Is "Focus Movement" Driven by Stress?

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1. Introduction

Hungarian is widely considered as a paradigm case of a language exhibiting a designated "Focus position" in its clause structure. The existence of the structural position and of overt syntactic movement targeting it has been firmly established in the extensive literature on the topic, and is by now not subject to controversy. Similarly uncontroversial is the conclusion that the position itself is a left-peripheral (preverbal) A-bar position and the movement targeting it is a syntactic A-bar movement operation (e.g., as demonstrated in É. Kiss (1987, 1998) and Horvath (1981, 1986, 1995, 2000). Yet there is one major aspect of this alleged Focus-construction, and in particular of the widely assumed "Focus movement" operation, that is in fact controversial, and that constitutes a theoretically significant open question calling for further investigation. This fundamental question is: what is it that drives the syntactic movement operation involved (in the technical sense of Chomsky 1995, 2000)? The present paper will explore and attempt to resolve this central issue, specifically in light of a minimalist, purely interface-based, conception of Focus that has recently emerged in the theory (see Cinque 1993 and Reinhart 1995).

In the framework of Chomsky's (1993, 1995, 2000) Minimalist Program (MP), movement operations of the computational system (CS) are subject to economy principles, among them the requirement that they be "last resort", in the sense of having to be driven by a need to satisfy what ultimately is an interface need. The particular mechanism implementing this according to Chomsky's (1993, 1995, 2000) hypothesis is the existence of uninterpretable formal features, i.e., features borne by lexical items that are illegible to the interpretive systems. Uninterpretable formal features cause a crash at the interface, unless they enter into an appropriate checking relation with a matching feature in a local domain, and as a result of this "feature checking" process get deleted. Movements are viewed as reflections of the mechanism of pied-piping applying in conjunction with the feature-matching process.

An additional kind of movement, that is not feature-driven yet obeys the concept of derivational economy, has been developed by Fox (1995, 2000) and Reinhart (1995) and subsequent work. Their "interface economy" approach claims that in addition to feature-driven movements falling under checking theory, there exist non-feature-driven, hence apparently "optional" movement operations. These latter types of movements, such as
the rule of QR responsible for quantifier scope assignments/shifts, are marked operations; they can apply in a derivation only if they give rise to a distinct interpretation which cannot be derived in a more economical way, namely, without the use of non-feature-driven movement. Chomsky (2000, 2001) incorporates a version of the underlying concept of interface economy, and executes it by introducing an optional feature "OCC" (= EPP)–available to phase heads (C and v)–which creates displacements for purposes of particular non-theta-theoretic interpretive needs, including scopal and discourse-related properties. Thus movements driven by interpretive needs at the LF interface, such as varying the assignment of relative scope to quantified expressions, are commonly assumed in current MP-related work. (On an alternative, "classical" feature-driven movement analysis for scope, see e.g. Beghelli and Stowell (1997) and Szabolcsi (1997)). In contrast, the issue of whether any aspects of the PF interface may play a similar role, namely, whether a PF need too is able to motivate movement within the CS, has received far less attention (e.g., Zubizarreta (1998)). This is presumably due to the assumption fundamental to the MP model that PF constitutes a self-contained component whose processes and representations are substantially different in nature from that of the derivation of the LF interface, i.e., "narrow syntax", and consequently if its properties can drive any movement at all, it would be movements taking place in the PF-component itself rather than in the syntactic derivation feeding LF (for proposals of PF-internal movement, see Boeckx and Stjepanović 2001 and Sauerland and Elbourne 2002). Yet, given the unsettled status of the distinction between overt syntactic movements vs. covert movements (or 'Agree') in versions of the MP, the possibility of CS-internal overt movement driven by PF-properties constitutes an obvious topic for investigation.

Reinhart (1995) has actually proposed the extension of the interface economy approach beyond the derivation of the LF-interface, and in particular argued that phrasal stress-assignment—a process of PF—is also subject to economy considerations. Her proposal involves the discourse notion of Focus and its assignment options being based purely on the location of the main stress of the clause as determined by the phrasal stress rules of PF and by the possibility of subsequent shifts of main stress. Reinhart (1995) adopts from Cinque (1993) the revival of Chomsky's (1971) idea of a purely stress-based Focus algorithm (1), the "Stress-Focus Correspondence Principle" (henceforth SFCP) determining the set of possible focus constituents associated with every sentence, i.e., the "focus set" of the sentence.

(1) **Stress-Focus Correspondence Principle** (adapted from Reinhart (1995))

The focus set of a clause consists of the constituents containing the main stress of the clause.

Crucially, in Reinhart's framework, any deviation from the unmarked ("neutral") stress-pattern assigned automatically by the independently motivated PF stress algorithm, has a cost in terms of economy, since it involves an optional (undriven) relocation of stress. The claim of interface economy is that such a stress shift is indeed excluded as an economy violation unless it results in the creation of a Focus option that otherwise would not have been available for the same sentence, given (1). This is what accounts for the more limited set of Focus options associated with so-called "contrastive"/"non-projecting" focus, as in the English John has BUILT the desk (not bought it), or JOHN
has built the desk (not Bill). (For empirical evidence in favor of this view of stress and its relation to Focus within the interface economy hypothesis, see Reinhart (1995) and Neeleman and Reinhart (1998).)

The above conceptually attractive unified PF-based hypothesis is in sharp contrast with widely accepted previous accounts of Focus that traditionally involved syntactic encoding within the CS, for instance by a syntactic "F-marker" morpheme (see Jackendoff (1972)), and more recently by a formal feature [+Focus] (see Horvath (1986, 1995); Brody (1990, 1995). The latter feature served both to mediate between PF and LF-interpretation of a Focus constituent given the LF-PF split in the traditional T-model architecture, and also to account for overt/covert syntactic "Focus movement" motivated in the literature.

Importantly, if the set of Focus options exhibited by a sentence (i.e., its "focus set") is indeed fully determined by stress at the PF interface, and is derivative of the independently motivated stress assignment algorithm--such as some version of the Nuclear Stress Rule (NSR)--in conjunction with principles of interface economy constraining optional stress shifts, as under Reinhart's hypothesis, then the question arises whether displacement of phrases may in principle be stress-driven rather than feature-checking-driven, i.e., taking place without a formal [+Focus] feature being postulated. Thus one may ask whether some syntactic movements might be driven by the need of a constituent to receive main stress by the regular stress algorithm of PF--or perhaps by the need to avoid being in a position where main stress would fall--thus rendering stress relocation unnecessary. If both non-feature-driven (optional) movement and optional stress relocation are economy violations but crucially each is permitted in the interface economy framework as long as it produces an otherwise unavailable interpretive result at the interface, then at least in principle, movement to the neutral (unshifted) position of main stress, or alternatively, stress relocation with no movement of the phrase might be expected to be equally available for creating new Focus options.

This topic will be explored in the present paper on the basis of the phenomenon of "Focus movement" in Hungarian.

Reinhart's (1995) and Neeleman and Reinhart's (1998) work on the interface economy treatment of Focus does not deal with cases involving movement, only with base generated word order variants (a subtype of "scrambling"), and their relation to observed Focus options. But there in fact are a variety of known syntactic displacements that unlike these "scrambling" cases, cannot be analyzed as instances of free base-generation and at the same time, they crucially appear to involve the need to assign Focus to a particular constituent. These phenomena provide relevant test cases for answering the question raised above regarding the potential existence of stress-driven movements. Such test cases are manifested by the Hungarian-type languages, which seem to exhibit phrasal movements to a designated Focus position (e.g., see É. Kiss (1987, 1995, 1998), Horvath (1981, 1986, 1995) and Brody (1990, 1995)).

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1 The stress-based determination of Focus at the interface implies that some aspects of PF (namely at least stress-assignment) would have to be accessible to the LF interface, contrary to what is assumed in the standard T-model.
In the present paper we will assess the status of Hungarian Focus movement in relation to Reinhart's highly desirable unified, purely stress-based conception of Focus under the interface economy hypothesis. In other words, the paper will investigate the optimal account for the Hungarian-type "Focus movement" under the conceptually desirable null hypothesis that Focus is purely stress-based rather than encoded in the CS, and as such it would not seem to be able to trigger feature checking-based syntactic movement. The particular question to be addressed below is whether the well-known Focus movement of Hungarian could possibly be an instance of a non-feature-driven syntactic movement licensed crucially by a PF property, namely by the position of non-shifted main clausal stress in the language. An affirmative answer to this question has actually been proposed in recent work by Szendrői (2003). We will examine the empirical merits of Szendrői's proposal according to which Hungarian Focus movement is a movement taking place in narrow syntax that is directly stress-driven. If correct, this would instantiate the possibility raised above of optional syntactic movement being an alternative to optional stress-shift, both permitted but subject to conditions of interface economy. This proposed PF-driven account will be contrasted with an earlier alternative proposal made in Horvath (1997, 2000) for capturing apparent "Focus movement" while eliminating any syntactic encoding of Focus. The latter proposal maintains Reinhart's PF/stress-based interface economy theory of Focus too, just like the former one, but it does so without permitting syntactic "Focus movement" to be stress-driven. It will be argued that the former, directly PF/stress-driven, approach suggested by Szendrői, while prima facie rather appealing, turns out on closer examination to raise some troublesome conceptual issues, and to face a variety of serious empirical problems.

2. Focus in Hungarian: the elimination of the [+Focus]-feature and Szendrői's stress-driven movement account

The core empirical phenomena at issue in the case of Focus in Hungarian involve (a) focused constituents apparently occurring obligatorily in a designated structural position in the clause that is an A-bar position at the left periphery outside of the VP (but following a number of other possible left-peripheral elements, such as topics, and universal QPs), and (b) this "focus position" having to be strictly left-adjacent to V (at least when V is finite), as shown by the necessarily pre-V vs. post-V position of the verbal particle be 'in' in (2) and (3a-d). Note that Hungarian clause structure is commonly assumed to have no VP-external designated subject position (SPEC of IP), only a variety of A-bar positions on the left periphery encoding semantic and discourse functions such as topic, and various types of quantification. (In the examples below I will be using bracketing to mark the relevant Focus constituent(s), and capitalization to indicate the phonological word bearing main stress.)

(2) Be-mutattam Jánost az unokahúgomnak
    in-showed.1SG John.ACC the niece.my.DAT
    'I introduced John to my niece.'

(3) Q: Kinek mutattad be Jánost?
    'To whom did you introduce John?'
a. [AZ UNOKAHÚGOMNAK] mutattam be Jánost.  
the niece.my.DAT showed.1SG in John. ACC  
'I introduced John TO MY NIECE.'

John. ACC the niece.my.DAT showed.1SG in  
'John, I introduced TO MY NIECE.'

c. *Be-mutattam Jánost AZ UNOKAHÚGOMNAK.  
in-showed.1SG John. ACC the niece.my. DAT

d. *AZ UNOKAHÚGOMNAK be-mutattam Jánost.  
the niece.my.DAT in-showed.1SG John. ACC

The standard analyses of this set of facts propose a CS-encoded view of Focus, drawing an analogy between Focus movement and other feature-based movements, such as Wh-movement; Focus movement is known to exhibit the characteristics of syntactic A-bar movements, such as successive cyclicity, sensitivity to island constraints and licensing parasitic gaps (e.g., see Brody (1990, 1995) and Horvath (1986, 1995)). These analyses have been based on the following major assumptions:

(a) the postulation of a formal feature [+Focus] and a functional head in the clausal projection carrying this formal feature - such as Brody's F(focus) head projecting an FP

(b) the option of assignment of the [+Focus] feature to constituents, which as a result of this feature get interpreted as focus of the sentence at LF and receive main stress at PF

(c) the need for the Focus constituent to move to the Spec position of the [+Focus] clausal head in order to be licensed syntactically, or under more recent versions, in order to establish a checking relation with the head.

As for the adjacency required between the (finite) V and the focus-moved constituent, the idea was to attribute it to V-movement to the functional [+Focus]-head F (forced by some stipulated "lexicalization" or V-feature checking requirement of the functional head F). This V-raising is what has been claimed to underlie the major diagnostic property involving verbal particles (Prt) used to distinguish Focus movement from other A-bar movements to the left periphery, namely the inversion of the normal Prt-V order and deriving the obligatory V-Prt order, seen in (3a) vs. (3d).

In contrast to the above widely accepted account, both Horvath (1997, 2000) and Szendrői (2003) argue for eliminating the formal feature [+Focus] from the CS altogether, and for capturing the case of Hungarian Focus within Reinhart's conceptually appealing framework of uniformly stress-based Focus using interface economy. However their particular proposals for achieving this are fundamentally distinct. For purposes of the present discussion, we will focus primarily on Szendrői’s account.
This account is based on the claim that the overt syntactic "Focus movement" shown in (3) is directly driven by stress, namely, by the need to place the constituent to be interpreted as Focus in the position where (neutral) main clausal stress gets assigned by the version of the NSR operating in Hungarian. The central assumption of the proposal thus involves the prosody of Hungarian. Szendrői crucially adopts the view - based on work by Vogel and Kenesei (1987) - that in contrast to the phrasal stress rules operating in the prosody of languages such as English and Italian, Hungarian prosodic structure and stress are "leftward oriented". More specifically, what is important for the present discussion is the assumption that (a) the construction of phonological phrases, i.e., the syntax-prosody mapping, is based on the alignment of the left edges of phrases in Hungarian, and (b) nuclear stress in Hungarian is assigned to the leftmost phonological phrase in the intonational phrase, and also phrasal stress is assigned to the leftmost phonological word in the phonological phrase. While some of these claims are subject to controversy (e.g., see Kálmán and Nádasdy's (1994) alternative analysis of stress), I will, for the sake of argument, accept Szendrői's assumptions regarding Hungarian prosody. Notice, though, that this language particular view of the NSR involving a leftward vs. rightward-orientation parameter completely unrelated to any structural or other property of the language involved is, other things being equal, inferior to the hypothesis of Cinque (1993), according to which the NSR itself is not parametrized but operates universally based on the structural property of "direction of branching" or asymmetric c-command, resulting in main stress getting assigned to the most deeply embedded constituent (the latter view is adopted in Reinhart (1995) as well as Zubizarreta (1998)).

Now, given the above treatment of Hungarian prosody, Szendrői proposes the following hypothesis regarding Hungarian "Focus movement", based on Reinhart's PF-interface notion of Focus (see the SFCP in (1) above) and the position of main stress assignment in Hungarian:

(4) **Stress-driven Movement**

In Hungarian, movement of the focused constituent to the left periphery is triggered by the requirement that a focused constituent be stressed.

Thus, Szendrői's claim is that the main stress requirement for Focus interpretation assumed under Reinhart's PF-interface-based approach can be satisfied not only by stress-shift to the constituent to be focused (as in the English-type languages considered by Reinhart), but in Hungarian, it can be satisfied via syntactic movement of the relevant constituent to the particular structural position where main stress falls in Hungarian, namely to the left periphery of the intonational phrase.²

There are two major additional elements that Szendrői needs in order for this stress-driven account to work for the core Focus-movement data (such as in (2)-(3)):

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² In addition, in a distinct subset of cases, Hungarian also exhibits stress shifts used as a way of obtaining particular Focus options (e.g. stress shift between constituents within a preposed phrase). On the range of the stress shift option in Hungarian, see Horváth (2000) and Szendrői (2003).
(a) Topics are claimed to be adjoined, and consequently extrametrical, i.e., they fall outside the domain of the stress rule. Thus, although they occur at the left-periphery of the clause (see (3b)), they cannot receive main stress. Furthermore, it follows that the stress-driven focus movement itself (hypothesized in (4)) cannot be movement to an adjoined position, but must be to the Spec position of some left-peripheral functional projection.

(b) The position of the verb in clauses with Focus movement, namely its inversion with the verbal particle indicating its raising to some higher head position ((2) vs. (3a,b)), is attributed to the need for V to move in order to license an otherwise "empty" F(unctional) head; this, in turn, is necessary so that a left peripheral "FP" projection become available to supply a Spec position needed for the constituent undergoing the stress driven movement (see (a) above on adjoined positions and stress). Notice that since "Focus movement" is purely stress-driven by assumption, it crucially is claimed not to be movement to the Spec position of an independently projected functional head (as was the case under the traditional [+Focus] feature-based account).

To illustrate how the proposal works, consider the above assumptions first with respect to example (2). Szendrői's account has main stress assigned to the leftmost phonological phrase of the intonational phrase and it falls specifically on the leftmost phonological word of the phonological phrase. Accordingly, the Prt-V complex (which constitutes a single phonological word and receives initial stress) will bear main stress in (2); when a clause has a verb without a verbal particle preceding it, then main stress falls on the verb itself. (If there were a topic preceding the VP in (2) it would, by assumption, be in an adjoined position which according to Szendrői's analysis is extrametrical, hence it would have no effect on the V, or in this case the Prt-V complex, receiving main stress.) Thus in such a sentence, involving no focus movement, the possible choices of focus—i.e., "the focus set" as determined by the SFCP—are the preverbal Prt, the Prt-V complex, the VP, or the whole sentence (which in the case of (2) happens to be identical to the VP under Szendrői's structure). The reason is that these are the constituents containing the main stress of the sentence. Now let us turn to examples (3a,b), repeated here as (5a,b), which involve "Focus movement" ((3b) also exhibits topicalization):

\[
\begin{align*}
(5) \text{a.} & \text{[FP [AZ UNOKAHÚGOMNAK] mutattam, [VP be t₁ Jánost t₂]]} \\
& \text{the niece.my.DAT showed.1SG in John.ACC} \\
& \text{'I introduced John TO MY NIECE.'}
\end{align*}
\]

\[
\begin{align*}
\text{b.} & \text{Jánost[t₁[FP [AZ UNOKAHÚGOMNAK] mutattam, [VP be t₁ t₂ t₃]]]} \\
& \text{John.ACC the niece.my.DAT showed.1SG in} \\
& \text{'John, I introduced TO MY NIECE.'}
\end{align*}
\]

The indirect object in its original post-V position would not receive main stress in these sentences, and consequently, would not constitute a possible choice for focus, i.e., it would not be a member of the focus set of the sentence as assigned by the SFCP (1). This is the reason why it can undergo stress-driven movement to the left periphery, namely, to the Spec position of the category F(unctional)P according to Szendrői's proposal; this category itself has a head that is supposedly "licensed" in some sense by
the raising of V. As a result of stress-driven movement, the indirect object in (5a,b) ends up being the leftmost (non-extrametrical) phonological phrase of the intonational phrase, and thus, receives main stress. Given this, interface economy correctly predicts that the focus set associated with such sentences will be the moved DP itself (and its subconstituents, if any, containing the main stress), but crucially not, for instance, the whole sentence (even though it contains the main stress as well). Since the latter would have been in the focus set of the sentence without the extra movement operations taking place (cf. the focus set of (2) above), this derivation is ruled out as an economy violation, leaving only the "narrow" (or "non-projecting") focus option for (5).

The major advantages attributed by Szendröi to the above stress-driven syntactic movement proposal for Hungarian Focus movement, in contrast to earlier LF/feature-driven accounts, are summarized in (6) below:

(6)

(a) The stress-driven movement hypothesis automatically accounts for why Hungarian focus movement is necessarily overt, while other movements driven by an LF interface need may be covert, such as QR in English.3

(b) It derives the fact that focus movement is to the left (rather than right) periphery.

(c) It accounts for the fact that only a single Focus constituent gets preposed, while other left-peripheral A-bar movements permit iteration, i.e., multiple topics and QPs are permitted to the left of V in Hungarian.

(d) It predicts that V–being generated in the left-edge position where main stress falls in Hungarian prosody–would not prepose when focused; the non-moving nature of focused V is confirmed, according to Szendröi, by the fact that focused verbs do not strand their verbal particles.

We will return to an evaluation of the above apparent benefits claimed to be associated with the stress-driven movement account later in the course of our discussion (see section 3.2). While reducing "Focus movements" of the Hungarian type to a direct consequence of clausal stress (via the SFCP) has some obvious intuitive appeal from a functional point of view, and it may at this point seem like a promising idea, closer examination reveals a number of serious conceptual as well as empirical problems with the proposal.

3. Hungarian "Focus Movement": against a stress-driven approach

3.1 Conceptual issues

3 In addition, this is claimed to account for a possibly related generalization in Hungarian: whereas universal/distributive quantifiers may appear either in a left-peripheral position, or in a post-verbal position no matter whether or not an additional QP is present in the clause, a Focus constituent allegedly appears in post-V position only if the pre-V left-peripheral position in its clause (where main stress falls in Hungarian) is occupied by another focused phrase. But see empirical evidence against the general validity of this statement regarding Focus in section 3.2.3.
Szendrői's proposal of stress-driven syntactic movement for the Hungarian Focus phenomena under discussion makes crucial use of the application of the relevant stress assignment algorithm to prosodic structures. Prosodic phrases are mapped from syntactic structure but are not isomorphic with it. The question then arises how can a syntactic movement operation taking place in the CS be driven by a property—namely the position of main stress as assigned by the version of the NSR operative in Hungarian—that is defined on prosodic, rather than syntactic structure. Such a syntactic movement account would need to assume "look-ahead" into what properties prosodic phrasing will have. Specifically, some look-ahead into the prosodic structure of the sentence would be necessary in order to know where the alleged stress-driven syntactic operation moves to, and in particular whether an adjoined position will suffice (as assumed for the case of topicalization), or movement will have to be substitution into the Spec position of a new pre-VP functional head. The latter functional category in turn needs to be constructed within the CS prior to the actual stress-driven Focus movement by an additional movement, namely V-raising, according to Szendrői's hypothesis. So V-raising itself constitutes an indirectly stress-driven operation that takes place only when needed to create a configuration permitting stress assignment to another element to be moved (namely to the constituent to be focused). Thus, the stress-driven syntactic movement proposal involves a prosody-based choice between merger of the moved phrase via adjunction vs. via substitution into Spec, and the needed option, namely movement to a Spec position, depends crucially on prior head-movement. This head movement–V-raising to an "empty" functional head position—in turn depends on the need for the creation of a new main stress position according to properties of prosodic structure and the NSR in Hungarian.4

All this apparatus of globality is supposed to be an alternative strategy—and actually the preferred choice in the Hungarian-type languages—to the shift of main stress, the mechanism of deriving new focus options in languages like English. Thus, the prima facie problematic claim central to Szendrői's proposal is that from the point of view of derivational economy, the two interdependent stress-driven movements with the accompanying look-ahead property are equivalent to an application of a stress-shift operation relocating main stress, and the choice between these equally (un) economical strategies for deriving previously unavailable foci for a sentence is a matter of parametric variation among languages.

A further question raised by the proposal is: why would the stress-driven movement strategy be preferred to stress-shift in some but not in other languages (i.e., Hungarian vs. English)? No answer is provided for the nature and way of setting of this kind of alleged parameter.

Another apparent shortcoming of the stress-driven movement proposal for Focus in Hungarian is that it leaves a prominent generalization about A-bar movements in Hungarian looking completely accidental. Namely, Hungarian has a variety of uncontroversially LF-driven (often analyzed as feature-driven) A-bar movements. These latter LF-motivated movements, such as the raising of various types of quantifier

4 Notice that it is not possible to claim that the V-raising which "creates" this functional projection takes place only in PF since the focused constituent clearly moves in narrow syntax.
phrases, are all overt in Hungarian, while the same are covert in the English-type languages (see Szabolcsi (1997)). So a parameter involving overt versus covert movement of quantified expressions distinguishing Hungarian and English is called for independently of Focus. Given this, it seems that the case of overt Focus movement in Hungarian is part of this pattern. However, since these additional overt movements cannot plausibly be argued to be stress-driven, it is hard to see how a purely stress-driven account of Focus movement could capture the clustering. Note also that this in effect eliminates the claimed benefit (6a) of the stress-driven movement proposal, which attributes the overtness of Focus movement to it being stress-driven; similarly, the fact that Focus-movement is leftward rather than rightward, cited in (6b), could no longer be evidence for it being stress-driven, since the set of LF-motivated overt QP movements of the language are also leftward movements. Thus the stress-driven movement account would suggest that overt Focus movement has nothing to do with the existence of a set of overt LF-induced QP movements in Hungarian, and would take the absence of both overt Focus movement and of overt quantifier movements in the English-type languages to be a mere coincidence.

3.2 Empirical problems
The PF/stress-driven movement hypothesis for Focus movement makes a number of predictions, which, as will be shown below, turn out to be incorrect.

3.2.1 ONLY vs. EVEN and association with Focus
Both the particles ONLY and EVEN are known to be particles involving association with Focus (see Jackendoff (1972), Rooth (1985)). Specifically, it is well-known that both of these "Focus-sensitive" particles require a Focus constituent within their c-command domain. Given this universal property, consider the Hungarian counterparts of ONLY, namely csak in (7), and contrast it with the Hungarian counterpart of EVEN, namely még ... is (lit. 'yet... also') in (8). In both sets of sentences the capitalized phrase bears the main stress.

   Mary only the reception. from late.PAST away
   'Mary was late only FOR THE RECEPTION.'

b. *Mari el-késett csak [A FOGADÁSRÓL].
   Mary away-late.PAST only the reception. from

   Mary only the reception. from away-late. PAST

d. *Mari csak el-késsett [A FOGADÁSRÓL].
   Mary only away-late. PAST the reception. from

(8) a. Mari el-késsett még [AZ ESKÜVŐJÉRŐL] is.
   Mary away-late. PAST yet the wedding. her. from also
   'Mary was late even FROM HER THE WEDDING.'
b. Mari még [AZ ESKÜVŐJÉRŐL] is el-késett.
   Mary yet the wedding.her.from also away-late. PAST
   'Mary was late even FROM HER WEDDING.'

c. *Mari még [AZ ESKÜVŐJÉRŐL] is késett el.
   Mary yet the wedding.her.from also late. PAST away

The pattern of ONLY shown in (7) is consistent with the assumption that Hungarian Focus is dependent on the alleged "Focus movement" operation, since the constituent associated with csak 'only' is indeed obligatorily preposed from its post-V position, and also the preposing necessarily co-occurs with a V-Prt order. However, this case contrasts in an unexpected way with the syntactic behavior of EVEN phrases in the language, as shown in (8). The grammatical examples (8a,b) involve no Focus movement—as shown by the post-V position of the Focus constituent associated with még ... is 'even' in (8a) and the lack of V-raising, i.e., the Prt-V order in (8b). Since EVEN, just like ONLY, requires association with Focus, the grammaticality of (8a,b) contradicts the claim that Focus of a post-V constituent in Hungarian necessarily involves movement to the left-peripheral main stress position. Moreover, the ungrammaticality of (8c) indicates that in spite of the presence of the focus sensitive particle EVEN, Focus-moving of the phrase it associates with is in fact prohibited. The alternative non-stress-driven proposal for Focus movement put forward originally in Horvath (1997, 2000) will be shown to account for this systematic contrast (see section 4 below).

3.2.2 Focus-moved constituents without main stress

A variety of left peripheral elements, such as preposed universally quantified phrases and negative elements, may appear in the clause preceding a Focus-moved phrase (see (9a)). These may, and in some contexts must, bear main stress. Crucially, in such sentences the phrase that underwent "Focus preposing" fails to exhibit main stress, which constitutes prima facie clear counterevidence for the stress-driven movement theory.

Notice that in examples (9a,b) the main stress of the clause is obligatorily on the universally quantified phrase minden fiú, and specifically on minden 'every':

(9) a. MINDEN fiú [Marit] kérté fel t táncolni, nem csak a
every boy.NOM Mary.ACC asked up dance.INF not only the
   barátja.
   friend.her.NOM
   'for all x, x a boy, it was Mary that x asked to dance, not only for her boyfriend
   (was it Mary that he asked to dance)'

b. MINDEN fiú fel-kérte Marit táncolni, nem csak a
every boy.NOM up-asked Mary.ACC dance.INF not only the
   barátja.
   friend.her.NOM
'for all x, x a boy, x asked Mary to dance, not only her boyfriend (asked Mary to dance)'

Importantly, the difference in the position of V in relation to the Prt in (9a) vs. (9b) indicates that it is the preposed constituent Marit that triggers V-raising characteristic of Focus preposing in (9a) rather than the (preposed) QP MINDEN fiú. So in (9a), we see clear evidence that "Focus movement" has applied to the direct object phrase Marit, yet the phrase bears no main stress. Notice, furthermore, that this phrase in fact is not the Focus of sentence (9a), rather the phrase MINDEN fiú 'every boy' (or MINDEN) is, as expected under the PF-interface theory of Focus. Thus a stress-driven movement account for Hungarian Focus would face a serious problem in such cases.

One might try to counter this problem by assuming that stress is assigned at the left edge successively after every movement targeting the left edge, thus each such movement resulting in reassignment of main stress to the last moved element and destressing of the one to its right. This version of stress assignment, crucially applying after individual movement operations in the course of the syntactic derivation—not after the derivation of the whole sentence, and not even after each completed phase (in the sense of Chomsky (2001))—would, however, be contrary to well-motivated views regarding the domain that rules of prosody apply to. Moreover, if such a hypothesis were still adopted in order to account for cases like (9a), the claimed benefit of the stress-based account cited in (6c) would disappear, and a wrong prediction would be made; namely, if main stress could motivate movement and then get reassigned to another subsequently moved phrase in the derivation, then multiple Focus movement, i.e., iteration of Focus in the pre-V position of Hungarian, would in fact become possible, contrary to fact.

3.2.3 Cases of in situ Focus in Hungarian

Wh-question and answer pairs constitute the standard way, used also by Szendrői (2003), to induce Focus on particular constituents. Answers to wh-questions in Hungarian indeed seem to exhibit the phrase which corresponds to the variable bound by the wh-operator of the question in the pre-V Focus position, indicating that the phrase interpreted as the Focus of the answer has undergone "Focus movement". Given that (normal) answers to wh-questions always supply a Focus phrase, and that Focus is dependent on main stress falling on the particular constituent, the prediction of the stress-driven Focus movement approach is that in all such answers to Hungarian wh-questions, the Focus constituent will have undergone stress-driven Focus movement (unless it already occupied the main stress position of the clause, as in the case of V being the Focus).

But, on closer examination, it turns out that the language has answers to wh-questions that crucially do not undergo Focus movement, in spite of their being the Focus of the sentence (see also Roberts 1998). Furthermore, it will become apparent that the sets of cases with vs. without Focus movement are not random. Consider, for instance, the following question-answer pairs:

(10) Q: Hol tudhatnám meg a vonatok menetrendjét?
where know.can.COND.1SG PERF(PRT) the trains' schedule.POSS.ACC
'Where could I find out about the train schedule?'

A: Meg-tudhatod (például) AZ INTERNETEN
PERF(PRT)-know.can.2SG.DEF.OBJ (for example) the internet.on
(vagy TELEFONON is).
or phone.on also
'You could find out about it on the internet (or also by phone).'

(11) Q: Kiket hívott már meg Anna?
who.PL.ACC invitedalready PERF(PRT) Anna
'Who has Anna (already) invited?'

A: (Valószínűleg) meg-hívta KATIT ÉS PÉTERT,
Probably PERF(PRT)-invited.3SG.DEF.OBJ Cathy.ACC and Peter.ACC
és talán MARIT is.
and perhaps Mary.ACC also
'(Probably) she has invited Cathy and Peter, and perhaps also Mary.'

The natural question to ask here is: what distinguishes the above sentence type containing a post-V Focus from the standard type of Focus sentence in Hungarian where the Focus constituent (if not V or some projection of V constituting the default Focus set) must appear in pre-V position, having undergone the widely known overt "Focus movement" operation.

As noted already in earlier work (see É. Kiss (1998), Horvath (1997, 2000)), the observed distinction between the two types of Focus sentences has to do with exhaustive identification of the relevant subset of the possible alternatives in examples like (3) and (7) involving "Focus movement", as opposed to the absence of such identification (e.g., only a partial, non-exhaustive identification of members of the relevant subset) in the post-V Focus cases (10) and (11). Crucially, in cases where there is explicitly no need or possibility for exhaustive specification in the answer—due to the pragmatics of the situation, such as sufficiency of supplying one instance of the relevant subset of values (as in (10)), or due to the lack of exhaustive knowledge of the full subset needed for the answer, as in (11) (usually indicated explicitly by the speaker)—then no preposing of the Focus phrase is needed, or is appropriate, in the response. This is what is captured under Horvath's (1997, 2000) proposal by the postulated quantification Exhaustive Identification (EI) operator that is claimed to drive the alleged "Focus movement" in Hungarian (on this alternative account, see section 4 below). Since the phrases supplied as answers in the wh-question/answer pairs in (10) and (11) clearly constitute the Focus of their respective sentences, yet they appear in their original post-V position, they provide further counter-evidence to the stress-driven Focus movement hypothesis of Szendrői (2003).

3.2.4 Focusing of verbal projections
A further prediction of Szendrői's stress-driven movement proposal for Hungarian Focus involves the way the verb, or the Prt-V complex, gets focused, in contrast to the
way post-V phrases get focused. As pointed out above in (6d), since the verb (or Prt-V complex) is generated in the left-edge position where main clausal stress is assigned in Hungarian prosody, it is predicted, according to Szendrői (2003), not to prepose when focused, but to get Focus interpretation in situ. She provides empirical support for the correctness of this prediction by noting the fact that for most speakers, focused verbs do not strand their verbal particles in cases such as (12a, b) (for some speakers they can, but only marginally, as pointed out by Szendrői in fn.14).

(12) a. Péter KI-SZALADT, nem KI-MENT.
   Peter out-ran not out-walked
   'Peter RAN OUT (not walked out)'.

   b. ?Péter SZALADT ki, nem MENT ki.
   Peter ran out not walked out

Importantly, this is in contrast with the fact that verbs obligatorily strand their particles under V-to-F raising postulated for cases of Focus movement of post-V phrases to Spec of FP (e.g., see (3a) vs. (3d)).

While it indeed seems justified to conclude that focusing of V, as in (12), does not involve head movement to F, this—contrary to Szendrői’s claim—still does not mean that the reason for the lack of (bare) V-preposing for focusing of V is necessarily the fact that it already is in the position of main stress, and hence Focus movement, being stress-driven, cannot apply to it. Evidence that there may be another reason for the lack of V movement to F in cases like (12) is provided by data involving focusing of an embedded verb with respect to a matrix clause, rather than in monoclausal examples. Compare the non-focused verb in the embedded clause of (13a), and its potential ways of being the Focus of the matrix clause (13b) vs. (13c):

(13) a. Nehéz volt [át-ugrani ezen a kerítésen].
   difficult was over-jump.INF this.on the fence.on
   'It was difficult to jump over this fence.'

   b. ÁT-UGRANI volt nehéz [t ezen a kerítésen] (nem ÁT-MÁSZNI).
   over-jump.INF was difficult this.on the fence.on not over-climb.INF
   'It was difficult TO JUMP OVER this fence (not TO CLIMB OVER).'

   c. *UGRANI volt nehéz/nehéz volt [át t ezen a kerítésen],
   jump.INF was difficult/difficult was over this.on the fence.on
   (nem MÁSZNI (át)).
   not climb. jump.INF over

Here we find the same pattern as in (12), namely, the verb does not strand its particle as shown in (13c). Yet it is clear in the case of (13) that "Focus movement" has taken place. This fact then at least raises the possibility that in (12) too, the reason for the lack of particle stranding by V is not its having to stay in situ due to being assigned main stress in situ, as suggested by Szendrői. Rather there could be some independent reason,
shared by (12) and (13), for the verb not stranding its particle when focused. This reason may well be that in fact "Focus movement" cannot be head movement, but must be phrasal movement, in this case, movement of a (remnant) VP. The conclusion that there could be no "Focus movement" of heads, only of XPs follows naturally under the EI-operator-based alternative proposal of Horvath (1997, 2000), to be presented in section 4 below. (The claim that Focus movement is only phrasal has been argued for independently in Koopman and Szabolcsi (2000).)

More importantly, there appears to be empirical evidence pointing in the direction that some V-projection, possibly a remnant VP, can in fact undergo "Focus-movement" not only in cases like (13), but in simple clauses as well. Notice that this would be clearly contrary to what one would expect under Szendrői's stress-driven movement hypothesis. The evidence involves the distribution of the adverbial csak 'only' in relation to Focus constituents. Consider (14) and (15) below:

**Csak with DP Focus:**
(14) a. Csak A KERÍTÉSEN; másztunk át t._i_.
          only the fence.on climbed.1PL over
       'We only climbed over THE FENCE.'

       b. A KERÍTÉSEN; másztunk csak át t._i_.
          the fence.on climbed.1PL only over
       'We only climbed over THE FENCE.'

**Csak with V(P) Focus:**
(15) a. Csak ĀT-MÁSZTUNK a keritésen (nem ĀT-UGROTTUNK).
             only over-climbed.1PL the fence.on not over-jumped.1PL
       'We only CLIMBED over the fence (not JUMPED).'

       b. ĀT-MÁSZTUNK csak a keritésen (nem ĀT-UGROTTUNK).
          over-climbed.1PL only the fence.on not over-jumped.1PL
       'We only CLIMBED over the fence (not JUMPED).'

In (14) where DP (a keritésen) has uncontroversially undergone "Focus movement" from a post-V position, we see that this Focus phrase can either occur with csak preceding it (in pre-V position), as in (14a), or alternatively it can move to the pre-V position "leaving" csak behind, as in (14b). Without getting into the actual analysis of the alternation in the position of csak (this being undertaken in work in progress), the important fact to note in the present context is that the two alternative options exhibited by DP Focus in (14a,b) regarding csak are attested in a fully parallel manner in the case when the Prt-V complex is the Focus, as in (15a,b).³ (14b) exhibits the option of csak

³ An anonymous referee notes that he/she finds (15b) "marginal at best". While I do not share this intuition, it is possible that for some set of speakers (15b) is less than fully acceptable. It is worth pointing out, though, that this effect may turn out to be due simply to interference from the possibility in (15b) of trying to take the phrase following csak 'only' (rather than the verb preceding it) to be associated with it. If so, the same sentence (15b) modified minimally so that the former option is eliminated, e.g., by having the phrase a keritésen topicalized (as in (i) below), would be expected to become acceptable even for the latter group of speakers.
following both the Focus-moved phrase, and also the verb (allegedly raised by V-to-F to license the head); presumably this order is due to the two elements having moved past csak, or less likely, csak has been attached to the Focus phrase, and the latter has stranded it when undergoing Focus movement. Given either scenario, the parallel pattern found in (15) in relation to the focused Prt-V complex (possibly remnant VP) indicates that this constituent too has undergone overt preposing, namely Focus movement, similarly to focused DPs.

Now, notice that Szendröi's stress-driven syntactic movement hypothesis for Hungarian predicts that no V-projection could undergo Focus movement in simple clauses such as (15), since these constituents—in contrast to phrases occurring in post-V position—would contain the main stress of the clause as assigned by the unmarked stress-assignment rule (NSR) of Hungarian prosody. Thus, the above pattern, in particular the parallel between (14b) and (15b) in the relative position of Focus and csak suggesting that the Prt-V complex does undergo "Focus movement", constitutes prima facie evidence against the stress-driven movement proposal.

3.2.5 Ellipsis evidence: FOCUS and V-raising to F

A final problem to be noted involves the idea of the empty functional head F needed for creating a Spec position that serves as the landing site for the stress-driven movement under Szendröi's hypothesis. In particular, the claim is that this category is crucially "licensed" by V-raising (thus accounting for the obligatory FOCUS-V-Prt order in examples with Focus movement, such as (3a) vs. (3d)). Notice, however, that the following pattern of data involving full (16a) and elliptical (16b) answers to wh-questions poses an obvious problem for this claim:

(16) Q: Kit hívott meg Mari?
   who.ACC called.3SG PERF(PRT) Mary.NOM
   'Who did Mary invite?'

a. A: (AZT mondta hogy) PÉTERT hívt meg.
   it.ACC said3SG that Peter.ACC called3SG PERF(PRT)
   '(She said that) she invited PETER.'

b. A: (AZT mondta hogy) PÉTERT.
   it.ACC said3SG that Peter.ACC
   '(She said that) PETER.'

What we see above, (both in main and embedded clauses) is that "Focus movement" has applied, and in (16b) the rest of the clause has been deleted under an ellipsis process strikingly parallel to cases of sluicing, the latter involving Wh-movement

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(i) A kerítéseen ÁT-MÁSZTUNK csak (nem ÁT-UGROTTUNK).
   the fence.on over-climbed.1PL only not over-jumped.1PL
   '(The fence, we only CLIMBED over (not JUMPED over).')
followed by IP ellipsis (such as in English wh-questions like *She invited someone, but I don't know who.*)

Given the well-motivated assumptions (see Lasnik (1999)) that sluicing and other ellipsis processes (a) involve PF-deletion of destressed material, and (b) affect only maximal projections, the ellipsis process demonstrated in (16b) leaving behind only the Focus phrase PÉTERT shows that in this case, unlike in the corresponding full answer (16a), (overt) V-to-F movement has not applied; if it had, then the XP constituent deleted at PF—namely VP, under Szendrői's clause structure—would not have included the verb. Thus in (16b), V must have stayed in the VP, and hence V-raising to F could not be involved in licensing the projection (FP) whose Spec is crucial to serve as the landing site of "Focus movement" under the stress-driven movement theory. Moreover, V-raising to F not only turns out not to be required (as shown in (16b)), but in fact is shown to be impossible, according to the evidence of the ungrammaticality of the elliptical answer in (17) (cf. (16a,b)):

(17) A: *PÉTERT hívta. /*AZT mondta, hogy PÉTERT hívta.
Peter.ACC called.3SG /it. ACC said.3SG that Peter.ACC called.3SG

While the apparent absence of V-raising to the head position of the clausal projection whose Spec is the position of Focus calls for an alternative account for the observed strict adjacency between a "Focus-moved" phrase and the (finite) V under any theory, Szendrői's stress-based movement proposal is directly contradicted by this finding. The very existence of her FP projection, and hence the Spec position where the moved constituent may receive main stress in Hungarian prosody (adjointed elements being claimed to be extrametrical) depends on V-to-F movement licensing the otherwise contentless head of FP. In light of (16)-(17), it is untenable to claim that "Focus movement" crucially involves V-raising in order to project an otherwise "headless" FP.

4. Stress-based Focus without stress-driven movement: a quantificational account of Hungarian "Focus movement"

In view of the above conceptual and empirical problems inherent in the proposal of stress-driven Focus movement for Hungarian that render it untenable, the question to address next is: Do we then need to give up on the conceptually and empirically desirable PF/stress-based theory of Focus developed within Reinhart's interface economy approach and return to a syntactically encoded treatment, based on a formal feature [+Focus]? Interestingly, the answer is no.

In fact, it is not only possible but well-motivated to (a) reject the stress-driven movement idea for Focus in Hungarian contra Szendrői, and at the same time (b) maintain that there is no encoding for Focus in the CS, and treat it exclusively as an interface notion. The key to this prima facie paradoxical position is a hypothesis put forward originally in Horvath (1997, 2000). According to this proposal, even though Hungarian "Focus movement" is an operation within narrow syntax, it is not driven by a [+Focus] feature, the latter being not only inconsistent with the null hypothesis about Focus as a purely stress-based interface phenomenon, but in fact empirically inadequate for the case of the alleged "Focus movement". Instead, Horvath (1997, 2000) postulated
a quantificational, phonologically null "Exhaustive Identification" (EI) operator, and argued that it is actually the EI operator feature, projecting a clausal functional head, that is the driving force behind the syntactic movement that had mistakenly been construed in previous work on Hungarian to be Focus(-driven) movement.

The need for an EI operator is motivated first of all on the basis of earlier observations in the literature regarding Hungarian Focus movement and its interpretation (see in particular Szabolcsi (1981)). As shown, for instance, in cases like (18a) below, Hungarian pre-V Focus has a distinct, exhaustive identification meaning that manifests itself in truth-conditional effects; this is in contrast to what we find in the corresponding English in situ Focus sentences like that in (18b):

invited.3PL PERF(PRT)
'It's not JOHN that they invited, it's JOHN AND MARY (that they invited).'

b. #They didn't invite JOHN, but invited JOHN AND MARY.

The non-contradictory nature of the coordination in (18a) indicates that what is negated in the first conjunct is precisely the exhaustiveness of the identification of the subset, namely JÁNOST 'John'. In contrast, the corresponding English in situ ("prosodic"/"information") Focus example (18b) is contradictory, since the assertion that they invited JOHN AND MARY has the logical consequence that they invited JOHN, and this is what gets negated; so in (18b) there is Focus, but crucially, it does not involve exhaustive identification. An informal semantic characterization of the relevant notion of exhaustive identification crucially involving—at least in Hungarian—"exclusion" by identification, as noted by Kenesei (1986), is given below (adapted from É. Kiss's (1998, p. 249) characterization of her "identificational focus"):

(19) **Exhaustive Identification** (EI):

EI operates on a set of contextually or pragmatically given elements for which the predicate phrase can potentially hold; it identifies the exhaustive proper subset of this set for which the predicate phrase actually holds.

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6 The observation of "exhaustive identification" (or "exclusion by identification") interpretation associated with the Hungarian pre-V position (see Szabolcsi (1981), Kenesei (1986)) and the lack of it in cases like English in situ Focus led É. Kiss (1998) to postulate two distinct types of Focus: identificational focus versus information focus. The split between two types of Focus (proposed also by Rochemont (1986)) has the undesirable effect of introducing an unexplained duplication given that the two alleged Foci manifest the same stress-related properties, such as crucially involving main stress and identical conditions governing the availability and interpretive consequences of stress-shifts (this is demonstrated in Horváth (1997, 2000)). The present proposal eliminates the unexplained overlap of stress properties, and maintains a single unified notion of Focus that crucially is determined by stress, as under Reinhart's (1995) interface theory.
Importantly, the relation of the EI-operator construction to Focus is only indirect under Horvath's (1997, 2000) proposal; namely, it is captured as a case of "association with Focus" (in the sense of Jackendoff (1972), Rooth (1985)), so that the EI operator is taken to be similar in this respect to Focus-sensitive operators such as ONLY and EVEN. It is this alternative, quantificational account of the syntactic movement operation previously construed as "Focus movement" that I would like to adopt here as an alternative to the stress-driven movement proposal.

Before comparing this approach with the stress-driven movement approach with respect to its handling the phenomena discussed in the preceding sections, it is necessary to briefly summarize the major elements of this EI-operator proposal for the (alleged) "Focus movement" of Hungarian:

(20) a. Assume that there is an exhaustive identification (EI) operator, and a clausal functional head EI that encodes and attracts an EI-operator feature into its Spec position (SpecEIP). The feature being [+strong], the movement applies prior to Spell-Out. This parallels for instance the case of (distributive) quantifier phrases in Hungarian, which also undergo overt checking-driven movement (see Szabolcsi (1994, 1997)).

b. The EI operator—able to enter into a checking relation with the strong feature of the clausal head EI—is merged into structure as the specifier of DP (and possibly of other XP categories, notably PP and VP). (This is reminiscent of Tsai's (1994) proposal for the Question operator in Japanese.) Accordingly, movement of the EI-operator pied-pipes the phrase whose specifier it occurs in.

c. The EI-operator requires the presence of (stress-based prosodic/information) Focus within its c-command domain, just like ONLY and EVEN do within theirs; hence the apparent "Focus-phrase" nature of the preposed constituent.

The structure for "Focus movement" according to Horvath (1997, 2000) is schematized below (the asterisk indicates main stress):

(21)

```
CP
   \    
     EIP
      / \
     /   \  
    /     \  
   /       \  
  /         \  
 /           \  
... * ...  ... t_1 ...
```

Given the alternative proposal sketched above, we can turn to a systematic comparison of the stress-based movement approach with the EI-operator-based (quantificational) movement approach to the phenomena of Hungarian "Focus movement".
Notice, first of all, that the phenomena presented in sections 3.2.1 and 3.2.3 above provide direct evidence not only against movement being motivated by the position of main stress assignment (the latter needed for Focus interpretation), but crucially, in support of the claim that it is actually the presence of the EI clausal head, needing an EI-operator to enter into a checking relation with it in SpecEIP, that drives the alleged "Focus movement".

Starting with section 3.2.1, consider the distribution of the Hungarian counterparts of the two well-known Focus-sensitive particles–ONLY and EVEN–both involving "association with Focus" in the sense of Jackendoff (1972) and Rooth (1985). As we saw in (7) and (8) above, only the examples with csak 'only' display the need for movement to the pre-V position, expected of all Focus phrases under Szendrői's stress-driven movement proposal for Hungarian Focus. Crucially, phrases with még...is 'even', while obviously Focus, do not appear in the pre-V alleged "Focus" position (as shown in (8)). The hypothesis of EI-operator-based movement correctly accounts for the distinct syntactic distribution of the two. The semantic import of ONLY requires the identification of a proper subset of the potentially relevant values to be exhaustive, hence involves the EI operator feature, whereas the meaning of EVEN is crucially incompatible with this notion. It involves no exclusion of any member of the relevant set as required by EI (19), it can only add a member to that set. (On this semantic distinction, see also É. Kiss (1998).) Thus the specific contrast in the behavior of ONLY-phrases versus EVEN-phrases in Hungarian clearly indicates (a) that Focus, or need of main stress, itself does not drive movement to the pre-V position in Hungarian, and (b) that in fact it is the notion of exhaustive identification, including the notion of "exclusion" by identification (as stated in (19) based on Kenesei (1986)), that is crucial for triggering the movement under discussion (see also Horvath (1997, 2000)).

As further evidence in favor of the EI-operator-based account, recall the facts presented in section 3.2.3. Examples (10)-(11) involved a set of answers to wh-questions in which the Focus constituent, bearing main stress, appeared in post-V position rather than in the expected pre-V "Focus" position. This obvious counterevidence for the stress-driven movement proposal for Focus falls in place naturally under the above EI-operator-based proposal for the alleged "Focus-movement". Notice that the crucial difference between the answers in (10)-(11) and other answers to wh-questions that do involve preposing to pre-V position (e.g., (3a)) is that in the former cases–i.e., in those without preposing–the answer is crucially nonexhaustive, as is indicated explicitly by the morphemes például 'for example' or XP vagy/és talán XP is 'XP or/and perhaps XP too'. In contrast, if no such indication for the (pragmatically or otherwise induced) incompleteness, i.e., nonexhaustiveness, of the answer is given, then the answer is expected to provide, and indeed does provide, exhaustive identification of the relevant subset for which the predicate holds. It is precisely the latter type of cases that exhibit movement to the pre-V putative "Focus" position.

Beyond the above two types of direct evidence in support of our claim that the trigger for the alleged "Focus movement" of Hungarian is the EI-operator feature rather than Focus or main stress, consider next the set of facts we pointed out in section 3.2.2. As
an additional kind of empirical evidence against the stress-driven movement proposal, we presented the data in (9a,b), repeated here as (22a,b).

(22) a. MINDEN fiú [Marit] kérte fel t táncolni, nem csak a every boy.NOM Mary.ACC asked up dance.INF not only the barátja. friend.her.NOM

'for all x, x a boy, it was Mary that x asked to dance, not only for her boyfriend (was it Mary that he asked to dance)'

b. MINDEN fiú fel-kérte Marit táncolni, nem csak a. every boy.NOM up-asked Mary.ACC dance.INF not only the barátja friend.her.NOM

'for all x, x a boy, x asked Mary to dance, not only her boyfriend (asked Mary to dance)'

Notice that example (22a) (=9a) was argued in section 3.2.2 to represent a class of data where some quantified phrase (here MINDEN fiú 'every boy') bears main stress and functions as the Focus of the sentence, yet the sentence exhibits "Focus movement" having applied not to the latter phrase, but rather to another phrase (namely, Marit 'Mary-Acc'), which crucially is not the bearer of main clausal stress, and hence could not be the Focus of the sentence under the PF-interface-based theory. As discussed in section 3.2.2 above, movement of a phrase to the pre-V alleged "Focus" position which does not end up bearing main stress, and which indeed is not the Focus of the clause, poses a serious problem for a stress-driven movement account. In contrast, consider now our alternative EI-driven account. Given that the movement to pre-V position is claimed to be driven neither by stress nor by Focus (as a feature), but rather by the presence of the EI-operator in the phrase and by the EI clausal head, there is in fact no expectation that every time preposing to the pre-V position applies to some phrase that phrase will necessarily end up bearing main stress and hence be the Focus of the sentence. What is predicted by this proposal is that the preposed phrase will have the import of exhaustive identification (in the sense of (19)). Thus, this approach to "Focus movement", unlike the stress-driven approach, is able to anticipate and account for the existence of cases such as (22).

The specific issue that still remains to be addressed within the EI-operator-based movement account of data like (22) is the precise relation between the EI-operator phrase moved to pre-V (SpecEIP) position and main stress assignment with the resulting Focus interpretation. Our proposal outlined in (20) claimed that the EI operator is parallel to Focus sensitive elements like ONLY and EVEN in that it too "requires the presence of (stress-based prosodic/information) Focus within its c-command domain", i.e., that EI involves association with Focus (see (20c)). This generally valid requirement of EI is prima facie contradicted by the grammaticality of cases like (22a), where the preposed EI-operator phrase Marit does not exhibit main stress and hence Focus. A precise account of this fact is a task that will need to be undertaken in subsequent work; it presumably will involve the option of subsequent
stress-shift and destressing induced in (22) by the additional quantificational element ('every boy') occurring to the left of the preposed EI-operator phrase. But whatever the exact account turns out to be, notice that the phenomenon is not unique to the EI-operator, and hence it by no means invalidates or calls for changing the essence of our proposal. Specifically, precisely the same phenomenon of apparent stress-shift–and corresponding shift of Focus–as we see in (22a) is also attested in the well-established cases of association with Focus, such as ONLY and EVEN phrases. This parallel is exemplified for the case of English ONLY in (23) below. Though Mary occurs in the domain of ONLY, it still fails to bear main stress in the particular sentence, and instead it is the subject JOHN that has main stress and is interpreted as the Focus of the sentence.

(23) JOHN danced only with Mary, not PETER.

(23) as well as (22) suggest that the relation between Focus-sensitive operators and Focus—the latter determined by main stress—is a dynamic relation (rather than some output condition), and whether or not it actually is manifested on the surface is determined by the application of possible (further) shifts in main stress, and hence of Focus, as appropriate for the particular discourse context the sentence is used in. The generalization relevant for the postulated EI-operator appears to be that main clausal stress must be on an element of the EI-Op phrase pied-piped to the pre-V SpecEIP position whenever this phrase constitutes the main assertion of the sentence. But under certain circumstances, some other phrase in the sentence, as for instance the distributive QP MINDEN fiu taking wide scope over the EI-Op phrase in (22a), may bear main stress and when it does, it constitutes the main assertion of the clause; in that case, the EI-Op phrase is destressed, and fails to act as the Focus of the sentence. So the EI-based account correctly predicts that main clausal stress may fail to coincide with the target position of the alleged "Focus movement": cases such as (22a) manifest instances of what had earlier been regarded as "Focus movement", however with an exhaustive identification meaning, and crucially, with no main stress (and no Focus interpretation) on the preposed constituent.7

In sum, what we found based on the phenomena discussed in this section is the following: (a) there is a correlation between XP movement to the pre-V position (former "Focus movement") and an exhaustive identification operation (described in (19)), and (b) there is a correlation between main stress and the main assertion (information Focus) of the sentence; but crucially (c) there is no necessary correlation between main stress and XP preposing to the pre-V position. Often the preposed EI-Op phrase is indeed the main assertion of the sentence and accordingly bears main stress, but not always (as in (22a)), and often the element bearing main stress, and interpreted as Focus, is associated with exhaustive identification (EI-Op)–and gets preposed–but not always (as shown by (8a), (10) and (11)). These facts have led to the conclusion that the movement under discussion cannot be stress-driven, i.e., it is not induced by the location of (unshifted) main stress in the Hungarian clause, contra Szendrői's

7 If shift of main stress away from a preposed EI-phrase is indeed possible under some circumstances, as shown in (22a), then the uniqueness of main stress in itself would not to be able to account for the limitation (noted in (6c)) that only a single EI-phrase can occur in pre-V position.
proposal. Yet, it is necessary to point out here that our conclusion by no means implies that the location of main clausal stress in Hungarian could not play a role in the surface distribution of El-operator phrases in some less fundamental way. For instance, the leftward-oriented nature of Hungarian clausal stress may turn out to be relevant for the issue alluded to in note 3, namely, why a clause with a single El-phrase must exhibit this phrase uniformly in pre-V position, while a clause with a single distributive QP, in contrast, may exhibit it either in preverbal or in postverbal position (see Szabolcsi (1997) for a feature-checking account of quantifier positions, and Brody and Szabolcsi (2003) on the preverbal/postverbal variation in the surface position of particular QPs).

Finally, it should be noted that the quantificational El-operator-based view of the alleged "Focus movement" advanced here fits well with the observation made at the end of section 3.1 that beyond the case of "Focus movement", Hungarian has a whole cluster of overt movements that involve quantificational operators (see Szabolcsi (1994, 1997)) and that this contrasts with the English-type languages, where neither overt QP movements nor overt "Focus movement" seem to be attested. Under the El-operator-movement approach, but not under a stress-driven movement approach, this contrast of Hungarian versus English could potentially be integrated into a single parametric difference involving the presence/absence of overt QP movements.

5. Conclusion

The present paper has taken as a point of departure the desirable minimal assumption that the notion of Focus is not encoded in the CS but is a purely stress-based interface phenomenon (as proposed in Reinhart's (1995) interface economy framework). It set out to evaluate available analyses of a type of phenomenon that poses possibly the most significant challenge for such an interface-based approach to Focus, specifically, the well-known case of syntactic "Focus movement" as instantiated in Hungarian. This uncontrovertially syntactic movement, exhibiting properties parallel to wh-movement, was until recently standardly analyzed as movement to a functional projection FP, triggered by the formal feature [+Focus]. Since it relies crucially on the syntactic encoding of Focus, such an analysis is unavailable under the stress-based interface treatment of Focus.

The main question addressed in the paper has been whether Hungarian "Focus movement" is possibly an instance of non-feature-driven syntactic movement triggered crucially by a PF property, namely by the (left-edge) position of non-shifted main clausal stress in the language, as proposed in recent work by Szendrői (2003). Szendrői's claim that movement of the focus constituent to the left periphery in Hungarian is driven by the requirement that a focused constituent bear main stress was examined in detail and has been found to be inadequate, based on a variety of evidence (section 3). Instead, we have argued for an alternative, quantificational conception and account for the alleged "Focus movement" of Hungarian (section 4), based on a proposal developed originally in Horváth (1997, 2000). The latter proposal crucially maintains Reinhart's purely stress-based interface economy theory of Focus, just like the stress-driven movement hypothesis did, and in contrast to the latter, it arguably provides an adequate account for the pattern of empirical phenomena observed. Under
this proposal, the relevant syntactic movement is driven by an operator feature of
exhaustive identification EI which interacts with Focus (determined by stress) only
indirectly, namely via the EI-Op's property of "association with Focus", in a way
parallel to elements like ONLY or EVEN.

Having concluded that in spite of the initial appeal of the hypothesis, Hungarian "Focus
movement" in fact cannot be stress-driven, this phenomenon then fails to substantiate
the intriguing possibility raised at the outset that there may be optional, i.e., non-
feature-driven, syntactic movements triggered by PF-properties like stress, and that
such a movement may serve as an alternative to optional stress-shift, both being
permitted subject to conditions of interface economy. Now does this mean that stress-
driven syntactic movements indeed do not exist? Of course, the answer is no.
Nevertheless, the case of Hungarian assessed in the paper does provide some strong
indication in that direction. The reason is that Hungarian "Focus movement"
constituted a prima facie extremely likely candidate for being stress-driven, due
primarily to the correlation between the leftward-oriented phrasal stress of the language
and the particular left-peripheral landing site of its alleged "Focus movement". Notice
that this is in contrast to some other known cases of "Focus movement", such as the
putative contrastive Focus preposing of Italian analyzed by Rizzi (1997). In the latter
case, there is a clear discrepancy between the main stress position in Italian being at the
right edge (most deeply embedded position) of the clause, as demonstrated by Cinque
(1993) and the landing site of movement being at the left periphery of the clause (see
Rizzi (1997)). This discrepancy makes it impossible to even entertain a stress-driven
movement hypothesis for the case of Italian (contrastive) "Focus movement". The fact
that in spite of its initial plausibility for the case of Hungarian, a stress-driven
movement account has eventually turned out to be untenable in this language raises
serious doubts about whether such movements may exist at all. It remains for future
research (a) to explore the trigger for, and the theoretical implications of, other putative
"Focus" movements attested across languages, and (b) to delineate the potential role of
stress in triggering syntactic movement operations (if any) and the role of stress on the
particular spell-out options available for syntactic chains.8

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8 For an interesting, highly restrictive hypothesis about the nature of prosodically driven syntactic
movements which would clearly rule out proposals such a Szendrői's (2003) stress-driven Focus-
movement, see Zubizarreta (1998).


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