

## **Identificational Focus revisited: The issue of exhaustivity**

(Paper presented at CLS 50)

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### **1. Introduction**

This paper argues for a modified version of the analysis of identificational focus put forth by É. Kiss (1998). É. Kiss (1998) proposed a distinction between information focus, marked by prosodic means, carrying new information, and identification focus, derived by movement into a designated left-peripheral position, expressing exhaustive identification. The landing site of identificational focus is the specifier of a functional head labelled F, acting as an exhaustive identification operator. The focussed constituent shares the [+exhaustive] feature of the F head, and enters into a checking relation with it. The exhaustivity of the focus is part of the asserted meaning of the focus construction.

This paper enlists some theoretical considerations and some empirical facts of Hungarian indicating that exhaustivity cannot be part of the asserted meaning of focus constructions. The structural focus is always exhaustive; however, its exhaustivity is merely an entailment. A new analysis of structural focus is proposed, where structural focus is analyzed as a specificational predicate, and its properties are consequences of its specificational predicate role.

The paper also provides psycholinguistic evidence supporting this proposal. It gives account of experiments that test the presence and the strength of exhaustivity in Hungarian focus constructions. It is shown that exhaustivity is an inherent part of focus meaning, hence it cannot be a mere implicature neutralized in appropriate pragmatic circumstances. At the same time, the exhaustivity of a bare structural focus is weaker than the exhaustivity of a structural focus associated with *csak* 'only', where exhaustivity is not merely entailed but is asserted.

The paper is structured as follows: Section 2 summarizes the identificational focus theory of É. Kiss (1998). Section 3 discusses various problems that this theory cannot handle. Section 4 presents a modified version of the (1998) proposal, which can resolve the problems raised in Section 3. Section 5 introduces psycholinguistic evidence supporting the proposal presented in Section 4. Section 6 is a summary.

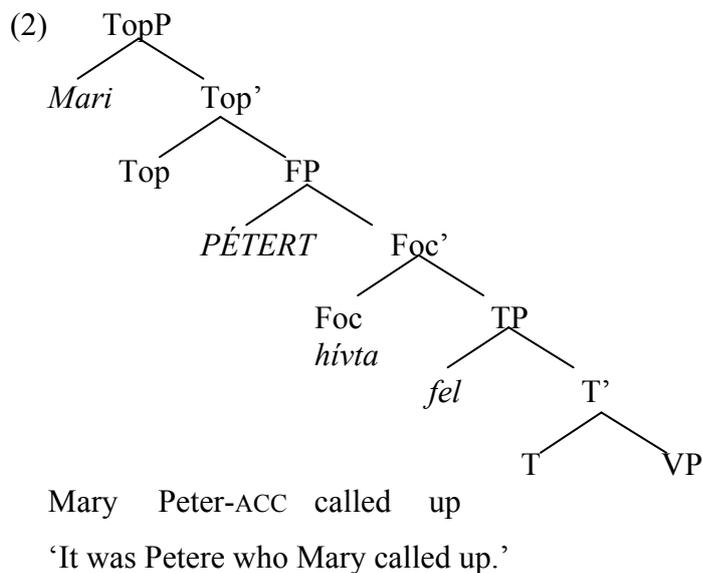
### **2. The theory of identificational focus (É. Kiss 1998)**

As pointed out by É. Kiss (1998), some languages, among them Hungarian, mark focus by moving the focus constituent into a designated A-bar position in the left periphery. In

Hungarian, focus movement is accompanied by verb movement. Compare the focusless (1a), displaying a 'verbal particle, verb' order, with the focus constructions in (1b) and (1c), where the preposed focus constituent has attracted the verb across the verbal particle.

- (1)a. *Mari [fel hívta Pétert].*  
 Mary up called Peter-ACC  
 'Mary called up Peter.'
- b. *Mari PÉTERT hívta [fel t<sub>v</sub>]*  
 'It was Peter whom Mary called up.'
- c. *Pétert MARI hívta [fel t<sub>v</sub>]*  
 'It was Mary who called up Peter.'

Adopting Brody's (1990) theory, the proposal places the focus-moved constituent into the specifier of a Focus Phrase (FP). The F head, having a strong V feature, triggers V-to-F movement:



A structural focus in the the specifier of FP is associated with a [+exhaustive] feature (see Szabolcsi 1981 and Kenesei 1986). Szabolcsi (1981) proposed the following test to point out its exhaustivity. The test is based on the fact that a proposition containing an argument represented by a coordinate phrase entails the propositions derived by replacing the coordinate phrase by one of its conjuncts. For example, (3a) entails (3b) and (3c):

- (3)a. *Mari fel hívta Pétert és Jánost.* →  
 Mary up called Peter-ACC and John-ACC  
 ‘Mary called up Peter and Mary.’
- b. *Mari fel hívta Pétert.*  
 ‘Mary called up Peter.’
- c. *Mari fel hívta Jánost.*  
 ‘Mary called up John.’

If the coordinate phrase expresses exhaustive identification, the entailment does not hold. (4b) and (4c) are not logical consequences of (4a); on the contrary, they contradict it – see (5), which is evidence of the exhaustivity of the coordinate object of (4a).

- (4)a. *Mari PÉTERT ÉS JÁNOST hívta fel.* –x->  
 ‘It was Peter and John whom Mary called up.’
- b. *Mari PÉTERT hívta fel.*  
 ‘It was Peter whom Mary called up.’

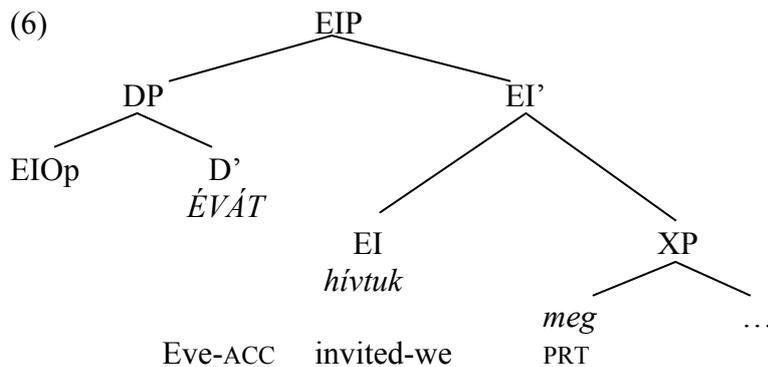
- (5) *Mari nem PÉTERT hívta fel, hanem PÉTERT ÉS JÁNOST.*  
 Mary not Peter-ACC called up but Peter-ACC and John-ACC  
 ‘It was not Peter that Mary called up but it was Peter and John.’

### 3. Problems with the identificational focus theory of É. Kiss (1998)

#### 3.1. Theoretical problems

Some elements of the proposed analysis of structural focus do not fit in well with Minimalism. In the Minimalist framework, the features requiring checking and eliciting A-bar movement are morphological features; however, the structural foci of the better known European languages, among them Hungarian, are not marked morphologically. If we stipulate a null focus morpheme, a further problem arises: how can the focus constituent obtain it without violating the condition of inclusiveness? According to the Minimalist Program, any structure formed by a syntactic computation is constituted by elements already present in the lexical items selected for numeration. Hence a constituent cannot assume an ‘exhaustive identification’ feature as a result of movement into focus position; an invisible ‘exhaustive identification’ element must already be present in the numeration, i.e., it must be part of the lexicon.

Horvath (2005; 2006) put forth the following solution of this problem. She assumes that the projection harboring the structural focus is an Exhaustive Identification Phrase, whose head has an Exhaustive Identification feature in need of checking. A constituent subjected to focus movement has an invisible Exhaustive Identificational operator in its specifier, whereby, if moved to Spec,EIP, it can check the Exhaustive Identification feature of the head.



'It was Eve that we invited.'

The Exhaustive Identification Operator is focus sensitive, i.e., it must be associated with (information) focus; that is why an identificational focus bears focus stress.

### 3.2. Empirical problems

Whereas the proposal summarized in Section (2) can predict the basic syntactic and semantic properties of structural focus constructions, there are a number of facts that neither its original version nor its theoretically updated modification by Horvath (2005, 2006) can account for.

(i) In sentences involving a structural focus, not only the focus constituent assumes an additional meaning component. The background also has an invariant property; it is associated with an existential presupposition not affected by negation. (The background is the post-focus section of the sentence, with a copy of the topic in it. Actually, the topic is still part of the background when the focus–background structure is formed.)

(7)a. *Mari PÉTERT hívta fel.*

Mary Peter-ACC called up

'There is someone whom Mary called up, and it is Peter.'

b. *Mari nem PÉTERT hívta fel.*

Mary not Peter-ACC called up

'There is someone whom Mary called up, and it is not Peter.'

The existential presupposition of the background in (7b) is indicated by the incoherence of the sequence of sentences in (8) as opposed to that in (9).

(8) %*Mari nem PÉTERT hívta fel; senkit nem hívott fel.*

Mary not Peter-ACC called up; nobody-ACC not called up

'There is someone whom Mary called up; she called up nobody.'

(9) *Mari nem hívta fel Pétert; senkit nem hívott fel.*

Mary not called up Peter-ACC nobody-ACC not called up

'Mary did not call up Peter; she called up nobody.'

In fact, the main motivation for the formation of a focus construction can be the need of indicating that the background is presupposed. This is the case with answers to quiz questions. In Hungarian, the standard way of answering a quiz question is to focus the constituent given in the question, and to background the new information provided by the answer – so as to express that it conveys generally known information (see Prince 1978 and É. Kiss 2012). For example:

(10)a. *KI volt Neumann János?*

who was Neumann János

'Who was János Neumann?'

*Ő/NEUMANN JÁNOS alkotta meg az első számítógépet.*

he/Neumann János created PRT the first computer-ACC

'It was him/János Neumann who created the first computer.'

b. *Mi történt 1945. május 9-én?*

what happened 1945. May 9th-on

'What happened on May 9th, 1945?'

*AKKOR/1945. MÁJUS 9-ÉN ért véget a II. világháború.*

then /1945. May 9th-on reached end-ACC the 2nd world-war

'It was then/on May 9th that world war II ended.'

Naturally, the focus of the answer to a quiz question assumes the feature [+exhaustive]. If the individual to be identified is not the unique representative of the property specified by the answer, a focusless sentence must be used. E.g.:

(11) *Ki volt Neil Armstrong?*

who was Neil Armstrong

*Armstrong tagja volt a Holdra szálló Apolló 11 űrhajó legénységének.*

Armstrong member was the Moon-on landing Apollo 11 spacecraft crew-DAT

'Armstrong was a member of the crew of Apollo 11 spacecraft landing on the Moon.'

These facts indicate that in a focus construction both the focus and the background assume specific roles. However, the derivation proposed under (2) can assign an invariant feature only to the focus constituent in Spec,FP; it does not have any means to assign an invariant property to the background, as well.

(ii) Whereas Horvath's (2005, 2006) theory of identificational focus eliminated the violation of the inclusiveness condition, it created a new problem. There are cases when the insertion of an Exhaustive Identification operator in the DP specifier of the focussed constituent seems redundant, violating the condition of economy. In examples like (12), for example, the exhaustivity of the focussed *Jánost* 'John-ACC' is neutralized; the sentence says that those exhausting the set of persons that I invited include John, and some others, as well. It seems uneconomical to first supply the focus with a [+exhaustive] feature to be checked in Spec,FocP, and then to neutralize this feature by the addition of the expression *többek között* 'among others'.

(12) *Többek között* [<sub>FocP</sub> *JÁNOST* *hívtam* *meg*]

among others John-ACC invited-I PRT

'It was John, among others, that I invited.'

Inherently exhaustive arguments tend to be focussed in Hungarian, see (13a,b) – but it seems redundant to supply an inherently exhaustive phrase with an Exhaustive Identification operator.

(13)a. *BARACK OBAMÁT választották meg az USA elnökének.*

Barack Obama-ACC elected.they the USA president-3SG-ACC

‘It is Barack Obama who has been elected president of the USA.’

b. *ÉVA tanulta meg a leghosszabb verset.*

Eve learned PRT the longest poem-ACC

‘It was Eve who learned the longest poem.’

(iii) A structural focus can be interpreted predicatively. As observed by Szabolcsi (1981), this possibility is not given to non-focussed arguments whether in situ or in topic position. In the examples under (14), the two objects cannot be coreferent – unless they are focussed, in which case they can be interpreted as predicates predicated of the same referent.

(14)a. \**Meg hívtam a barátnőmet<sub>i</sub>, de nem hívtam meg a miniszter feleségét<sub>i</sub>.*

PRT invited-I the friend-1SG-ACC but not invited-I PRT the minister wife-3SG-ACC

‘I invited my friend<sub>i</sub>, but I did not invite the minister’s wife<sub>i</sub>.’

b. \**A barátnőmet<sub>i</sub> meghívtam, de a miniszter feleségét<sub>i</sub> nem.*

‘My friend<sub>i</sub>, I invited, but the minister’s wife<sub>i</sub>, I didn’t.’

c. *A BARÁTNŐMET<sub>i</sub> hívtam meg, nem A MINISZTER FELESÉGÉT<sub>i</sub>.*

‘It was my friend<sub>i</sub>, not the minister’s wife<sub>i</sub>, that I invited.’

Hungarian has both definite and indefinite articles; bare nominals can only function as predicates. Accordingly, a bare nominal complement is not licensed either in a postverbal argument position or in topic position; however, it can occur in the preverbal focus slot:

(15)a. \**Évát fel hívta ismeretlen fiú.*

Eve-ACC up called unknown boy

‘\*Unknown boy called up Eve.’

b. \**Ismeretlen fiú fel hívta Évát*

c. *Évát ISMERETLEN FIÚ hívta fel.*

‘It was (an) unknown boy that called up Eve’

The focus theory of É. Kiss (1998) does not establish any link between identificational focus role and predication; the property of identificational focus illustrated in (14c) and (15c) remains unexplained.

(iv) As pointed out by É. Kiss (1998), universal quantifiers cannot undergo focus movement. This generalization was related to the assumption that structural focus serves to exhaustively identify the proper subset of a relevant set, excluding the complementary subset. As a universally quantified expression does not denote a proper subset of the relevant set, it cannot fulfil this function. However, this explanation is not satisfactory, as it is possible to construct contexts where a universally quantified phrase denotes a proper subset of a contextually given set; the sentence, nevertheless, remains ungrammatical:

(16) \**MINDEN FIÚT hívtam meg, a lányokat és a felnőtteket nem (hívtam meg).*  
every boy-ACC invited-I PRT the girls-ACC and the adults-ACC not (invited-I PRT)  
'It was every boy that I invited; the girls and the adults, I didn't (invite).'

The ungrammaticality of (16) indicates that the impossibility of focusing a universal quantifier has a reason other than the absence of a complementary subset.

In sum, the identificational focus theory of É. Kiss (1998) aims to account for the observation that focus constituents moved to Spec,FP, a designated left peripheral position, express exhaustive identification. The exhaustivity of structural focus is attributed to its [+exhaustive] feature checked against the matching feature of the F head. Owing to constraints imposed by the Minimalist framework, [+exhaustive] is regarded as a morphological feature, which, therefore, also figures in the asserted meaning of the sentence. This approach cannot explain why the focus constituent must be provided with a [+exhaustive] feature also when its exhaustivity is neutralized by the addition of *többek között* 'among others'. Further questions that the theory cannot answer are (i) how the background in the focus-background structure assumes its existential presupposition; (ii) why an argument represented by a bare nominal is licensed in focus position; and (iii) why universal quantifiers cannot be focussed.

#### **4. The modified proposal (É. Kiss 2006; 2007; 2012; 2014)**

The theoretical and empirical problems raised in Section 3 are all resolved if adopt the structural focus theory outlined in É. Kiss (2006; 2007; 2012; 2014). This theory is based on the claim of É. Kiss (1998) that the manifestations of the [+exhaustive] structural focus in English are the cleft and the pseudo-cleft constructions. The English pseudo-cleft construction

is analyzed by Higgins (1973) as a specificational predication structure. In a specificational predication construction, the subject determines a set, which the predicate referentially identifies, by listing its members. In a different terminology, the the subject describes a variable, and the predicate identifies its value. Consequently, in specificational predication constructions, neither the subject, nor the predicate is referential – as opposed to predicational predication structures, which have a referential subject.

In an English pseudo-cleft construction, e.g. in (17), the *wh*-clause represents the subject, and the focus represents the specificational predicate:

(17) Who Mary called up was PETER.

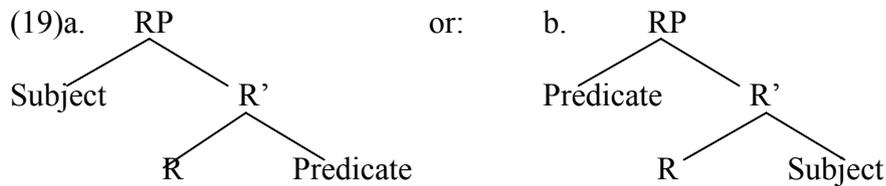
Higgins's analysis of English pseudo-clefts was extended by Huber (2000) to German and Swedish cleft constructions. As argued by É. Kiss (2006), it can also be extended to Hungarian focus constructions – despite the fact that syntactically they are monoclausal. The Hungarian example in (1b), rewritten here as (18), is assigned exactly the same interpretation as the English sentence in (17) or its cleft version. That is, the background is as an open sentence, corresponding to a relative clause, which the focus predicates about. The subject of predication determines a set, the set of those that Mary called up, and the predicate specifies the only member of this set, Peter.

(18) Mari PÉTERT hívta fel.  
Mary Peter-ACC called up  
'It is Peter who Mary called up.'

As shown by Higgins (1973), the properties of specificational constructions follow from the nature of specificational predication. The focus is exhaustive because the referential identification of a set means the exhaustive listing of its members, and the existence of the background is presupposed because only an existing set can be referentially identified. What is asserted in the sentence is the identity of the set determined by the subject with the referent (or list of referents) specified by the predicate; the existence of the subject is presupposed, and the exhaustivity of the predicate is entailed.

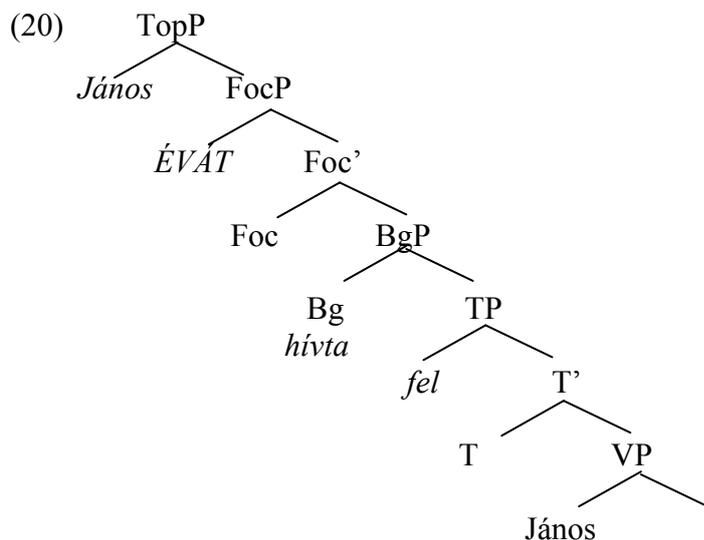
Focus movement is motivated by the need of forming a syntactic predication structure between the focus and the background. In the theory of den Dikken (2006), the syntactic realization of a subject–predicate relation is an asymmetrical configuration, a specifier–

complement relation mediated by a functional head called relator. The relation is nondirectional, i.e., not only the subject can occupy the specifier position, c-commanding the predicate, but the predicate can also occupy the specifier slot, with the subject in complement position. That is:



If we adopt this approach, there is no need to hypothesize an invisible morphological feature for the focus to check.

Horvath (2005) argued that the V in a Hungarian focus construction does not raise as high as the F head – based on the evidence that the V-initial section of a focus construction can be coordinated and deleted, i.e., it can undergo operations that target maximal projections. Let us assume – following the analysis of É. Kiss (2006, 2007, and 2012) but changing some of its labels – that the landing site of the V crossing the verbal particle in the presence of a focus is the head of a Background Phrase (BgP). The Background Phrase is the complement of the F head, which functions the relator establishing predication between it and the focus in Spec,FP.



The approach of Surányi (2009) also shares the logic of this proposal. Surányi assumes that the syntactic predication relation between the focus and the background can also be established in the TP projection, i.e., no additional functional layer needs to be projected. However, the focus position has properties of an A-bar position, e.g., it provides a landing site

for wh-operators (21) and for long focus movement across a filled Spec,TP (22), and it can license parasitic gaps (23):

(21)a. [<sub>FocP</sub> *KIT*<sub>j</sub> *hívott*<sub>i</sub> [<sub>TP</sub> *fel*<sub>k</sub> *t*<sub>i</sub> [<sub>VP</sub> *Mari* *t*<sub>i</sub> *t*<sub>j</sub> *t*<sub>k</sub>]]]  
 whom called up Mary  
 'Who did Mary call up?'

or: b. [<sub>TopP</sub> *Mari*<sub>i</sub> [<sub>FocP</sub> *KIT*<sub>j</sub> *hívott*<sub>i</sub> [<sub>TP</sub> *fel* *t*<sub>i</sub> [<sub>VP</sub> *t*<sub>i</sub> *t*<sub>j</sub> *t*<sub>k</sub>]]]]

(22) [<sub>TopP</sub> *Mari* [<sub>FocP</sub> *EGY HÍRESSÉGET*<sub>i</sub> *szeretne*, [<sub>CP</sub> *t*<sub>i</sub> *hogy* [<sub>TP</sub> *fel hívjunk* *t*<sub>i</sub>]]]]  
 Mary a celebrity-ACC would.like that up call-we  
 'Mary would like us to call up A CELEBRITY.'

(23) [<sub>FocP</sub> *KIT* *hívtál* *fel* *anélkül*, [<sub>CP</sub> *hogy ismernél* *pg*]]  
 whom called-you up without-it that know-you  
 'Who did you call up without knowing?'

Another piece of evidence for the claim that the focus position is an A-bar position is provided by the fact that it reconstructs for binding:

(24) [<sub>TopP</sub> *A telefonnal* [<sub>FocP</sub> *ÖNMAGÁT*<sub>i</sub> *örökítette*<sub>i</sub> [<sub>TP</sub> *meg*<sub>k</sub> *t*<sub>i</sub> [<sub>VP</sub> *Mari* *t*<sub>i</sub> *t*<sub>j</sub> *t*<sub>k</sub>]]]]  
 the phone-with herself-ACC recorded PRT Mary  
 'It was herself that Mary recorded with the telephone.'

In the framework represented by (20), the problems raised by the identificational focus theory of É. Kiss (1998) do not arise. As claimed by Higgins (1973), the existential presupposition of the background is a precondition of the specificational predication relation between the background and the focus. The exhaustivity of the focus is merely entailed; hence the fact that it is occasionally redundant owing to the inherent exhaustivity of the focussed argument, or it is neutralized by an expression like *többek között* 'among others', does not violate the condition of economy. The fact that a structural focus is interpreted predicatively and can be represented by a predicative bare nominal is as expected in a framework where the focus is analyzed as a predicate. The impossibility of the focussing of universal quantifiers is a related phenomenon; as stated by Partee (1987), a universal quantifier cannot function as a predicate.

## 5. The exhaustivity issue

In the analysis of structural focus proposed above, the exhaustivity of the focus is not asserted; nevertheless, it is part of the meaning of focus constructions; it is an entailment. (This position converges in some respect with Szabolcsi's (1994) and Bende-Farkas's semantic analyses, where the exhaustivity of focus is presupposed). Some analyses, first and foremost Wedgwood (2005), argue for an even weaker degree of exhaustivity, representing a mere pragmatic implicature. (For grammatical evidence against this view, see É. Kiss (2010).) Here we present the results of a psycholinguistic experiment investigating whether exhaustivity is an inherent part of focus constructions also in out-of-the-blue sentences with no contextual-pragmatic support. We also tested whether the exhaustivity of focus constructions containing a free focus is as strong for speakers as the exhaustivity of foci bound by *csak* 'only', whose exhaustivity is claimed to be asserted (see Szabolcsi 1994).

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