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THEORETICAL LINGUISTICS PROGRAMME, BUDAPEST UNIVERSITY (ELTE)

# THE FOCUS OPERATOR AND INFORMATION FOCUS

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## 0. Introduction

In this paper, I will put forth two major claims. First I will argue that the Focus Operator (sometimes also called contrastive focus) and Information Focus (also called presentational focus) have to be consistently distinguished in language description, as they have radically different syntactic and semantic properties.<sup>1</sup> Then I will show that the Focus Operator itself is not uniform across languages, either; it is associated with different subsets of a set of semantic features.

Section 1 of the paper will demonstrate that the Focus Operator and Information Focus are often mingled in language description. Section 2 will argue for the necessity of their differentiation on Hungarian material, contrasting the syntactic and semantic properties of the Focus Operator with those of Information Focus. Section 3 will extend the distinction established on the basis of Hungarian to English, claiming that the Focus Operator is realized in English as a cleft constituent. Section 4 will discuss the relation of the Focus Operator to such focusing operators as only. Finally, section 5 will compare the feature content of the Hungarian and English Focus Operators with the feature content of their Italian, Rumanian, Catalan, Greek, Arabic, and Finnish counterparts.

## 1. A missing distinction

The distinction between two types of focus: the Focus Operator, contrasting the subset of a set of alternatives for which the predicate holds with the complement subset for which the

predicate does not hold, and Information Focus, conveying new information, can be traced back to at least Halliday (1967); still it is often not observed in the description of particular languages; either Information Focus is assimilated to the Focus Operator, or the Focus Operator is assimilated to Information Focus. The former has occurred, among others, in the case of languages with a structural focus position in the syntactic framework assuming a focus projection (FP), e.g. in Tsimpli's analysis of Greek (1994). In her approach, a focused argument or adjunct is always analyzed as an operator moved to Spec,FP - whether it actually appears in a left-peripheral operator position or stands in situ, and whether or not it expresses exhaustive identification. Compare:

- (1)a. [<sub>FP</sub> STON PETRO [<sub>TNSP</sub> dhanisan to vivlio]]  
           to-the Petro lent-3PL the-ACC book  
           'It was TO PETRO that they lent the book.'
- b. [<sub>TNSP</sub> Dhanisan [<sub>VP</sub> to vivlio STON PETRO]]  
           'They lent the book TO PETRO.'

Even though Tsimpli (1994) translates the two sentences differently: the one with a preposed focus in (1a) as a cleft construction, and the one with an in-situ focus in (1b) as a simple sentence, she assigns to the two sentences identical LF representations. Both foci are claimed to occupy Spec,FP; the left-peripheral focus is assumed to be moved there in syntax, and the in-situ focus, in LF.

Similarly, Finnish also displays both initial focus and in-situ focus, and even though Vilkuna (1994) usually

translates the former by a cleft construction and the latter by an in-situ emphatic constituent (see (2a,b)), she analyses both as realizations of the same operator interpreted in Spec,CP. In (2a), the focus operator is assumed to have moved into Spec,CP in syntax, and in (2b), it is assumed to move there in LF.

(2)a. [<sub>CP</sub> ANNALLE [<sub>IP</sub> Mikko antoi kukkia]]

Anna-ADESS Mikko gave flowers

'It was TO ANNA that Mikko gave flowers.'

b. [<sub>IP</sub> Mikko antoi [<sub>VP</sub> kukkia ANNALLE]]

'Mikko gave flowers to ANNA.'

In the focus theory of Vallduví (1992), on the other hand, it is the Focus Operator that appears to be assimilated to Information Focus. He claims that focus is the material left in the VP; it is non-focal, 'topical' material, conveying known information, that is removed by Topicalization and by Right Dislocation - in syntax in the language type represented by Catalan, and in a so-called Information Component of grammar in the language type represented e.g. by English. In fact, Catalan also displays sentence-initial focus which, in addition to, or instead of, carrying new information, expresses exhaustive identification. Compare:

(3)a. DEL CALAIX la Núria (els) va treure els

of-the drawer the Núria them has taken-out the  
esperons.

spurs

'It was OUT OF THE DRAWER that Núria took the spurs.'

b. La Núria els va treure DEL CALAIX els esperons.

'Núria took the spurs OUT OF THE DRAWER.'

Vallduví (1992) analyzes both (3a) and (3b) as constructions with a VP-internal focus; he derives (3a) from a V-initial VP by the Right Dislocation of all VP-internal material, including the V, and claims that the contrast associated with (3a) is a mere pragmatic inference.<sup>2</sup>

The semantic analyses of focus also often blur the difference between the Focus Operator and Information Focus. For example, the structured meaning theory of focus, developed by von Stechow (1991), Jacobs (1983), Krifka (1992), and others, admittedly assigns the same semantic structure to both 'contrastive focus' and 'presentational focus' (see Krifka 1992, p. 20). Consider the contrastive Focus Operator in the Hungarian (4a) and the presentational Information Focus in (4b):

(4) a. MARIVAL ismerkedtem meg tegnap.

Mary-with got-acquainted-I PERF yesterday

'It was WITH MARY that I got acquainted yesterday.'

b. Meg-ismerkedtem tegnap MARIVAL.

'I got acquainted WITH MARY yesterday.'

The immediately preverbal focus in (4a) expresses exhaustive identification; it means that of the relevant individuals, it was Mary and no one else that I got acquainted with yesterday. The postverbal focus in (4b), on the other hand, merely



presents Mary as new information (e.g. in answering the question Did you get acquainted with anybody yesterday?), without suggesting that Mary was the only person that I got acquainted with yesterday. The structured meaning theory of focus would assign to both sentences the following structure:

(5) ASSERT(< $\lambda x$ .got acquainted with(I,x), Mary>)

The representation in (5) is partitioned into a background part, containing a version of the proposition in which the focus is replaced by a variable bound by lambda, and into a focus part. The focus is bound by an illocutionary operator, here represented by ASSERT. (5) is to be interpreted as follows: At the current point of discussion, the set of persons for whom it holds that I got acquainted with them yesterday is under discussion, and it is stated that, among these persons, it holds for Mary that I got acquainted with her yesterday. According to Krifka (1992), contrastive focus and presentational focus merely differ (in a way not specified by him) in the illocutionary operator that binds them. The formula in (5) assimilates Information Focus to the Focus Operator in the respect that it represents also Information Focus as a member of a set of alternatives, which is contrary to native speakers' intuition. The structured meaning approach to focus also assimilates certain properties of the Focus Operator to Information Focus. Consider:

(6)a. Melyik autót veszed meg?  
 which car-ACC buy-you PERF

'Which car do you buy?'

b. A HÁROMÉVES JAPÁN autót veszem meg.

the three-year-old Japanese car-ACC buy-I PERF

'It is the THREE-YEAR-OLD JAPANESE car that I buy.'

For the structured meaning approach, the non-presupposed, focus part of (6b) introduces two sets of properties: a set of ages, and a set of nationalities, and it is asserted that the background part holds for the members three-year-old and Japanese of these sets, respectively. This, however, does not correspond to native speakers' intuitions; we feel that the focus in (6b) quantifies over a set of cars, instead of sets of ages and nationalities; that is, the focus extends over the full DP a hároméves japán autót. The adjectives hároméves japán represent merely the new information (i.e., the Information Focus) in the sentence; the Focus Operator is never a subconstituent, or a string of subconstituents; it is a DP, expressing quantification over individuals.

In the focus interpretation theory of Vallduví (1994, 1994), based on the assumption that focus is always in situ, and it is non-focal material that is moved, focusing never affects the truth conditions of the sentence. The focus carries the new information: that which the hearer is instructed to enter into his knowledge store. Hence the focusing of a constituent does not add to the semantic content of the sentence; it figures only in the "information packaging". Whereas this approach correctly describes the focus in (4b), it fails to capture the relevant semantic properties of the focus of e.g. (4a).

Below, I will argue that two types of focus have to be distinguished: the Focus Operator, a constituent exhaustively identifying a subset of a set of relevant individuals, occupying the specifier position of a functional projection, and Information Focus, the carrier of new information. The semantic and syntactic properties of the two types of focus will be disentangled on the basis of Hungarian material.

## 2. The Focus Operator and Information Focus in Hungarian

I will argue that the Focus Operator and Information Focus differ in the following respects: 1. Whereas the Focus Operator serves to identify exhaustively the proper subset of a relevant set as such of which the predicate holds, Information Focus serves to convey new information. 2. Certain types of constituents: for example, universal quantifiers, also phrases and even phrases, whose meaning is incompatible with the exhaustive identification of a proper subset of a set, cannot function as Focus Operators. The types of constituents that can function as Information Focus, on the other hand, is not restricted. 3. The Focus Operator does, Information Focus does not, take scope. 4. The Focus Operator is moved to Spec,FP, and triggers V movement to F; Information Focus, on the other hand, does not involve any movement. 5. Whereas the Focus Operator is always coextensive with an XP available for operator movement, Information Focus can be both smaller and larger. 6. The Focus Operator can be iterated; Information Focus, on the other hand, can project.

### 2.1. Identification versus new information

In Hungarian, the immediately preverbal constituent of focus function performs identification. Namely, a contextually restricted set of relevant entities is presupposed (similar to the P(resupposition) set of alternatives in the focus theories of Jackendoff (1972) and Rooth (1985)), and the focus exhaustively identifies its proper subset for which the predicate holds. Consider:

(7) JÁNOS lopta el a kabátot.

John stole PERF the coat

'It was JOHN who stole the coat.'

(7) expresses that of the set of possible candidates it is true of John and no one else that he stole the coat. This kind of focus is sometimes called contrastive because a contrast can be inferred between the subset of the relevant set exhaustively identified as such of which the predicate holds true, and the complement subset, i.e., in this case, between JOHN and the other suspects.

Information Focus, on the other hand, is the sentence part that conveys new information, and which is, therefore, stressed. For example:

(8) János el lopta A KABÁTOT.

John PERF stole the coat

'John stole THE COAT.'

Szabolcsi (1981) proposed two tests of exhaustive identification. They involve sentences in which coordinate DPs

are focused. The focus expresses exhaustive identification/listing if the negated version of the sentence can be coordinated with its positive version from which one of the coordinate DPs has been dropped - without any internal contradiction arising. E.g.

- (9) Nem JÁNOS ÉS PÉTER lopta el a kabátot, hanem JÁNOS  
 not John and Peter stole PERF the coat but John  
 lopta el.  
 stole PERF  
 'It was not JOHN AND PETER who stole the coat but it was  
 JOHN.'

The preverbal focus in (9) passes this test of exhaustive identification; a postverbal focus, on the other hand, does not pass it:

- (10)\*János nem lopta el A KABÁTOT ÉS A KALAPOT, de el  
 John not stole PERF the coat and the hat but PERF  
 lopta A KABÁTOT.  
 stole the coat  
 'John did not steal the coat and the hat, but he stole the  
 coat.'

Szabolcsi's second test of exhaustivity involves a pair of sentences in which the first sentence contains a focus consisting of two coordinate DPs, and the second sentence differs from the first one only in that one of the coordinate DPs has been dropped. If the second sentence is not among the

logical consequences of the first one, the focus is exhaustive.

Compare:

(11)a. JÁNOS ÉS PÉTER lopta el a kabátot.

John and Peter stole PERF the coat

'It was JOHN AND PETER who stole the coat.'

b. JÁNOS lopta el a kabátot.

'It was JOHN who stole the coat.'

(12)a. János el lopta A KABÁTOT ÉS A KALAPOT.

John PERF stole the coat and the hat

'John stole THE COAT AND THE HAT.'

b. János el lopta A KABÁTOT.

John stole THE COAT.

(11b) is not a logical consequence of (a); (12b), on the other hand, is a logical consequence of (12a); hence the preverbal Focus Operator of (11) passes this test of exhaustivity, but the postverbal Information Focus of (12) does not pass it.

Whereas a WH phrase is always in the preverbal Focus Operator position, it can be answered not only by a Focus Operator but - less commonly - also by a mere Information Focus, depending on whether the answer is intended to be exhaustive or not. Compare:

(13)a. Hova tettél könyveket?

where put-you books

'Where did you put books?'

b. Tettem könyveket A POLCRA.

put-I books the shelf-on

'I put books ON THE SHELF (among other places).'

c. A POLCRA tettem könyveket.

'It was ON THE SHELF that I put books.'

In (13b), the WH-phrase hová 'where' is given a non-exhaustive answer formulated as a post-verbal Information Focus. If the answer is exhaustive, as in (13c), it must be put as a preverbal Focus Operator.

When the relation between the constituent represented by the WH phrase and the predicate is necessarily exhaustive, the argument or adjunct answering the WH phrase must be a Focus Operator.

(14)a. Hova tetted a könyvet?

'Where did you put the book?'

b. A könyvet A POLCRA tettem.

the book-ACC the shelf-on put-I

'It was ON THE SHELF that I put the book.'

c.?\*A könyvet le- tettem A POLCRA.

the book-ACC PERF put-I the shelf-on

'I put the book ON THE SHELF (among other places).'

A postverbal a polcra is marginally acceptable as a non-exhaustive location of the book if its subsequent locations are considered.

## 2.2. Distributional restrictions

The immediately preverbal Focus Operator position of the Hungarian sentence is not available for universal quantifiers, is 'also' phrases, még...is 'even' phrases, and existential quantifiers of the vala- 'some-' type. E.g.

(15)a. JÁNOS vette fel a kabátját.

John put on his coat

'It was JOHN who put on his coat.'

b.\*MINDENKI vette fel a kabátját.

everybody put on his coat

c.\*JÁNOS IS vette fel a kabátját.

John also put on his coat

d.\*MÉG JÁNOS IS vette fel a kabátját.

even John put on his coat

(16)\*VALAKI vette fel a kabátját.

somebody put on his coat

Universal quantifiers, is 'also' phrases and még...is 'even' phrases typically occupy a quantifier position between the topic and the Focus Operator, whereas vala- 'some-' phrases stand in topic position or inside the VP. The fact that these types of constituents cannot function as Focus Operators certainly follows from the incompatibility between their semantic role and that of the Focus Operator. Universal quantifiers do not identify a proper subset of a relevant set; also, even, and some- phrases, on the other hand, do not exhaustively identify a proper subset.



At the same time, these types of quantified phrases typically carry new information in the sentence, i.e., they function as Information Focus.

### 2.3. Scope

The Focus Operator preposed into preverbal position takes scope over the sentence part following it and c-commanded by it. This fact can be made transparent in natural language by paraphrasing the Focus Operator as the predicate of a superordinate clause.

(17) János EGY KABÁTOT lopott el.

John a coat-ACC stole PERF

'(As for) John, it was a coat that he stole.'

In the case of Information Focus, such a paraphrasis is semantically inadequate:

(18) János el- lopott EGY KABÁTOT.

John PERF stole a coat

'John stole A COAT./\*(As for) John, it was a coat that he stole.'

A Focus Operator enters into a scope relation with the other operators in its clause; it has narrow scope with respect to the operators preceding it, and it has wide scope with respect to the unstressed operators following it.<sup>3</sup> E.g.

(19)a. Mindenki MARIVAL beszélt.

everybody Mary-with spoke

'For everybody, it was MARY (of the relevant persons) that he spoke with.'

b. MARIVAL beszélt mindenki.

'It was MARY (of the relevant persons) that everybody spoke with.'

In the case of (19a), everybody spoke with a single member of the relevant set of persons: Mary. In the case of (19b), on the other hand, everybody may have spoken with several persons of the relevant set; however, there was a single person: Mary that everyone spoke with.

An Information Focus as such, on the other hand, cannot enter into a scope relation with a clause-mate operator (more precisely, its scope possibilities are independent of its status as Information Focus). The only interpretation of (20) is the one in which the universal quantifier takes scope over the whole sentence:

(20) Mindenki beszélt MARIVAL.

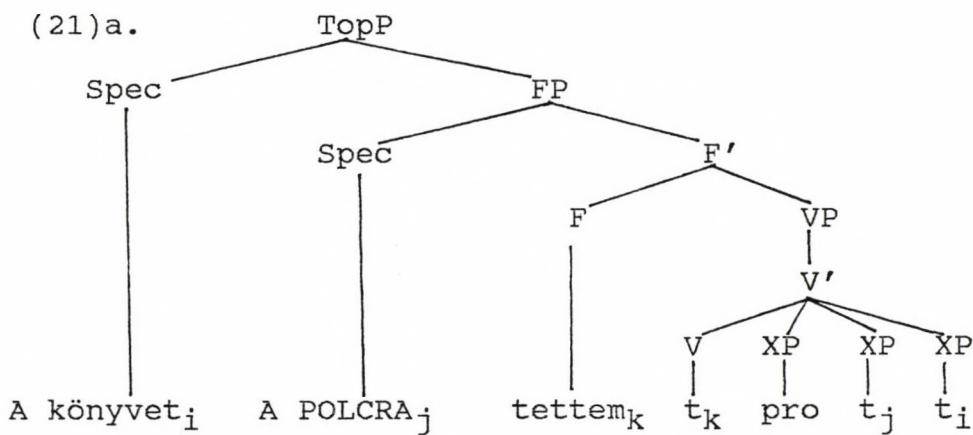
everybody spoke Mary-with

'For every x, x a person, he spoke with Mary.'

#### 2.4. Focus movement versus focus in situ

Following a proposal of Brody (1990, 1995), I assume that the Focus Operator occupies the specifier position of a focus projection (FP) in the Hungarian sentence. The focus projection

is generated (optionally) between the VP and the Topic Phrase. Its phonologically empty F head must be lexicalized by V-to-F movement. The filling of Spec,FP is triggered by the Focus Criterion, which requires that the specifier of the projection of an F head contain a Focus Operator, and all Focus Operators be in the specifier of the projection of an F head. For example:



the book-ACC the shelf-on put-I

'(As for) the book, it was ON THE SHELF that I put it.'

The Focus Operator can also land in the Spec,FP of a higher clause:

(22) [<sub>TopP</sub> A könyvet<sub>j</sub> [<sub>FP</sub> A POLCRA<sub>i</sub> kérném [<sub>CP</sub> hogy  
 the book-ACC the shelf-on I-ask-COND that  
 tedd t<sub>i</sub> t<sub>j</sub>]]]

you-put

'(As for) the book, it is ON THE SHELF that I ask you to  
 put it.'

Information Focus, on the other hand, does not trigger movement. The Information Focus of (23) below is in its base-generated position:

- (23)
- $$\begin{array}{c}
 \text{VP} \\
 | \\
 \text{V}' \\
 / \quad | \quad \backslash \\
 \text{V} \quad \text{XP} \quad \text{XP}
 \end{array}$$
- Tettem könyveket A POLCRA  
 put-I books-ACC the shelf-on  
 'I put books ON THE SHELF.'

Naturally, moved constituents can also serve as Information Focus. The Focus Operator and the pre-FP universal quantifier typically function as Information Focus - see (24a), and the topic: the constituent about which the FP/VP is predicated, can also convey new information - see (24b):

- (24)a. (Mi lett a szavazás eredménye?  
 'What was the result of the vote?')
- [<sub>QP</sub> Mindenki<sub>i</sub> [<sub>FP</sub> JÁNOSRA<sub>j</sub> szavazott<sub>k</sub> [<sub>VP</sub> t<sub>k</sub> t<sub>j</sub> t<sub>i</sub>]]]  
 everybody John-on voted  
 'Everybody voted on John.'
- b. (Mi történt?  
 'What happened?')
- [<sub>TopP</sub> Jánost<sub>i</sub> [<sub>VP</sub> elütötte egy autó t<sub>i</sub>]]  
 John-ACC hit a car  
 'John was hit by a car.'

Crucially, however, the movement of a topic, a universal quantifier, or a Focus Operator conveying new information is not triggered by their status as Information Focus.

### 2.5. The syntactic category of focus

Whereas Information Focus can extend over any section of the sentence, the Focus Operator must be coextensive with Spec,FP. This fact imposes a restriction on the syntactic category of the Focus Operator: whereas Information Focus can be represented by any syntactic category, or any string of them, the Focus Operator must be an XP whose movement into Spec,FP does not violate Subjacency. Consider the question and the set of possible and impossible answers to it in (25):

- (25)a. [Spec,FP A JÁNOS autója] volt a leggyorsabb?  
           the John's car           was the fastest  
           'Was it JOHN's car that was the fastest?'
- b. Nem, [Spec,FP a PÉTER autója]  
           'No, it was PETER'S car.'
- c. Nem, [Spec,FP a PÉTER-[pro]-é]  
           no                    the Peter's-one  
           'No, it was that of PETER.'
- d.\*Nem, PÉTER.  
           'No, it was PETER.'
- e. Nem, [Spec,FP A PORSCHE]  
           'No, it was the PORSCHE.'

The non-presupposed part of the question in (25a), that is, the Information Focus, is János, a subconstituent of a DP. At the

same time, the Focus Operator of (25a) is the maximal DP a János autója 'John's car'. The preposing of the maximal DP into Spec,FP is not an instance of Pied Piping; the person asking the question wants the identification of a subset of a set of cars, not the subset of a set of persons. Accordingly, the question can only be answered by a DP referring to a car - as is clear from the grammaticality of (25b,c and e), and the ungrammaticality of (25d).<sup>4</sup>

The focus theories of Rooth (1985), Jacobs (1983), and others, denying the existence of Focus Movement, claim that in the (a), (b), (c), and (d) members of the following set of sentences, different constituents (those spelled in capital letters) have been focused. They find that these sentences differ semantically, and derive the differences from the difference in the extension of their focus.

- (26)a. János [Spec,FP EGY angol könyvet] kapott ajándékba.  
 John one English book-ACC got as-present  
 'It was ONE English book that John got as a present.'
- b. János [Spec,FP egy ANGOL könyvet] kapott ajándékba.  
 'It was an ENGLISH book that John got as a present.'
- c. János [Spec,FP egy angol KÖNYVET] kapott ajándékba.  
 'It was an English BOOK that John got as a present.'
- d. János [Spec,FP egy ANGOL KÖNYVET] kapott ajándékba.  
 'It was an ENGLISH BOOK that John got as a present.'

In fact, the sentences in (26a-d) do not differ truth-conditionally; each of them is true iff what John got as a present was an English book. What the (26a-d) sentences differ

in is the relevant set presupposed which contains the English book identified by the Focus Operator. In the case of (26a), the relevant (super)set consists of sets of English books of different cardinality; in the case of (26b), it consists of books in various languages; in (26c), it consists of various English products, whereas in (26d), the relevant set cannot be reconstructed on the basis of the given sentence alone.

The part of meaning that is particular to the different sentences in (26a-d) is presuppositional, which is indicated by the fact that it remains invariant under negation:

(27)a. János nem EGY angol könyvet kapott ajándékba.

John not ONE English book-ACC got as-present

'It was not ONE English book that John got as a present.'

b. János nem egy ANGOL könyvet kapott ajándékba.

'It was not an ENGLISH book that John got as a present.'

c. János nem egy angol KÖNYVET kapott ajándékba.

'It was not an English BOOK that John got as a present.'

d. János nem egy ANGOL KÖNYVET kapott ajándékba.

'It was not an ENGLISH BOOK that John got as a present.'

In fact, the constraint that the Focus Operator must be a maximal projection whose movement into Spec,FP is licensed by Subjacency is still too permissive; it does not exclude that-clauses, VPs, or predicative NPs/AdjPs, which do not occur as Focus Operators, either. Cf.

(28)a.\*János [Spec,FP [(AZT), HOGY MARI ELKÉSIK]<sub>i</sub>] súgta  
 John that-ACC that Mary is-late whispered  
 nekem t<sub>i</sub>.

me

'It was that Mary would be late that John whispered to me.'

b.\*János [Spec,FP [VP MEGNÉZNI A FILMET]<sub>i</sub>] fogja t<sub>i</sub>.

John to see the film will

'It is to see the film that John will.'

c.??János [Spec,FP [AdjP BETEG]<sub>i</sub>] volt ritkán t<sub>i</sub>.

John sick was seldom

'It was sick that John was seldom.'

Kenesei (1994) suggests that (28a) is unacceptable for a phonological reason: the Focus Operator and the V following it are required to form a phonological phrase, which cannot transgress a sentence boundary. This might also account for (28b), if the infinitival phrase is analyzed as a non-finite clause. It is not clear though why the alleged phonological constraint is violable in the case of headless relatives, e.g. in (29):

(29) [Spec,FP Csak aki nem csinál semmit [VP nem téved]]

only who not does anything not errs

'Only (he) who does not do anything does not make any mistakes.'

The predicative phrase in (28c) perhaps cannot undergo Focus Operator movement because predicative phrases are incorporated



into the V. It is also possible that the constraint blocking (28b-c) is semantically based: VPs and predicative phrases cannot function as Focus Operators because they do not denote individuals, which serve as the primary domain of quantification. Szabolcsi (1983), and Szabolcsi - Zwarts (1993) argued that the Focus Operator must quantify over an unordered set of distinct individuals because such Boolean operations as complement formation, which is a crucial element of focusing, can take place only in the case of unordered sets.<sup>5</sup> Szabolcsi (1983) also showed that non-individuals, too, can be 'individuated', i.e., presented as discrete entities, in which case they are available for Focus Operator Movement. If the ungrammaticality of (28c) is, indeed, semantically based, it is expected that the predicative nominal becomes a possible target of Focus Operator Movement when it is individuated by listing. This is borne out in the case of (30), where a two-member set of properties (including egészséges 'healthy' and beteg 'sick') is established as a domain of focusing:

- (30) János [spec,FP nem EGÉZSZSÉGES, hanem BETEG] volt ritkán.  
 John                    not healthy            but    sick    was    seldom  
 'It is not healthy but sick that John was seldom.'

Whatever should turn out to cause the ungrammaticality of (28a-c), the constraint(s) appear to be valid across languages, hence they form part of the diagnostics of Focus Operators.

The Information Focus, which does not involve movement, is not constrained categorially; it can be constituted both by a subconstituent of an XP (see (25-26)), and by a string of

XPs. Consider, for example, (31b), which is all Information Focus when uttered in the context of (31a).

(31)a. What happened at the race?

b. [Spec,FP JÁNOS AUTÓJA] VOLT A LEGGYORSABB.

John's car was the fastest

'John's car was the fastest.'

## 2.6. Focus iteration versus focus projection

Certain types of constituents, for example, arguments modified by csak 'only', or negative existential quantifiers (e.g. kevés ember 'few persons') must undergo Focus Operator movement.

Apparently, they have an inherent Focus Operator feature; hence the Focus Criterion forces them to land in Spec,FP. If a constituent of this type is left in situ, the sentence is sharply ungrammatical. E.g.

(32)a.\*Két filmet meg- néztek CSAK HÁRMAN.

two films-ACC PEF saw only three

'Only three persons saw two films.'

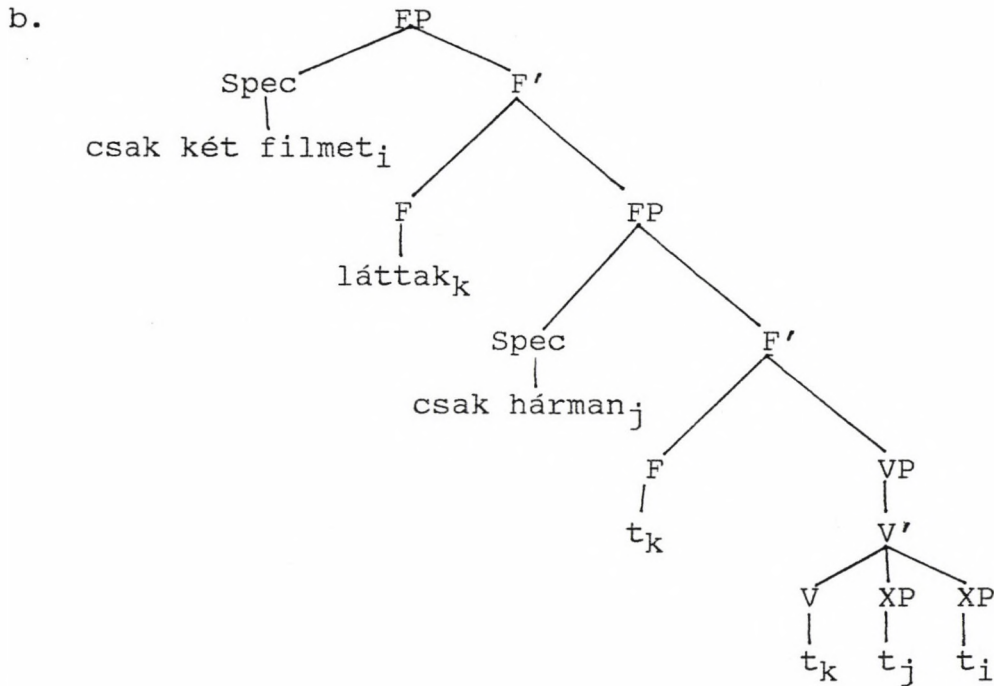
cf. b. CSAK HÁRMAN néztek meg két filmet.

When a sentence contains more than one constituent with an inherent Focus Operator feature, the second, third etc. Focus Operator stands postverbally - presumably in the specifier of a lower FP, as represented in (33b):

(33)a. CSAK KÉT FILMET láttak CSAK HÁRMAN.

only two films saw only three

'It was only two films that only three persons saw.'



The verb is moved from V first to the lower F, and then to the higher F; hence the Focus Operator in the lower Spec,FP is licensed by a V trace adjoined to the lower F, and the Focus Operator in the higher Spec,FP, by the V itself adjoined to the higher F.

Brody (1990) holds the assumption that a postverbal constituent with a focus feature is an operator in situ, which is adjoined to the focus in Spec,FP invisibly at LF. This possibility, however, can be excluded on the basis of scope considerations. In the case of a pair of operators one of which is preposed into scope position, the other one is left in situ, the two operators have identical scopes, and can be linked in either order - because, if we assume LF adjunction to the preposed operator, the two operators will mutually c-command each other. The WH-phrases of English multiple questions, for

example, can be interpreted in any scope order:

(34) Who brought what?

- a. 'Tell me about each person what he brought!'
- b. 'Tell me about each object who brought it!'<sup>6</sup>

In the case of the two Focus Operators in (33), on the other hand, only the preposed operator can have scope over the in-situ operator:

(35) CSAK KÉT FILMET láttak CSAK HÁRMAN.

only two films-ACC saw only three

- a. 'It was only two films that only three persons saw.'
- b.\*'It was only three persons who saw only two films.'

If the two Focus Operators change places, their relative scope will also change to the reverse:

(36) CSAK HÁRMAN láttak CSAK KÉT filmet.

only three saw only two films

- a. 'It was only three persons who saw only two films.'
- b.\*'It was only two films that only three persons saw.'

The iteration of the FP projection is not restricted to cases involving phrases with an inherent Focus Operator feature; I have discussed such examples only because in their case the Focus Operator status of the postverbal phrase has independent evidence. I assume that a sentence expressing a double

contrast, such as (37), also has a structure with two FP projections and two Focus Operators.

(37) Nem JÁNOS beszélt MARIVAL, hanem PÉTER beszélt  
 not John spoke with Mary but Peter spoke  
 PIROSKÁVAL.  
 with Piroška

'It was not John that spoke WITH MARY, but it was Peter  
 that spoke WITH PIROSKA.'

In sum: owing to FP recursion, the Focus Operator can be iterated, i.e., a sentence can contain more than one XP occupying a Spec,FP.

Information Focus, on the other hand, can project, i.e., under certain conditions, not only the emphatic constituent itself but, alternatively, also the phrase (or phrases) dominating it can be interpreted as Information Focus. (The conditions on focus projection were described in detail by Selkirk (1982); they, however, need some adjustment in Hungarian, in accordance with the fact that in Hungarian - unlike in English - unmarked phrasal stress falls on the initial constituent of a phrase. The discussion of the necessary adjustments is beyond the scope of this paper.) Consider, for example, (38a): the Information Focus can extend either over the postverbal emphatic DP, or over the VP including it, or over the whole TopP. Accordingly, (38a) can serve as an answer to (38b,c and d) alike.

(38)a. [<sub>TopP</sub> Péter [<sub>VP</sub> MEG rendelt [<sub>DP</sub> EGY KÖNYVET]]]

Peter PERF ordered a book-ACC

'Peter ordered a BOOK.'

b. What did Peter order?

c. What did Peter do?

d. What happened?

In (39a) below, the Information Focus can extend over the DP occupying Spec,FP (the Focus Operator), over FP, and over TopP, i.e., the sentence would be an appropriate answer to the questions in (39b, c, and d).

(39)a. [<sub>TopP</sub> A választásokat [<sub>FP</sub> [<sub>Spec,FP</sub> KOVÁCS JÁNOS] nyerte

the elections-ACC János Kovács von

meg]]

PERF

'It was János Kovács who won the elections.'

b. Who won the elections?

c. What is new about the elections?

d. What happened?

## 2.7. Can a post-verbal Focus Operator and an Information Focus be distinguished?

The fact that not only Information Focus, but also the Focus Operator in a multiple focus construction can stand in post-verbal position may cast doubt on the claim that the Focus Operator and Information Focus are both syntactically and semantically distinct phenomena. Can a postverbal Focus Operator and a postverbal Information Focus really be

distinguished syntactically? Do they not represent two possible interpretations of the same structure?

In fact, a post-verbal Focus Operator and a post-verbal Information Focus differ in well-defined ways. First, they differ in their word order position. Whereas a postverbal Focus Operator is preferably verb-adjacent, a post-verbal Information Focus is preferably clause-final.<sup>7</sup> Consider the post-verbal Focus Operator in (40). The assumption that JÁNOS is a Focus Operator is proved by the presence of a superlative adverbial interpreted on the set introduced by JÁNOS. A superlative adverbial or predicative adjective is always licensed by a Focus Operator, and is interpreted on the set which the Focus Operator has introduced (see Farkas and É. Kiss (1996)).

- (40)a. Mióta dolgozik JÁNOS a legjobban?  
 since-when works John the best  
 'Since when has it been JOHN who works the best?'  
 b.??Mióta dolgozik a legjobban JÁNOS?

Unlike the postverbal Focus Operator in (40), a postverbal Information Focus is most felicitous in VP-final position, as observed by Varga (1981):

- (41)a. Tegnap összefutott Péter MARIVAL.  
 yesterday came-across Peter Mary-with  
 'Yesterday, Peter came across MARY.'  
 b.??Tegnap összefutott MARIVAL Péter.

An obvious difference between a postverbal Focus Operator and a postverbal Information Focus is that a Focus Operator is licensed only in the presence of a preverbal Focus Operator; a postverbal Information Focus, on the other hand, does not require a preverbal Information Focus or a Focus Operator.

(42a), with the only Focus Operator in post-verbal position, is ungrammatical because the Focus Operator is not in the specifier of an FP; or if it is, the V and the perfectivizing prefix are in illegitimate positions between the FP and the TopP.

(42)a.\*Mari meg- hívta csak PÉTERT.

Mary PERF-invited only Peter-ACC

'It is only PETER that Mary invited.'

b. MARI hívta meg csak PÉTERT.

'It is MARY who invited only Peter.'

An in-situ Information Focus, e.g. that in (43), on the other hand, is not affected by how the VP-external part of the sentence is constructed:

(43) Mari meghívta PÉTERT.

'Mary invited PETER.'

Naturally, a post-verbal Focus Operator and a post-verbal Information Focus can also be distinguished on the basis of their interpretation: a Focus Operator expresses exhaustive identification; an Information Focus, on the other hand, does not; it merely conveys new information.



Recapitulating the main claims of section 2: The Hungarian sentence displays two separate focus phenomena. The preverbal focus, occupying the specifier position of a focus projection (FP), acts as an operator expressing exhaustive identification semantically, and as an operator preposed into scope position (Spec,FP), binding a variable, syntactically. The FP can recurse, hence more than one Focus Operator per clause is possible. The Focus Operator triggers V movement into the (highest) F head. Information Focus, on the other hand, is the sentence part carrying new information. The [+new] feature of Information Focus appears to be irrelevant both for syntax and for truth-conditional semantics; it figures in presuppositions, and in a pragmatic Information Component according to Vallduví (1992).

### 3. The Focus Operator in English

In the language type represented by English, generally no invariant Focus Operator position is assumed in the S-structure/PF of sentences. Brody (1990), Tsimpli (1994), and others claim that constituents can have a Focus (Operator) feature in these languages, too, and this feature must be checked and interpreted in the specifier of a focus projection; in these languages, however, Focus Operator movement to Spec,FP takes place invisibly, at LF.

Here I will argue that English can have a Focus Operator moved to the specifier of a focus projection at S-structure and PF: the cleft constituent, which displays all the syntactic and semantic properties of the Focus Operator we observed in section 2. I will test the Focus Operator properties identified

above on three types of focus in English: the cleft constituent, an in-situ constituent bearing non-default emphatic stress, and an emphatically stressed constituent preposed by a version of Topicalization called Focus Movement. It will turn out that only the cleft constituent shares all the syntactic and semantic attributes of a Focus Operator.

The three types of focus will be compared in the following respect: (i) whether they pass the tests of exhaustive identification proposed by Szabolcsi (1981); (ii) whether they are subject to the distributional restrictions characteristic of the Focus Operator; (iii) whether they take scope; (iv) whether they occupy the specifier position of a focus projection; (v) whether they are XPs whose movement is licensed by Subjacency; and (vi) whether they can be iterated or they can project.

### 3.1. Exhaustivity

Let us compare three possible realizations of focus in English in the respect of the properties that distinguish between the Focus Operator and Information Focus, first in the respect of exhaustivity. The types of focus examined are an in-situ constituent bearing non-default emphatic stress, undergoing LF movement to Spec,FP in the framework of Brody (1990), a 'focus-moved' constituent, i.e. a constituent preposed by Topicalization and assigned emphatic stress, and a cleft constituent.

The criteria of exhaustivity proposed in Szabolcsi (1981) (discussed in section 2.1. in detail) will be tested on the sentences in (44)-(46). In every sentence of (44a-c), the

clauses express exhaustive listing/identification if their coordination does not lead to a contradiction.

- (44)a. It is not Peter and John that love Mary; it is Peter that loves her.
- b.\*PETER and JOHN do not love Mary; PETER loves her.
- c.\*PETER and JOHN, Mary doesn't love; PETER, she loves.

Only (44a), juxtaposing two cleft constructions, is non-contradictory; hence according to the test, only (44a) expresses the exhaustive identification associated with a Focus Operator.

Here is a similar test, proposed by Donka Farkas (p.c.):

- (45)a. A: It was John who came home.  
B: No, Mary came home, too.
- b. A: JOHN came home.  
B:\*No, Mary came home, too.

Since the dialogue in (45) describes a situation in which John did come home, the negation of John having come home can only be interpreted as a negation of exhaustivity. This interpretation is only available in the case of (45a), involving a cleft construction.

As for (46a-c) below, the sentence pairs express exhaustive identification if their second member is not among the logical consequences of their first member. Compare:

- (46)a. It is Peter and John that love Mary --> It is Peter

that loves her.

- b. PETER and JOHN love Mary --> PETER loves her.
- c. PETER and JOHN, Mary loves very much --> PETER, she loves very much.

In example (46b), containing a pair of sentences with an emphatic subject, and in example (46c), containing a pair of sentences with a focus-moved constituent, the truth of the second sentence follows from the truth of the first one; hence these constructions do not display exhaustive listing. This is not true of (46a), involving cleft constructions; that is, only (46a) is shown by the test to express the exhaustive identification typical of the Focus Operator. According to both criteria of exhaustivity, an emphatic in-situ constituent and a focus-moved constituent are not Focus Operators but Information Foci.

### 3.2. Distributional restrictions

As we observed on the Hungarian material presented in section 2, universal quantifiers, also phrases, even phrases, and some-phrases cannot function as Focus Operators - presumably because of a semantic incompatibility between their semantic function and that of the Focus Operator, performing the exhaustive identification of a proper subset of a relevant set. Let us examine whether the focus constituent in the English constructions under investigation can be replaced by a universal quantifier, an also phrase, an even phrase, or an existential quantifier of the some-type:

- (47)a. It was \*everybody/?also John/\*even John/\*somebody  
that invited Mary.
- b. EVERYBODY/ALSO JOHN/EVEN JOHN/SOMEBODY invited Mary.
- c.\*EVERYBODY/ALSO JOHN/EVEN JOHN/\*SOMEBODY, Mary invited  
to her birthday party.

The cleft constituent is subject to the same distributional restrictions as the Focus Operator in Hungarian - see (47a). (In fact, whereas an is 'also' phrase can in no circumstances appear in Focus Operator position in Hungarian, a cleft also phrase is marginally, or even fully acceptable for some speakers of English, but not for others. I do not know the reason for this variation.) An emphatic constituent in situ, on the other hand, is not restricted in any relevant respect - see (47b). The target of Focus Movement shares some of the distributional restrictions on the Focus Operator: it cannot be a universal quantifier or an existential quantifier of the some-type. On the other hand, a focus-moved constituent CAN be represented by an also phrase or an even phrase, incompatible with the Focus Operator function. Notice that only phrases, which are obligatorily realized as Focus Operators in Hungarian, cannot undergo Focus Movement (cf. \*Only John, Mary invited to her birthday party), which also argues against the analysis of focus-moved constituents as Focus Operators.

Summarizing these observations: of the types of focus examined in English, only the cleft constituent acts as a Focus Operator in the respect of distribution, as well.

### 3.3. Scope

In section 2.3., it was claimed that the Focus Operator has scope; furthermore, it takes scope over the syntactic domain it c-commands. This is not true of Information Focus, a non-quantifier, merely the conveyor of new information. (Of course, an Information Focus can also have scope if it has an additional operator feature, e.g., when it is a universal quantifier at the same time.)

Consider:

- (48)a. It was Mary that every boy spoke with.
- b. Every boy spoke with MARY.
- c.\*MARY, every boy spoke with.

In the only interpretation of the cleft construction in (48a), the cleft focus has scope over its c-command domain including the universal quantifier, i.e. the sentence means: 'Of the relevant persons, it was Mary that every boy spoke with (the other persons were spoken with by smaller subsets of boys).' This fact confirms the analysis of the cleft constituent as a Focus Operator. In the only interpretation of (48b), on the other hand, the universal quantifier has maximal scope. If MARY in (48b) could be analyzed as a Focus Operator undergoing LF movement to Spec,FP, the sentence would also have the reading we assigned to (48a), with MARY taking scope over every boy. Thus (48b) argues against the Focus Operator analysis of an in situ emphatic constituent.

It is unclear why (48c), with Focus Movement across a universal quantifier, is ungrammatical.

### 3.4. Position

I claim that in English, a cleft constituent, similar to the Hungarian Focus Operator, occupies Spec,FP; i.e., the cleft construction is the realization of an FP projection.

Up till now, no convincing, unproblematic analysis of the English cleft construction has been proposed.

The first detailed account of the cleft construction in the generative framework was put forth by Akmajian (1970). He derived the cleft construction from a pseudo-cleft sentence with a headless relative clause in subject position, via Cleft Extraposition. For example:

- (49)a. [<sub>CP</sub> who is sick] is me -->  
 b. it<sub>i</sub> is me [<sub>CP</sub> who is sick]<sub>i</sub>

This analysis cannot solve the derivation of cleft constructions of the following type:

- (50) It was to John [<sub>CP</sub> that I spoke]

(50) has no possible source; the structure from which it could be derived is illegitimate:

- (51)\*[<sub>CP</sub> that I spoke] was to John

According to Chomsky (1977), the cleft constituent and the clause subordinated to it represent a type of topic construction, involving WH-movement. His analysis could be represented in current terminology as follows:

- (52)a. It is [<sub>CP</sub>? me<sub>i</sub> [<sub>CP</sub> who<sub>i</sub> 0 [<sub>t<sub>i</sub></sub> is sick]]]  
 or: b. It is [<sub>CP</sub>? me<sub>i</sub> [<sub>CP</sub> 0<sub>i</sub> that [<sub>t<sub>i</sub></sub> is sick]]]

Chomsky claims that the type of cleft construction that proved to be problematic for Akmajian's analysis is derived by Adverbial Preposing into topic position. E.g.:

- (53) It was [<sub>CP</sub>? to John<sub>i</sub> [<sub>CP</sub> t<sub>i</sub> that I spoke t<sub>i</sub>]]

What remains unclear in Chomsky's analysis is why topic preposing, which normally does not involve either visible WH-movement or a visible complementizer, is accompanied by one or the other in this case.

Emonds (1976) proposes to handle the problem posed by (53) by modifying Akmajian's account. In Emond's version of the theory, the cleft constituent is focus-moved out of the extraposed relative clause prior to Extraposition. The cleft construction in (53) has the following source:

- (54) [that I spoke to John] was

In the first step of the derivation, an NP or PP is removed from the clause by a transformation called focus placement. When an NP is removed, a pronoun can optionally be left behind. These are the possible outputs:

- (55)a. [that I spoke to him] was John  
 b. [that I spoke to ] was John



c. [that I spoke] was to John

When (55a) has been derived, a WH-feature is attached to the NP or PP dominating the pronoun, and the WH-phrase is fronted:

(56)a. [who I spoke to] was John

b. [to whom I spoke] was John

Finally, the relative clause undergoes Cleft Extraposition. Cleft Extraposition performed on the various intermediate structures yields the following S-structures:

(57)a. It was John who I spoke to.

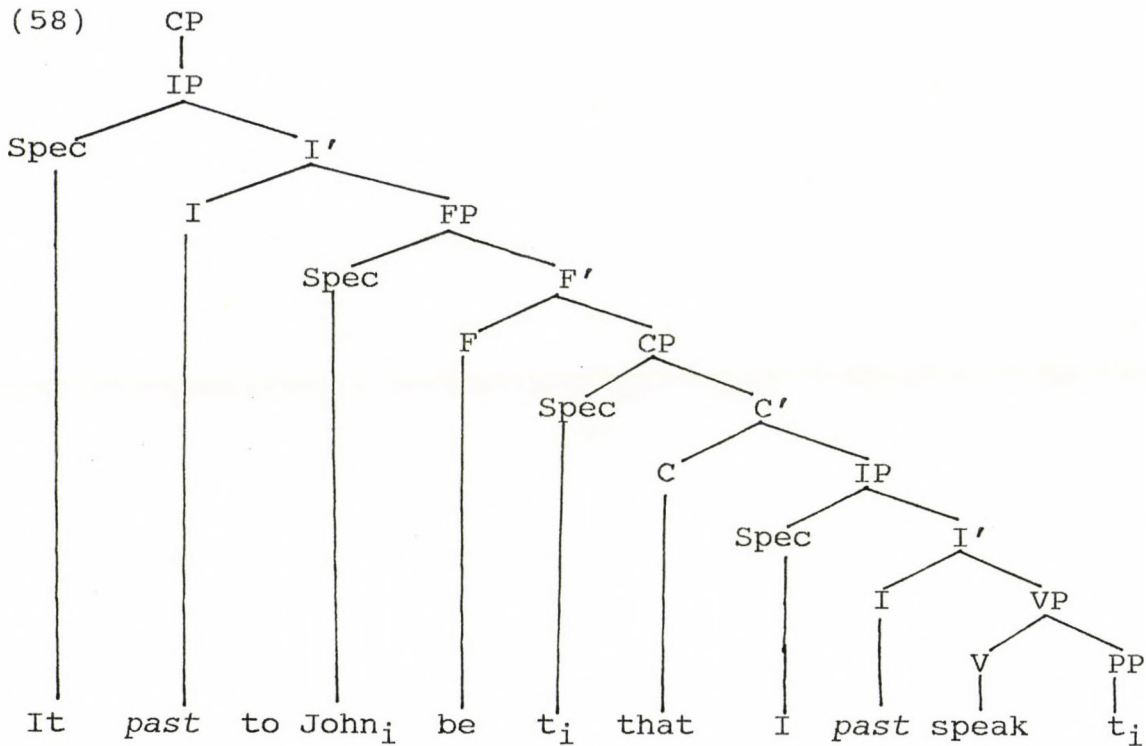
b. It was John to whom I spoke.

c. It was John (that) I spoke to.

d. It was to John that I spoke.

The problem with this set of derivations is that it is highly stipulative; the initial structure is unlikely, and the rightward movement rule called focus placement is not independently motivated.

The analysis of the cleft constituent as an operator occupying Spec,FP eliminates the problems attested in the derivation of the cleft construction. Under the assumption that the cleft constituent is a Focus Operator sitting in Spec,FP, (50) has the following structure:

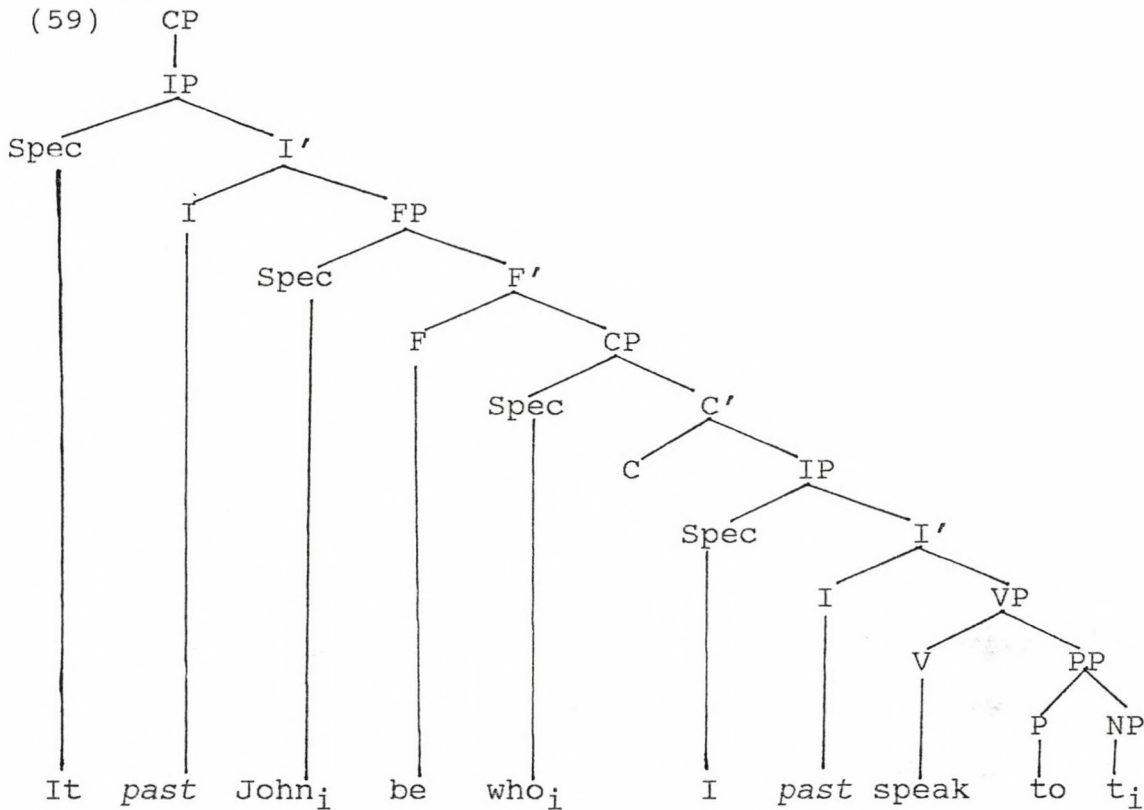


The analysis in (58) can be derived from the independently motivated FP theory of Brody (1990) at the cost of a single additional stipulation: it has to be assumed that the F head of a focus projection does not subcategorize a VP in every language; in some languages, e.g. in English, it takes a CP complement.

Recall that in Brody's focus theory, the phonologically empty F head of the focus projection needs to be lexicalized by a V, which triggers V-to-F movement. If the F head is complemented by a CP, as in English, the complementizer blocks V-movement into F; hence F is filled by the expletive V be, which is subsequently moved into the matrix I. The matrix it is an expletive.

I claim that the PP to John has been moved from under the embedded VP into Spec,FP through Spec,CP. The constituent in

Spec,FP can also be base-generated, coindexed with a resumptive WH-pronoun in the embedded CP. That is:



In case the Focus Operator is a subject, whose movement into Spec,FP would lead to an ECP violation, the latter strategy: base-generation in Spec,FP + WH-movement of the resumptive WH-pronoun is chosen. Subsequently either the WH-phrase in Spec,CP, or the complementizer undergoes regular deletion.

- (60)a. It is  $me_i$  [CP  $who_i$  0 [IP  $t_i$  is sick]]  
 or: b. It is  $me_i$  [CP 0<sub>i</sub> that [IP  $t_i$  is sick]]

Notice that the base-generation strategy assumed accounts for the fact observed by Akmajian (1970) that the embedded verb

does not agree in person with a 1st person or a 2nd person cleft subject.

In case the Focus Operator is a PP, which cannot be coindexed with an appropriate WH-pronoun, only the movement strategy of focusing, represented in (58) above, is available.

In sections 3.1.-3.2., it was shown that an in situ emphatic constituent does not have Focus Operator properties. However, it was also argued that only phrases obligatorily bear a [+Focus] feature, hence they cannot be exempted from the Focus Criterion. Apparently, only phrases can, but need not, move to Spec,FP visibly. I suppose that the satisfaction of the Focus Criterion can be put off until LF (after spell-out) if the Focus Operator feature of the given constituent is visible/audible in PF anyway. The situation seems to be parallel with that described by Ouhalla (1994) in Arabic, where syntactic Focus Operator movement into Spec,FP is obligatory unless the Focus Operator feature is morphologically marked.

If an only-phrase in situ indeed undergoes Focus Operator movement in LF, it is also expected to land in Spec,FP. If it does, the question arises why the V in F, assigning the Focus feature to the constituent in Spec,FP, is not realized in this case. Alternatively, we could adopt the proposal of Drubig (1994), according to whom the landing site of LF focus movement is the specifier of the Pol(arity) Phrase identified between IP and CP by Culicover (1991). This position can host an only phrase also at S-structure/PF:

(61) He thinks [<sub>CP</sub> that [<sub>PolP</sub> only WINE does [<sub>IP</sub> John allow Mary to drink]]]

According to the evidence of (61), Spec,PolP is a possible landing site for a Focus Operator at S-structure, hence it must be a possible landing site for it at LF, as well.

The position of Information Focus is not restricted in the English sentence; as was illustrated above, a constituent in situ and a constituent preposed by Topicalization can both bear emphatic stress and convey new information.

### 3.5. Category

Emonds (1976) observed that a cleft constituent must be a (non-predicative) DP or a PP coindexed with a major constituent of the complement clause. (It can also be a gerund, which is analyzed as a DP.) E.g.

- (62)a. It was John that I spoke to.
- b. It was to John that I spoke.
- c. It was buying a new hat that I enjoyed.
- d.\*It was an interesting lecturer that John remained.
- e.\*It is that we are careless that we should admit.
- f.\*It was to buy a new house that I wanted.
- g.\*It is quite unhappy that Bill is.

(Emonds (1976) pp. 140-141)

Contrary to Emonds (1976), not all types of clauses are ruled out as cleft constituents; headless relatives can be clefted:

- (63) It was what he said that upset me.

The constraint illustrated in (62)-(63), blocking the clefting of categories other than non-predicative DPs, PPs, and headless relatives, is completely ad hoc under the standard analyses of clefting; however, it is parallel to the constraint on the category of the Focus Operator attested in Hungarian. Recall also the observation of Szabolcsi (1983) that non-individual-denoting categories, among them predicative nominals, can be focused, too, if they are individuated e.g. by listing. If the cleft constituent is a Focus Operator, Szabolcsi's observation accounts for the grammaticality difference between (64a) and (64b); otherwise the difference is inexplicable.

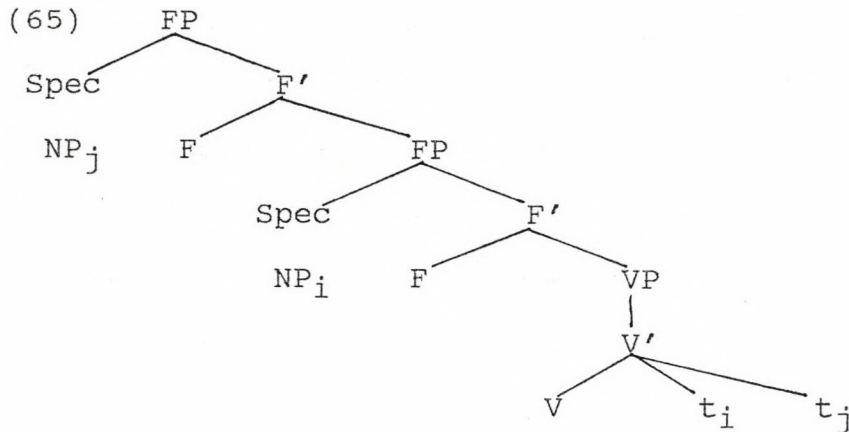
(64)a.\*It was sick that he was.

b. It was not sick that he was but merely tired.

The syntactic category of Information Focus is naturally not constrained in English, either.

### 3.6. Iteration versus projection

In Hungarian, the focus projection can be iterated, and more than one Focus Operator can be removed from the VP to fill the specifier positions of the FP projections. Focus Operator movement from the VP into the higher one of two Spec,FPs, crossing two maximal projections in one swoop, is apparently not blocked by Subjacency:



The violation of Subjacency is presumably prevented by cyclic V-movement into the highest F; the movement of the V into the lower F renders the VP boundary transparent, and its movement from there into the higher F renders the lower FP boundary transparent.

In English, the iteration of the focus projection is not possible:

(66) \*It was [FP to Mary<sub>i</sub> [CP that [IP it was [FP John<sub>j</sub> [CP that [IP we introduced t<sub>j</sub> t<sub>i</sub>]]]]]]]

The movement of a Focus Operator from the embedded VP into the specifier of the higher Spec,FP is blocked because the moved constituent ought to cross at least three maximal projections: the lower IP, CP, and FP, in one swoop. The intermediate landing-sites: Spec,CP and Spec,FP are not available: they are filled by the Focus Operator moved to the lower Spec,FP, and its trace.

The Information Focus need not be iterated; as it does not have to be coextensive with a major constituent, it can be of any length.

#### 4. The Focus Operator and the focusing operators

In the structured meaning theory of focus, elaborated by von Stechow (1991), Jacobs (1983), Krifka (1992), and others, a structured proposition, partitioned into a background and a focus, is preceded by a so-called focusing (or focus sensitive) operator, for example, only, also, even, or an invisible ASSERT, which is associated with the focus constituent. This section will discuss the relation of some of these focusing operators to the Focus Operator identified in sections 2 and 3.

The Hungarian data have made it clear that (the Hungarian equivalents of) even and also phrases have nothing to do with the Focus Operator exhaustively identifying the proper subset of a relevant set; they share neither its semantic function nor its syntactic position. Hungarian even and also phrases clearly pattern with universal quantifiers. Assuming that the English realization of the Focus Operator is the Cleft Construction, the English data also confirm that even and also phrases are not Focus Operators - at least in the grammar of those who do not accept also phrases as cleft constituents.

Only phrases, on the other hand, have been found to behave like Focus Operators, so only is indeed a focusing operator in the sense that it causes the constituent to which it is attached to be focused. Notice that in the present approach, only is not a sentential operator which is generated in front of the FP and is associated with the independently established Focus Operator. On the contrary, it is a quantifier-like element attached to an XP, assigning to the XP a Focus Operator feature. Evidence for this claim comes from



Hungarian, where csak can also be stranded inside the VP, in the D-structure position of the only XP, undergoing quantifier floating. (Given that in Hungarian, postverbal constituent order is free, the D-structure position of the csak XP can be assumed anywhere behind the V.) E.g.

- (67)a. János csak MARIT hívta meg.  
 John only Mary-ACC invited PERF  
 'It was only Mary that John invited.'
- b. János MARIT hívta csak meg.  
 c. János MARIT hívta meg csak.

The question arises what the difference is between a bare Focus Operator (i.e., in the framework of the structured meaning approach, a focus associated with ASSERT), and a Focus Operator modified by csak. The difference is semantic; csak introduces an evaluative presupposition into the meaning of the sentence. It expresses that the elements of the set over which the Focus Operator quantifies are ordered along a scale, and the element identified by the Focus Operator as such of which the predicate exclusively holds represents a low value of this scale. For example:

- (68) Csak 100 DOLLÁRT fizetett.  
 only 100 \$ paid-he  
 'He paid only 100 \$.'

In (67), 100\$ is identified as a low value of the scale of possible sums that could, in principle, be paid.

The evaluative presupposition is less obvious in the case of examples like (69), but it is, nevertheless present:

- (69) Mari csak Jánost szereti.  
 Mary only John-ACC loves  
 'Mary loves only John.'

In (69), the set of persons whom Mary could, in principle, love are ordered in such a way that the total set of them represents the highest value, and single individuals (like János) represent the lowest value. Thus, if Mary has three boyfriends: John, Peter, and Tom, the set {John, Peter, Tom} is at the top of the scale; the sets {John, Peter}, {Peter, Tom}, and {John, Tom} occupy intermediate positions, whereas the sets {John}, {Peter}, and {Tom} are at the bottom of the scale. That is, the scale is derived by the partial ordering of all the subsets of the maximal set in such a way that a set precedes another one iff it properly contains it.

The elements of the scale established this way are naturally not distinct (e.g., in the case of (69), János represents a subset of the relevant set in itself, but it is also a member of all the other subsets preceding it in the scale, including the total set). Therefore, the Focus (Operator) theory of Szabolcsi (1983), requiring that the elements in the domain of focus be distinct and unordered, needs to be somewhat relaxed so as to account also for scales. Actually, the twin operations performed by a Focus Operator: the identification of a subset of a relevant set, and the exclusion of the complement subset, can be interpreted on

scales, as well: the identification of a lower section of the scale (between zero and a value below the maximum) involves the exclusion of the complement higher section.

Notice that this type of focusing operation, involving quantification over elements which are partially ordered in such a way that an element A ordered before an element B properly contains B, is not specific to only phrases; it is characteristic of all scalar domains. For example, it can be observed in the case of Focus Operator DPs containing a numeral, such as

(70) János KÉT könyvet vásárolt meg.

John two book-ACC bought PERF

'It was TWO books that John bought.'

Here, too, the Focus Operator quantifies over sets of books of different cardinality, with sets of higher cardinality properly containing those of lower cardinality. Thus if the universe of discourse contains, say, three books, the domain of the Focus Operator is made up of a set containing all three books, of sets containing two books, and of three sets containing a single book.

Returning to csak, a difference between a bare Focus Operator and a Focus Operator modified by csak is that the latter cannot be combined with a 'once only' predicate, which cannot be simultaneously true of more than one individual. Cf.

(71)a.\*Csak Mari volt a legszebb.

only Mary was the most beautiful

b.\*Csak Mari érkezett elsônek.

only Mary arrived first

c.\*Csak Mari János anyja.

only Mary John's mother

'Only Mary is John's mother.'

The evaluative meaning of *csak*, suggesting that the element identified by the Focus Operator represents a low one among the values that can in principle be associated with the predicate, naturally does not make sense if the predicate can only be associated with the lowest possible value (a single individual), anyway.<sup>8</sup>

## 5. Parametric variation in the feature content of the Focus Operator

Whereas languages with structural focus appear to be uniform in distinguishing between a preposed Focus Operator and an in-situ Information Focus, they differ with respect to the actual feature content of their Focus Operator. As I will argue below, the Focus Operators of various languages are specified for the positive value of at least one of the features [+/-exhaustive] and [+/-contrastive]. Furthermore, the feature complex associated with the Focus Operator can be strong (assuming the framework of Chomsky (1995)), triggering obligatory Focus Movement in syntax, or can be optionally strong or weak, allowing Focus Movement either in syntax or in LF.

### 5.1. The Focus Operator in Hungarian and English

As I argued in section 2.1., the Hungarian Focus Operator, occupying Spec,FP, expresses the **exhaustive** identification of the proper subset of a relevant set; it identifies all and only the members of the set for which the predicate holds. Phrases modified by the additive particles is 'also' and még...is 'even', as well as vala- 'some-' phrases cannot be preposed into the position of the Focus Operator (see (15c,d) and (16)) because their meaning is incompatible with the [+exhaustive] feature of the Focus Operator.

The Hungarian Focus Operator can be [+/-contrastive]. I regard a Focus Operator [+contrastive] if it operates on a closed set of entities whose members are known to the participants of the discourse (cf. also Szabolcsi and Zwart (1993)). In this case, the identification of a subset of the given set also identifies the contrasting complement subset. In Hungarian, the Focus Operator can also operate on an open set of entities - see (72b), where it operates on an open set of writers. This type of focusing is [-contrastive] because the identification of the subset of which the predicate holds does not result in the delineation of a complement subset with clearly identifiable elements.

(72)a. Ki írta a Háború és békét?

who wrote the War and Peace

'Who wrote War and Peace?'

b. [TopP A Háború és békét [FP TOLSZTOJ írta]]

the War and Peace-ACC Tolstoy wrote

'It was Tolstoy who wrote War and Peace.'

As was discussed in section 2.5., the Hungarian Focus Operator must be preposed into Spec,FP in syntax; hence its [+exhaustive] feature is strong.

According to the evidence presented in section 3, the English Focus Operator shares the [+exhaustive] feature of its Hungarian counterpart. Like the Hungarian Focus Operator, it need not be [+contrastive]; thus (72) is a felicitous dialogue in English, as well. Similarly, (73) can also be used in a context or situation which provides no closed set of explanations:

(73) It was because of the rain that we arrived late.

Whereas the English Focus Operator is associated with the same, [+exhaustive], [+/-contrastive] features as the Hungarian Focus Operator, it is not always preposed into Spec,FP in syntax. Recall the relevant discussion in section 3.4: its feature specification is strong unless it is unambiguously identifiable in PF; it is optionally strong or weak otherwise.

**5.2. The Focus Operator in Rumanian, Italian, and Catalan**

Rumanian, Italian and Catalan display a preverbal Focus Operator, in addition to Information Focus in situ. Their Focus Operator is [+exhaustive], and unlike its Hungarian counterpart, it is also [+contrastive]. That is, the use of a Focus Operator is possible only if it can quantify over a closed set of individuals known to the participants of the discourse - as Göbbel (1995) showed about Rumanian. In Rumanian sentence structure, the Focus Operator is claimed to be

preposed into Spec,PolP. As Göbbel's following examples demonstrate, the phrase numai pe ION 'only Ion' is formulated as a Focus Operator in Spec,PolP when it identifies a subset of the set pe Ion si pe Ioana 'Ion and Ioana', but it can only be used as an Information Focus in situ when it identifies a subset of the set multi musafiri 'many guests', since multi musafiri does not denote a closed set whose members are known to the participants of the discourse.

(74)a. Am            auzit ca    i-ai            invitat pe Ion si pe Ioana.

AUX-1SG heard that CL-AUX-2SG invited    Ion and    Ioana  
'I heard you invited Ion and Ioana.'

b. [<sub>IP</sub> Numai pe ION l-am            [<sub>VP</sub> invitat]]

only            Ion CL-AUX-1SG            invited

'It was only Ion I invited.'

(75)a. Am            auzit ca    ai            multi musafiri.

AUX-1SG heard that have-2SG many guests  
'I heard that you had many guests.'

b.\*[<sub>IP</sub> Numai pe ION l-am [<sub>VP</sub> invitat]]

'It was only Ion I invited.'

c. L-am [<sub>VP</sub> invitat numai pe ION]

The preposing of the Focus Operator into Spec,PolP does not necessarily take place in syntax; it can also be delayed until LF; thus (75c) is a possible answer not only to (75a) but also to (74a). That is, the [+exhaustive, +contrastive] feature-complex of the Focus Operator in Rumanian can either be strong or weak.

In Italian, too, the Focus Operator is located in the preverbal section of the sentence. According to my informant, Swiss linguist Giampaolo Salvi, the Focus Operator shares the immediately preverbal position of the interrogative operator, hence it must also occupy Spec,CP, triggering V Movement into C. In the dialect of Luigi Rizzi, on the other hand, a subject can intervene between the Focus Operator and the V, which he accounts for by placing the Focus Operator into the specifier of a specific focus projection, dominating FinP, and dominated by TopP. The Information Focus follows the V; I assume, following Vallduví (1994) and others, that it is VP-internal (but Belletti and Shlonsky (1995) argue against this view). The Italian Focus Operator, similar to the Rumanian one, can only be applied to a closed set of individuals known to the participants of the discourse. Thus the who phrase in (76a) cannot be answered by a Focus Operator - unless the domain of who is constrained by a particular context or situation.

(76)a. Chi ha rotto il vaso?

who has broken the vase

'Who broke the vase?'

b. Il vaso, l'ha [VP rotto MARIA]

'MARIA broke the vase.'

c.\*[CP MARIA ha rotto il vaso]

'It is Maria who broke the vase.'

If, on the other hand, the question wants the speaker to select an individual from a closed set of known candidates, as in



(77a,b), the answer will involve a Focus Operator, preposed into Spec,CP either in syntax (see (77c)) or in LF (see (77d)).

(77)a. L'ha rotto GIORGO, il vaso?

has broken Giorgio the vase

'Has Giorgio broken the vase?'

b. Chi di voi due ha rotto il vaso?

which of you two has broken the vase?

c. [<sub>CP</sub> MARIA ha rotto il vaso]

'It is Maria who has broken the vase.'

d. L'ha [<sub>VP</sub> rotto MARIA] il vaso.

'It is Maria who has broken the vase.'

That is, the Focus Operator in Italian is [+exhaustive, +contrastive], and its feature-complex can be either strong or weak.

As for Catalan, Bonnet (1990) and also Vallduví and Vilkuna (1995) suggest that the Focus Operator occupies Spec,IP; Information Focus, on the other hand, is VP-internal. The Focus Operator appears to have the features [+exhaustive, +contrastive]; that is, (78) is only appropriate in a context or situation that presupposes a closed set of candidates for the mother to give the keys to.

(78) [<sub>Spec,IP</sub> AL FUSTER] donará les claus, la  
to-the carpenter give-FUT-3SG the keys the  
mare.

mother

'It is to the carpenter that mother will give the keys.'

The [+exhaustive, +contrastive] feature-complex of the Catalan Focus Operator can be either strong or weak; that is, (78) can be synonymous with (79), containing a Focus Operator in situ, preposed into Spec,IP in LF.

(79) La mare les donará AL FUSTER, les claus.

'The mother will give the keys TO THE CARPENTER.'

### 5.3. The Focus Operator in Greek and Arabic

In the analysis of Tsimpli (1994), the Greek Focus Operator is preposed into Spec,FP position. Greek also has Information Focus in situ. The Focus Operator is interpreted as [+exhaustive, +contrastive]; that is, (80) presupposes a context or situation in which Petro represents a subset of a closed set of persons to whom they could have lent the book.

(80) [<sub>FP</sub> STON PETRO dhanisan to vivlio]

to-the Petro lent-3PL the book

'It is to PETRO that they lent the book.'

The focus in situ in (81) lacks a contrastive reading; consequently, the [+exhaustive, +contrastive] feature-complex of the Greek Focus Operator must be strong, triggering movement into Spec,FP in syntax.

(81) [<sub>VP</sub> Dhanisan to vivlio STON PETRO]

'They lent the book TO PETRO.'

According to Ouhalla (1994), the Focus Operator is preposed into Spec,FP, whereas Information Focus is left in situ in Standard Arabic, as well. The Focus Operator is [+exhaustive, +contrastive]; hence a what phrase not constrained by a particular context or situation cannot be answered by it; it must be answered by an Information Focus:

(82)a. maadaa shariba Zaydun?

What did Zayd drink?

b. sharib-a Zayd-un SHAAAY-AN

drink-3MSG ZAYD-NOM tea-ACC

'Zayd drank TEA.'

A Focus Operator is appropriate when it identifies the subset of a closed set whose members are familiar, as in (83):

(83) SHAAAY-AN sharib-a Zayd-un (laa 'asiir-an)

tea-ACC drink-3MSG Zayd-NOM not juice-ACC

'It was tea that Zayd drank, not juice.'

The [+exhaustive, +contrastive] feature-complex of the Arabic Focus Operator, when not marked by a focus morpheme, is strong; it must be checked in Spec,FP in syntax.

#### 5.4. The Focus Operator in Finnish

Vilkuna (1994) argues that the Spec,CP position of the Finnish sentence is a contrastive position: it can host either a contrastive focus, or a contrastive topic. Vilkuna regards the two types of constituents as closely related: they both

identify a subset of a closed set previously introduced into the domain of discourse; merely the contrastive focus exhaustively identifies the subset for which the predicate holds, whereas the identification performed by the contrastive topic is non-exhaustive. Thus (84), with Anna in Spec,CP, is ambiguous (at least in writing).

(84) [Spec,CP Anna] asuu täällä.

Anna lives here

(84) can be a reaction to the statement in (85a), in which case it functions as a contrastive focus, i.e., as a Focus Operator, carrying the features [+exhaustive, +contrastive].

(85)a. Kati asuu täällä.

'Kati lives here.'

b. [Spec,CP ANNA] asuu täällä.

Anna lives here

'It is Anna who lives here.'

(84), with Anna in Spec,CP, can also be (part of) the answer to the question in (86a). In that case, it functions as a contrastive topic, carrying the features [-exhaustive, +contrastive]:

(86)a. Where do Anna, Kati and Mikko live?

b. [Spec,CP Anna] asuu täällä

'Anna, she lives here.'

Since the Spec,CP position of the Finnish sentence is specified as [+/-exhaustive], it can also be occupied by an also phrase. (Remember that Hungarian is 'also' phrases are excluded from the Spec,FP position, which is associated with the feature [+exhaustive].)

(87) ANNA-KIN asuu täällä.

Anna-too lives here

The [+contrastive] feature of the Finnish Focus Operator and Contrastive Topic appears to be strong; thus a [+contrastive] constituent can only be VP-internal if Spec,CP is already filled by another [+contrastive] constituent, as in (88):

(88) [Spec,CP Annalle] Mikko antoi KUKKIA.

Anna-DAT Mikko gave flowers

'To Anna, Mikko gave FLOWERS.]

In sum: the evidence accumulated in Vilkuna (1994) indicates that the Spec,CP position of the Finnish sentence can be occupied by a [+contrastive], [+/-exhaustive] operator. The [+contrastive] feature of this operator is strong; so movement to Spec,CP takes place in syntax.

## 6. Conclusion

I have argued in this paper that the term 'focus' is applied in the literature to two syntactically and semantically different types of phenomena, which ought to be kept apart: the Focus

Operator, semantically an identifying operator, syntactically a constituent preposed into the specifier position of a functional projection, and Information Focus, the carrier of new information, involving no syntactic reordering. The properties of the Focus Operator as opposed to those of the Information Focus were identified on Hungarian material. According to the criteria established on the basis of Hungarian, the Focus Operator of the English sentence, expressing exhaustive identification, preposed into Spec,FP, turned out to be the cleft constituent. Only-phrases were analyzed as Focus Operators carrying an evaluative presupposition, operating on a partially ordered domain (a scale) of entities. Finally, it was demonstrated that the feature specification of the Focus Operator is subject to parametric variation: the Focus Operators of various languages can be specified for the positive value of either or both of the features [+exhaustive] and [+contrastive]. The feature specification of the Focus Operator can be strong, triggering obligatory Focus Movement in syntax, or can be weak or strong, manifested in optional Focus Movement.

## Notes

1 The term Focus Operator is not to be confused with the term 'focusing operator' (or 'focus sensitive/focus binding operator') used in various focus theories. The term 'focusing operator' is generally applied to such particles as only, even, also, the negative particle, or to such adverbials as unfortunately, always - see e.g. Jacobs (1984). A Focus Operator, on the other hand, is a sub-type of focus: that exhaustively identifying the proper subset of a relevant set as such for which the predicate holds - as I will argue below.

2 Vallduví and Vilkuna (1995) do not exclude the possibility of a Focus Operator in A-bar position in Catalan any longer.

3 I do not consider here operators in Left Dislocation, marked by a special falling-rising intonation, which always have narrow scope with respect to a subsequent operator, and stressed post-verbal operators, which are claimed in É. Kiss (1991) to occupy a pre-focus scope position at S-structure, and to undergo stylistic postposing in PF.

4 Drubig (1994) argues for the same claim on the basis of syntactic evidence.

5 In fact, section 4 will somewhat restrict the validity of this claim, allowing the Focus Operator also to quantify over partially ordered sets (in the case of scales, established by the scalar particle only, or by numerals).

6 Hungarian multiple questions are never ambiguous, because the WH-phrases are all moved in syntax. In questions requiring a pair-list answer, the WH-phrase interpreted as a universal quantifier is moved into a pre-Focus Quantifier position, and the WH phrase requiring an exhaustive answer is moved into Spec,FP. E.g.

- (i) [QP  $Ki_i$  [FP  $mit_j$   $hozott_k$  [VP  $t_k$   $Marinak$   $t_j$   $t_i$ ]]]  
       who        what brought        Mary-DAT  
       'Tell me about each person what he brought for Mary!'

- (ii) [QP  $Mit_i$  [ $ki_j$   $hozott_k$  [VP  $t_k$   $Marinak$   $t_j$   $t_i$  ]]]  
       'Tell me about each object who brought it for Mary!'

In "real" multiple questions, in which all WH-phrases function as interrogative operators, all WH-phrases are moved to a Spec,FP:

- (iii) [FP  $Ki_i$   $látott_k$  [FP  $kit_j$   $t_k$  [VP  $t_k$   $t_j$   $t_i$ ]]]  
       who saw                   whom  
       'Who saw somebody, and who was the person he saw?'

7 For a more precise account of word order in multiple Focus Operator constructions in Hungarian, see É. Kiss (1995).

8 Csak can also be adjoined to a V, presumably triggering V movement to F - as the possibility of csak-stranding in postverbal position shows:



(i)a. János csak DÚDOLTA a dalt, mert nem tudta a  
 John only hummed the song, because not knew its  
 szövegét.

text

'John was only humming the song, because he did not know  
 its text.'

b. János DÚDOLTA<sub>i</sub> csak t<sub>i</sub> a dalt, mert nem tudta a  
 szövegét.

Csak can also be adjoined to a VP. Since in this case, the  
csak-phrase does not undergo any movement, no csak-floating is  
 predicted. This prediction is borne out:

(ii)a. János szinte semmit sem csinált egész nap, csak  
 John practically nothing not did whole day only  
 levitte a kutyát sétálni.

took the dog to-walk

'John did practically nothing the whole day, he only  
 took the dog for a walk.'

b.\*János szinte semmit sem csinált egész nap, levitte csak  
 a kutyát sétálni.

Whereas we can perhaps attribute a syntactic Focus Operator  
 status to a V occupying the head position of an FP with an  
 empty specifier (see Brody (1990)), a VP modified by a csak  
 cannot be regarded as a Focus Operator according to the  
 criteria discussed in section 2. The quantification performed  
 in the case of a csak V and a csak VP is related to focusing

performed by a Focus Operator, but is more complex; according to native speakers' semantic intuition, the content of the V/VP is first 'individuated', i.e., it is viewed as an act/event, then a set of relevant acts/events is introduced, of which the act/event represented by the V/VP is identified as true. (On the problem of VP focus, see Zsámboki (1995)). The contribution of csak is regular: it expresses that along the scale of the subsets of possible acts/events, the one identified represents a low value. It is unclear at this moment what LF sentences of this kind should be assigned; whether the event argument of the predicate should figure in the representation, etc.

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