motivate the implementation of the displacement property in natural language. He concludes that "all of this falls into place if

uninterpretable features are the mechanism for displacement, perhaps even an optimal mechanism." (Chomsky 2001:14) Thus the existence of the uninterpretable features are justified on the assumption that they motivate the displacement operations in language.⁹

Assuming Chomsky's proposal, two questions emerge. First, is overt displacement a necessary condition for semantic interpretation in natural language? Let us take a look at some cases. Overt wh-movement, although obligatory in English type languages, does not apply in Japanese type languages. Similarly, contrastive focus involves (optional) displacement in some languages (cf. Persian), but not in others (cf. English). Furthermore, movement triggered by Case is not even a semantically motivated displacement, and is not a necessary operation cross-linguistically: Nominative Case triggers movement in English, but not in Persian, and it is not clear whether Accusative Case triggers displacement in any language. Finally, the EPP feature is responsible for DP-movement in English type languages, and V movement in Romance and Greek type languages (Alexiadou and Anagnostopoulou 1998). However, it does not trigger displacement in Persian type languages (Karimi, under revision). Given these facts, it is not clear that overt movement is a necessary requirement in language, and thus does not justify the imperfect nature of the uninterpretable features.

The second question regarding the uninterpretable features is this: where do they come from? In Chomsky's system they must exist in the lexicon since he states that they have to be distinguished somehow in the lexicon from the interpretable features: uninterpretable features appear without *value* since their value is redundant, and is determined by Agree. Thus 'match' in these cases is 'non-distinctness' rather than 'identity' (Chomsky 2001:13).

If the uninterpretable feature F exists in the lexicon without a value, does it mean that it can be matched with any kind of interpretable feature (e.g. the uninterpretable Case-F with the interpretable wh-F' in a wh-phrase)? This issue adds yet another problem to the existing one: if the uninterpretable feature F lacks semantic and phonological content as well as any kind of 'value', why does it exist? Can the displacement property of language be satisfied in a different fashion? This issue is addressed in the next section.

4. An alternative proposal

Chomsky (2001) states that the Interface Condition (IC) requires that all features be interpretable. If this is true, we could satisfy this requirement with the following proposal:

- (10) a. F and F' are both interpretable.
- b. F motivates the movement.
- c. Convergence is possible only if F/F' are visible at LF.

(11) Visibility Principle¹⁰

F/F' are visible if locally checked.

Note that (10b) represents Chomsky's idea that F, the feature of the target, triggers the displacement. The properties in (10) together with the principle in (11) account for wh-movement in English type and Serbo-Croatian type languages. Since F and F' are both interpretable, they are not eliminated after checking, and thus multiple wh-movement is possible. The difference between the two types of languages is reduced to a parametric distinction with respect to the number of specifiers each language allows (see section 3). Multiple focus movement is accounted for in the same fashion (cf. (1a)).

The ill-formedness of (7), however, cannot be explained by this proposal since nothing prevents the DP *Mary* from moving into the specifier position of the matrix TP to check its Case once more.

There is a solution to this problem. Case has been traditionally considered a property that does not contribute to interpretation, and thus is irrelevant to LF. However, it motivates movement, and therefore, is relevant to the Phonological Form (PF), and must be interpreted at that level.¹¹ If this line of argumentation is on the right track, we can impose the following restriction:

(12) PF features become inactive after checking.

We also need to modify the condition in (10c) to include PF features.

(10) c'. Convergence is possible only if F/F' are visible at LF and PF.

Given (12), the ill-formedness of (7) is explained: although the Case feature of the matrix T needs to be checked, and therefore, may force the DP *Mary* to move, the Case feature of the latter is inactive. Thus this sentence violates (10c') since there remains a

feature (that is, the Case feature of the matrix T) that cannot be interpreted at PF. The ungrammaticality of (8), repeated below in (13), is explained the same way.

(13) *It seems John to be intelligent.

The Case feature of the DP *John* remains unchecked, and therefore, is not visible and thus cannot be interpreted at PF.

5. Back to focus and optionality

We saw in section 2 that contrastive/identificational focus can optionally move. This issue creates a problem for a feature based theory: If displacement is triggered by features, how can it be optional? In other words, how can a feature optionally trigger movement? Note that this problem exists regardless of the nature of F: if it is uninterpretable, it has to be checked and eliminated. If it is interpretable, as suggested in the previous section, it needs to be checked in order to become visible for convergence. Thus optionality provides a problem for both systems.

Contrastive focus has a specific property: it is heavily stressed. It could be argued that focus has a set of three, rather than two, features: F, F', and F^s, the latter a PF feature representing stress. F' represents the semantic property of contrastive focus, and thus is an LF feature. Let us assume that stress, rather than movement, is the primary feature required for contrastive focus. Thus selection of F becomes optional. If F is not selected from the lexicon, F' (the LF feature) and F^s (the PF feature) are checked against each other, and there is no movement. If F is selected, the movement becomes obligatory.

principles and conditions that govern the displacement property in language. If focus movement is feature driven, the feature triggering it must be uninterpretable, as assumed within the MP framework. However, the existence of uninterpretable features is a source of 'imperfection', and is not justified within a theory whose goal is to reach the level of explanatory adequacy and beyond. Thus I proposed in this paper that (a) all features are interpretable, (b) the principle of Full Interpretation is not only relevant at LF, but also at PF, and (c) PF interpretable features, unlike LF features, may be checked only once. Allowing the PF features to be checked only once (cf. (12)) prevents the grammar from generating ungrammatical strings such as the one in (7). I leave a thorough examination of this proposal regarding all instances of PF features to future research.

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¹ See Kiss 1998 for a discussion of *only*-phrases as an instance of identificational focus.

² Note that (3b) is grammatical with the interpretation *all I did was giving three books to Kimea*, where *faghat* 'only' modifies the verb.

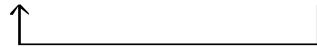
³ Similar constraint is observed in Japanese. The following data are from Takahashi (1993), cited by Richards (1997).

- (i) a. John-ga [Bill-ga dare-ni [Mary-ga nani -o tabeta
 John-NOM Bill-NOM who-DAT Mary-NOM what-ACC ate
 to itta to] omotteriu no?

that said that thinks Q

‘Who does John think that Bill told t that Mary ate what?’

b. Dare-ni John-ga [Bill-ga t [Mary-ga *nani-o* tabeta to] itta to]



omotteriu no

c. *Nani-o John-ga [Bill-ga *dare-ni* [Mary-ga t tabeta to] itta



to] omotteriu no

⁴ Kiss (1998) states that the identificational feature triggers obligatory overt movement in some languages, for example, Greek. This movement is also obligatory in Modern Standard Arabic if XP is not morphologically marked for focus.

⁵ See Richards (2002) for a detailed account of this requirement.

⁶ Chomsky (1995) suggests that the EPP-feature of D is divorced from Case. Furthermore, every T has an EPP feature, but only control infinitives have a Case feature. It is not obvious, however, why the EPP feature has to be interpretable within Chomsky's framework. That is, it is not clear what constitutes the semantic content of the EPP feature. I do not pursue this question in this paper.

⁷ Cyclic wh-movement is triggered by the EPP feature on the intermediate C(s). Only the final C has a wh-feature which is checked and deleted when the wh-phrase moves into its specifier.

⁸ See also Pesetsky (2000) who divides languages into three categories with respect to the number of specifiers of C: those with no specifier of C (Japanese and Korean), those with one specifier of C (such as German), and those with more than one specifier of C

(such as English and Bulgarian). The difference between English and Bulgarian is that the former allows only one overt wh-movement, and the rest of the wh-phrases move at LF, while the latter allows multiple overt wh-movements.

⁹ See Langendoen (2001) for a review of Chomsky (2000), and a brief discussion of the same issue examined in this section.

¹⁰ The principle in (11) is obviously distinct from the traditional *Visibility Condition* that links Theta marking to Case assignment (Chomsky 1981:96).

¹¹ Haeberli (2001) suggests that morphological Case is interpreted at PF. This proposal can be extended to structural Case since the latter is responsible for a number of displacements in language.

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