Identificational Focusing: Focus Raising and Stress-Focus Correspondence

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This paper revisits the division of labor in the grammar in identificational focus constructions in Hungarian. It is argued that if applied to identificational focus (rather than focus in general), Chomsky's (1971, 1976) proposal that focusing involves a syntactic readjustment operation analogous to Quantifier Raising can and should be upheld: identificational focus undergoes movement in order to be interpretable. Since identificational focus is a subcase of focus (defined as involving alternatives), the PF manifestation of identificational focus movement is affected by prosodic constraints on focus, including a Stress-Focus Correspondence requirement (Cinque 1993, Reinhart 1995). The interaction of this requirement with general principles of economy determines the realization of focus movements at PF. It is shown how the basic structure of the Hungarian clause, without a specialized functional head for focus, accommodates both the semantic and the prosodic needs of identificational focus elements in a variety of focus "constructions."

1. Introduction

Chomsky (1971, 1976) proposed that focusing in English involves a covert syntactic readjustment operation analogous to Quantifier Raising (QR).* This view was criticized by much subsequent work, for instance, on the grounds that such covert focus movement would apparently incur island violations (in English). *Overt* focus-related displacements, nevertheless, have often been given a syntactic movement account, even in those cases where the relevant displacement is not amenable to an analysis in terms of some independently existing construction, like a cleft (as in Hungarian, Basque, Italian, Greek, Finnish, etc). According to the current purely syntactic mainstream implementation of this approach, the displacement of a focus phrase targets a specialized functional projection (e.g., Rizzi 1997), and involves feature-checking. At present, in one form or another, this is the received view of focus movement in Hungarian too (e.g., Brody 1990, 1995, Puskás 1996, 2000, É. Kiss 1998, 2002, 2006, Horvath 2005, 2007, Kenesei 2009).

An alternative recent approach to overt focus-related displacements is purely stress-based (e.g., Zubizarreta 1998, Neeleman and Reinhart 1998). On this

^{*} For questions and comments I am grateful to audiences at the Workshop on Interface-based Approaches to Information Structure at UCL and at IGG-35 in Siena, where portions of this material were presented. The present work was supported by project grant #73537 of the Hungarian Scientific Research Fund, and partly by the author's Janos Bolyai Research Grant, which is hereby gratefully acknowledged.

approach, focus-related movements are triggered to create a syntactic structure that will observe an independent stress—focus correspondence requirement (1) (see Cinque 1993, Reinhart 1995, Szendrői 2003).

(1) Stress–Focus Correspondence (SFC)
Any constituent that (reflexively) contains the Nuclear Stress (NS) of the Intonational Phrase is a possible focus.

Hungarian focus movement (HFM) has been given such a purely stress-based treatment by Szendrői (2001, 2003). On her account the focused phrase is fronted in HFM in order to get into a position where main stress is assigned (this position is projected in syntax through prior verb movement).

The merits and demerits of either the purely syntactic or the purely prosodic accounts of HFM cannot be discussed here in any detail. What this paper has to offer instead is the outline of an alternative approach to HFM, which explores just how much of the "syntax" of HFM falls out once *both* the prosodic and the semantic needs of identificational focus are properly taken into account. On the semantic side, I will be exploiting the assumption that focus involved in HFM is interpreted as an identificational predicate of propositions. On the PF side, the Stress–Focus Correspondence condition is maintained. It is shown that in fact no special (morpho)syntactic assumptions specific to (identificational) focus (like a dedicated clausal functional head, or an uninterpretable focus feature) need to be postulated in narrow syntax in order to account for the basic properties of a relatively wide range of "focus constructions" in the language.

2. The semantics of identificational focus

Let us begin by spelling out the semantics of identificational focus that will be assumed. Identificational focus (FOC_{ident}) is taken to be a predicate of propositions that, when applied to an open proposition (a proposition containing a free variable), yields a proposition asserting the identity of two elements. Roughly the same view is expressed by Chomsky (1976), and for Hungarian, by Kenesei (1984, 1986), and Szabolcsi (1994).² The two elements involved in

(i)
$$\lambda z \lambda P[z = \iota x[P(x) \& \forall y[P(y) \rightarrow y \subset x]]]$$

¹ Horvath (2005) provides a detailed critique of Szendrői's purely stress-based approach to HFM, noting the following two major issues. Szendrői's approach involves massive look-ahead into the prosodic component within the restrictive mainstream model, where the flow of information between the modules of prosody and syntax is uni-directional, and where syntax is geared to optimally feed the SEM component rather than PHON (Chomsky 2005 et seq). HFM is not bona fide focus movement: on the one hand, HFM is associated with exhaustivity, and on the other, some focused expressions (like information focus, and *also*- and *even*-phrases) do not undergo HFM. An additional problem is posed by covert instances of HFM, which are argued to apply to in situ 'identificational' foci (see Surányi 2007): such focus movement is left without an account.

² See a.o. Partee (1998/2000) and Heller (2005) for the same view of English specificational / identificational copular clauses. Szabolcsi (1994) develops Kenesei's (1986) proposal, which traces back in turn to Chomsky's (1971, 1976) analysis of focus. Szabolcsi furnishes an explicit compositional semantics for id-focusing, employing an abstract identificational operator, given in (i), where z, x, and y may be plural individuals. According to this formulation, the constituent that the identificational focus phrase (of type e) is identified with through the application of this operator is taken to be predicative (type $\langle e, t \rangle$).

identification need to be of the same type if the predication of their identity is to be interpretable.³

Consider the garden-variety identificational focus movement construction in (2a) with a fronted focus. (2b) represents the identificational predicate FOC_{ident}, labeled A in (2a). FOC_{ident} is uninterpretable in situ (whether it is object or subject), due to a semantic type conflict. Hence, it needs to extract in order to be interpretable in a higher position (analogously to what happens in QR). The iota operator in (2b) gives rise to an existential presupposition (obligatory with FOC_{ident}, see Bende-Farkas 2006), as well as uniqueness/exhaustivity (Szabolcsi 1981, É. Kiss 2009). (2c) corresponds to the proposition containing the free variable resulting from the extraction of FOC_{ident} (Heim and Kratzer 1998). Note that (2c) must be a full proposition with all arguments saturated (possibly by an unbound variable). Also, it must contain at least one free variable, otherwise the iota operator would quantify vacuously when (2b) is applied to (2c), yielding (2d).⁴

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(2) a.[JÁNOS]<sub>A</sub> [jött t vissza]<sub>B</sub>
J.-nom came back
'It's John who has come back.'
b. \lambda p.(ix.p = j) c. come-back(y) d. iy.come-back(y) = j
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3. The basic structure of the Hungarian clause

The SFC in (1) and the identificational semantics illustrated in (2) interact with the basic clause structure of the language to yield the essential properties of focus movements in Hungarian. To be able to proceed, the basic structure of the clause needs to be laid out.

In neutral clauses (roughly, declarative clauses without identificational focus, negation, or a *wh*-phrase), the immediately pre-verbal position is normally occupied by some element belonging to the class dubbed 'verbal modifier' VM. The class of VMs includes verbal particles (PRT), and secondary predicates of different types, among others. I take the VM of a neutral clause to occupy the specifier of TP, as in (3). Hungarian is not a subject-prominent language (e.g., É. Kiss 2002), the agreement features of the subject are satisfied without overt movement of the subject to TP, whose head is host to the raised finite verb. T bears an EPP feature, which is checked by raising VM to Spec,TP.

As for clausal negation, the null hypothesis is that it is base generated in the position where it surfaces. As clausal negation immediately precedes the finite

³ In this short paper, I will concentrate on focused individual-denoting expressions, but the semantics of identificational focus should be flexible enough to express the identity of two elements of various different (but matching) semantic types.

⁴ A null constant (realized as a resumptive pronominal element; associated with topicalization/CLLD, e.g., Cinque 1990, Rizzi 1997), as opposed to a variable, is therefore incompatible with HFM.

verb, I take it to be first Merged in Spec,TP, where it satisfies T's EPP property. Indeed, clausal negation and a VM cannot both precede the (finite) verb at the same time in any order: given that clausal negation is generated in Spec,TP, the movement of VM is no longer triggered.

4. Focus fronting

I adopt the view that the VM in a neutral clause and the fronted focus in a clause with focus are raised to the specifier of one and the same functional projection (see É. Kiss 2005), which I take to be TP (see also Horvath 1995).

(5)
$$\left[_{TP} FOC \left[_{T} V \left[T \right] \right] \left[... VM... \right] \right]$$

Recall that identificational focus moves for reasons of semantic type conflict resolution at SEM (and not, say, in order to satisfy the SFC at PF). Whether this movement is overt or covert will have to be determined by factors independent of semantic interpretation. The SFC is a key condition that affects PF realization of the focus movement "chain." Another factor coming into play is computational economy. First, as argued by Chomsky (1995, 2000, 2001), overt movement is more costly than covert movement (which I take to be 'category' movement). This alone would favor the covert movement of identificational focus. Second, applying 'main stress shift' in prosody is more costly than having the Nuclear Stress fall where it does by default (e.g., Reinhart 1995, 2006, Neeleman and Reinhart 1998). The Nuclear Stress Rule in Hungarian places the NS on the leftmost phonological phrase (φ-phrase) of an intonational phrase (ιphrase) (É. Kiss 2002, Szendrői 2003). As TP is mapped to an t-phrase in prosodic structure, the NS will fall on the φ-phrase at the left edge of TP. The copy of FOC_{ident} must therefore be overt at PF when focus movement targets this position.

Apparently, then, the overtness of focus movement to TP in a structure like (5) (the structure of (2a)) is independent of the EPP property of T. Even though both the movement and the overt PF realization of identificational focus are independent of the EPP property of T, T's EPP is nevertheless satisfied by the overt copy of the identificational focus in Spec,TP once it is realized there. Economy of movement dictates that if EPP on T is satisfied by a raised focus, no VM element needs to be pulled up to Spec,TP. Indeed focus and VM are in complementary distribution before the (finite) verb.

An immediate prediction is that identificational focus should be possible to move to TP and be overtly realized there even if T's EPP property is satisfied independently by clausal negation, which is base-generated there. Indeed, a fronted focus can precede clausal negation:

⁵ 'Main stress shift' is understood broadly to involve stress strengthening, or stress strengthening and simultaneous stress reduction elsewhere.

(6) a. [TP FOC NEG [T V [T]] [...VM...]]
b. A CIKKET nem emailezte el
the paper-acc not emailed-3sg PRT
'It's the paper that he did not email.'

5. Multiple foci

5.1. True multiple foci

We correctly account for the behavior of a second identificational focus (call it FOC₂) in a true multiple foci construction (cf. Krifka 1991). FOC₂ must undergo covert movement to a scope position *below* that of the pre-verbal identificational focus (call it FOC₁). If FOC₂ raises to scope *below* FOC₁ in Spec,TP, then, since the NS does not fall on this lower position, the movement of FOC₂ will remain covert (just like QR). The reason is that the movement of FOC₂ targets a position *inside* the 1-phrase corresponding to TP, rather than a position at the left edge of that 1-phrase. As the position targeted by the raised FOC₂ is inside the 1-phrase, the default NS will not fall on it. 'Main stress shift' (i.e., stress strengthening of FOC₂) cannot be avoided by spelling out the raised occurrence of FOC₂ overtly. As stress strengthening needs to apply in order to observe the SFC condition in (1) independently of whether the raising of FOC₂ is realized at PF as overt or covert movement, covert movement will be selected. Indeed, as discussed in Surányi (2002, 2007), a FOC₂ in a true multiple foci construction raises covertly.

In the rough form presented here, the account leaves open whether FOC_2 raises covertly to a position below T (where it can still be sister to some (open) propositional category lower than TP, see (7a)), or it raises covertly above T, but below FOC_1 (an inner specifier position, see (7b)) (both positions are marked by a parenthesized FOC_2 symbol below).

(7) a.
$$[_{TP} FOC_1 [_{T} V [T]] [_{\alpha P} (FOC_2) [...VM...FOC_2...]]]$$

b. $[_{TP} FOC_1 [(FOC_2) [_{T} V [T]] [...VM...FOC_2...]]]$

That covert focus movement indeed takes place in true multiple foci constructions is corroborated by Beck-intervention effects, and sensitivity to islands (ibid.). A relevant contrast is illustrated in (8). In (8a) FOC₂ is embedded inside an infinitival complement clause, while in the (non-rethorical) (8b) it is located within an infinitival purpose adjunct.

- (8) a. Kinek kell megpróbálnia [megbuktatni csak KÉT DIÁKOT]? who-dat must PRT-try-inf PRT-fail-inf only TWO student-acc 'Who must begin to fail only TWO students?'
 - b.*?Kinek kell bemennie [megbuktatni csak KÉT DIÁKOT]? who-dat must in-go-inf PRT-fail-inf only TWO student-acc 'Who must go in(side) in order to fail only TWO students?'

The fact that covert focus movement of a FOC_2 can be scopally interpreted at any scope position between the scope positions of any two post-verbal quantifiers indicates that there is a degree of flexibility as to what position FOC_2 in (7a) covertly raises to (Surányi 2002, 2004).

That covert focus movement can indeed target both TP, as in (7b), and a (propositional) projection labeled αP in (7a) is evidenced by the following example.

a. Who is it that could possibly have read only TWO papers?
 b. JÁNOS olvashatott el CSAK KÉT CIKKET
 J.-nom read-mod-past-3sg PRT only two paper-acc
 'It's John who could possibly have read ONLY TWO PAPERS.'
 (OKFOC₁ > MOD > FOC₂)

The interpretation indicated is available in (9) only if FOC₂ is raised to a position below the modal operator associated with the modal suffix of the verb. Whether that operator is assumed to take scope in the overt position of the verb, or in some lower position (e.g., in a ModP generated lower than T), FOC₂ is interpreted below that position. In other words, FOC₂ in (9) cannot be analyzed as covertly raised to a(n inner) Spec,TP, but has to be moved to some lower position.

Finally, if FOC_2 is to scope *above* FOC_1 (rather than below it), then in principle it needs to raise above it in syntax, say, to an outer specifier of TP. But then NS falls on FOC_2 , which is located at the left edge of TP, rather than on FOC_1 , therefore it is the movement of FOC_2 that will have to be overt. This case then reduces to (7b), with FOC_2 replacing FOC_1 of (7b), and with FOC_1 replacing FOC_2 of (7b). We therefore derive that in a multiple foci construction, a post-verbal focus cannot take scope over the pre-verbal one:

- (10) a. JÁNOS ette meg A LEVEST

 J-nom ate-3sg PRT the soup-acc
 - b. 'It is John who is such that it is the soup that he ate.'
 - c. *'It is the soup that is such that it is John that ate it.'

5.2. Complex focus

A post-verbal focus may be related to the pre-verbal one in what Krifka (1991) calls a 'complex focus' construction, i.e., when it is pairs of elements that get focused semantically. The in situ focus in 'complex focus' constructions arguably covertly raises to the position of the pre-verbal focus (Surányi 2002, 2007): it cannot be located within an island, it yields Weak Crossover Effects, it is sensitive to (Beck-type) quantificational intervention between it and the first, pre-verbal id-focus, and (similarly to English wh-in-situ in multiple wh-questions, cf. Bošković 2000 and Dayal 2002) it is degraded when separated from the first focus by a finite clause boundary (Surányi ibid.).

For concreteness, consider a clause with just two focus phrases, a pre-verbal id-focus (FOC₁) and a second, post-verbal id-focus (FOC₂). Given that there is only a single default NS, which falls on the leftmost φ -phrase of the ι -phrase corresponding to TP, stress strengthening of FOC₂ is inevitable. This is because the two focus phrases correspond to two independent φ -phrases, only one of which can bear the default NS. The (correct) prediction therefore is that only one focus will raise overtly, receiving the default NS in Spec,TP, while the other

focus undergoes only covert movement, which is the more economical choice when compared to overt movement.⁶

6. Verbal focus

Narrow focus on the verb does not involve any extra movement, see (11).

- (11) a. [Vissza EMAILEZTE a dokumentumot], nem [vissza FAXOLTA] back EMAILED-3sg the document-acc not back FAXED-3sg 'He EMAILED the document back, he didn't FAX it back.'
 - b. *EMAILEZTE [vissza _ a dokumentumot], nem FAXOLTA [vissza _]

This is because the movement configuration analogous to that in (2a), required for an interpretation along the lines of (2b), obtains even without an extra focus-movement step, since the verb is raised out of its base position to T independently of focusing. Recall from the previous section that there must be at least one propositional projection below T (cf. (7a)). As the verb raises out of that propositional category, it finds itself in the right configuration for identificational focus interpretation. As far as the SFC condition is concerned, the NS of the clause will be able to fall on the verb in T only by way of 'stress shift,' as the verb is located in an 1-phrase internal position, preceded by a VM that is raised independently to Spec,TP to satisfy T's EPP property. In other words, 'stress shift' is unavoidable to achieve a narrow focus interpretation of the verb. It can be concluded that the verb in verb-focus constructions is interpreted as identificational focus even though it does not undergo focus-movement per se: it occupies its normal 1-phrase internal position, viz. T.

7. Focus movement and verb raising in infinitival clauses

In an infinitival clause, verb inversion to T is optional in the presence of negation and in the presence of fronted id-focus (see Brody 1995). This is illustrated in (12) for fronted id-focus:

IDŐBEN (12) a. Jó emailezni el volna good Cop.cond time-in email-inf **PRT** volna **IDŐBEN** emailezni b. Jó el good Cop.cond time-in PRT email-inf 'It would be good to email it over IN TIME.'

This alternation is analyzed by Brody (ibid.), who assumes a clause structure with a FocP projection above TP, as being due to the optionality of V-raising to

⁶ Adapting Krifka's (1991) treatment to the present account of identificational focusing, the interpretation of a single complex semantic id-focus involves the composition of the two focus exponents into a single identificational predicate. For such a complex focus interpretation to be available a second focus must move to the position of the fronted focus. Apparently, the formation of a complex semantic id-focus requires some form of structural adjacency, similarly to what has been suggested independently for multiple *wh*-phrases in *wh*-questions asking for a list of n-tuples (e.g., pairs) as an answer (see Dayal 2002 and references therein).

T. The raising of T to Foc remains obligatory, but in the absence of V-to-T, T-to-Foc, which is responsible for verb inversion, applies vacuously.

On the present account the alternation in (12) does not need to be put down to optionality in movement (and a concurrent optionally 'strong' property of T in these clause types). Instead, it can be reduced to a basic difference in the Numerations on which the two derivations are based. Specifically, I propose that whereas T is present in (12a), it is absent from (12b). As the Numerations are different, (12a) and (12b) do not belong to the same reference set of derivations. If T is present, V-movement to T is obligatory, yielding the verb-inversion pattern. If T is absent, no V-raising is possible. In this latter case no TP is erected on top of the next lower propositional projection (labeled α P in (7a)). When no T(P) is part of the infinitival clause, negation and identificational focus will only be able to attach to α P. Attaching negation and/or identificational focus to α P does not alter the basic VM > V order within α P.

8. Ordinary focus

One consequence of the indirect nature of the link between the movement of identificational focus and the quest to avoid the costly operation of stress shift concerns the syntax of non-identificational, i.e., ordinary focus. As discussed in detail by É. Kiss (1998), in contrast to identificational (free) focus, ordinary (free) focus does not undergo syntactic movement in Hungarian. Consider why that should be so, given the present assumptions.

The requirement of identificational focus to apply to an open proposition is irrelevant to achieving an ordinary focus interpretation. The Stress–Focus Correspondence condition, on the other hand, applies to focus generally, including both identificational and ordinary focus. As we have seen, the two options to satisfy the SFC are to apply movement to the default NS position, Spec,TP, or to shift the main stress without movement. In the case of ordinary focus, Hungarian apparently opts for the latter choice, as does English. It can be inferred that the cost of applying a syntactic movement operation is higher than that of stress shift, which is why ordinary focus remains in situ, and NS is shifted to it. In a case where the movement operation must independently be applied (as is the case for identificational focus), realizing this movement as an overt displacement is more economical than resorting to stress shift, if the movement targets the default NS position.

It follows that ordinary focus does not undergo any movement, whether overt or covert. If a focus remains post-verbal in a sentence whose Spec, TP position is not occupied by an identificational focus, but by a VM element (i.e., the neutral word order pattern), then that post-verbal focus can only be ordinary focus, but not identificational focus.

⁷ In the absence of TP, no CP projection is present either. Participial verbal morphology is not due to T in infinitivals, where the verbal stem is affixed by an infinitival marker -ni. Depending on one's general assumptions regading the place of morphology in the grammar, it can be generated either in morphology, or as a participial head. The infinitival -ni form of the verb may also simply be the default form of the verb: this form is found in V(P)-doubling contexts with V(P)-fronting:

⁽i) Szeretni [szerettem Marit] love-inf love-past-1sg M-acc 'As for loving (her), I did love Mary.'

This latter is both similar to and different from É. Kiss's (1998) generalization, who suggests that ordinary post-verbal focus in neutral word order clauses is information focus, and it does not undergo movement. In difference to É. Kiss (1998), I have suggested that the type of post-verbal focus at issue, rather than being information focus, is in fact ordinary focus based on alternatives. As (13) demonstrates, such post-verbal foci are not necessarily informationally (discourse-)new; instead, their interpretation involves alternatives.⁸

(13) A: Mari beszélt Jánossal, Péterrel és Ivánnal. Te tudod, kiket hívott meg? 'Mary talked to John, Peter and Ivan. Do you know who she invited?' B: Csak annvit tudok, hogy meg hívta JÁNOST that.much-acc know-1sg that PRT invited-3sg John-acc only de nem hívta meg **PÉTERT** PRT invited-3sg Peter-acc but not 'All I know is that she invited JOHN, but didn't invite PETER.'

This means that the relation between ordinary focus and identificational focus is one of proper inclusion: identificational focus is an alternatives-based focus that functions as an identificational predicate (of propositions). É. Kiss (1998) observes that ordinary post-verbal focus is not interpreted exhaustively. It is not the case that such foci do not have to be interpreted as exhaustive, but rather, they cannot be. On the present account this can be properly rationalized as a blocking effect: given that the more "specific," viz. the exhaustive, interpretation is achieved by syntactic movement to TP, by chosing not to move a focus to TP a *non*-exhaustive interpretation becomes obligatory.

9. Conclusion

The approach to focus movement sketched in these pages is based on the conception that 'identificational focus movement' takes place to avoid semantic type conflict in situ by bringing the focus into an appropriate configuration for it to be interpretable. The landing sites targeted by focus movement and the PF (namely, overt vs covert) realization of focus movement are determined in a complex interaction of relatively simple grammatical factors: the semantics of identificational focus as a predicate of propositions (i.e., the needs of id-focus at the SEM interface), the Stress–Focus Correspondence requirement, and computational economy principles. Concomitantly, no dedicated narrow syntactic machinery—in the form of a special functional projection / uninterpretable feature, or otherwise—needs to be postulated to account for the syntactic behavior of focus in Hungarian.

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⁸ As (13) illustrates, not only identificational focus, but also ordinary (post-verbal) focus can be contrastive.

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