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On the Syntactic Options of Focus

(1993-98)

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Abstract

This paper seeks a general and simple account for a large variety of focus constructions in a number of languages. It surveys several focusing strategies, such as focus in situ, and the initial, preverbal and postverbal varieties of ex situ focus. Drawing on the regularities of adjunct versus head, argument, and phrasal focus, it shows why previous analyses are empirically and theoretically inadequate in crucial respects. The proposals are formulated here within the current minimalist framework and based on a strong/weak focus feature as well as various structural positions of the functional category Focus.

1. Introduction

The fundamental problem this paper addresses is whether there can be a simple and general enough syntactic analysis to account for the diversity in the ways focus, a relatively simple semantic notion, is expressed.

Focus is a term applied on several levels of grammar: it is relevant in phonology, syntax and semantics. For our purposes here, focus will be regarded as a formal feature corresponding to pitch accent and/or syntactic positions, as well as a general semantic interpretation possibly varying within well-defined limits. In section 2.1, some of the most important semantic options are reviewed, but, since individual languages make use of different aspects of the semantics of focus on the one hand, and it is not our objective to propose a unified semantic theory for focus here, we will not be committed to any particular approach.

There are various focusing strategies in the languages of the world, in additon to the simple device of in-situ focus, i.e. expressing focus without movement, we find movement into initial, final, medial, preverbal, and postverbal positions, in short, ex-situ focus. Such a state-of-affairs calls for a parametrized approach, and there have been resourceful attempts in the literature to date, as shown in 2.2.

These proposals, however, suffer from a fundamental inadequacy as a result of neglecting the advances primarily made in the study of the prosody of focusing. In section 3 new data are presented to demonstrate that the distinctions between adjuncts versus heads or arguments in focus-in-situ languages that determine pitch accent placement as well as the semantic range of focus are also made use of in languages with ex-situ focus. I will use this evidence to argue that any approach based on government or Spec-head agreement as the sole source of focus feature assignment is crucially flawed and cannot account for a large set of very simple constructions.

In 4.1, we draw a closer analogy between wh in-situ and focus in-situ as well as between wh-movement and focus-movement than has been done so far. Section 4.2 couches the proposal

in terms of Government-Binding theory, relying on a random feature-assignment and realization rule, necessary for independent reasons, and argues that the distinctions between adjunct versus head/argument focus has to be consistently maintained. Finally, section 4.3 puts forward a minimalist analysis of focus asssignment and projection as well as a set of complex proposals for the syntactic variety of focus movement.

2. The meaning, the prosody and the syntax of focus

2.1. On defining focus

In this paper we are concerned with free focus, that is, the kind of focus unassociated with focusing particles, such as only or even. Notwithstanding this delimitation, (free) focus is understood in a number of different ways of which we will discuss three here.

In a tradition going back to the Prague School (cf., e.g., Haji ová (1984a, 1984b)), the sentence is divided into two parts carrying old and new information, respectively. The segment corresponding to new information is often called presentational focus (Rochemont 1986).

Another type of focus is found in answers to questions, such as What did Bill do yesterday? If the answer is He bought a used CAR, it is understood as identifying the variable in the question as `buy a used car', but the answer is not taken to exclude other possible actions carried out by Bill within the period defined by the time adverb. This type is called information focus by some (Kiss 1996, 1998b; Roberts 1998).

Set against these two kinds of nonexclusive focus, we distinguish here a type of focus that has contrastive or exclusive interpretation, where the notion is understood to depend on some domain of discourse, already existing or created by the focus operator, or on a set of alternatives, of which the focused item selects one (cf., e.g., Chomsky (1976), Rooth (1985), Rochemont (1986)).[1]

Languages may apply syntactic and/or phonological focusing processes to express one or another semantic choice of focus above. In English, for example, (1a) can be used to convey new

information, it can be an answer to a VP-question, or it can have a contrastive focus reading, asserting that it is a used car, rather than a used truck or boat, that Bill bought.

(1) a. Bill bought a used car.

b. Bill bought a used car.

While Chomsky (1976) and Rochemont (1986) allow for contrastive focus in sentences like (1a), Roberts (1998; 142) claims that "English prosodically focused constituents do not, by themselves, generally bear an implication of exhaustiveness", and Rooth (1996) attributes the semantic effects of free focus in English to the evoking of alternatives, and those of free focus in Hungarian to exhaustive listing, hoping for unification in the future.

As was analyzed first by Höhle (1982) and then by Selkirk (1984), if the head (of an argument) is focused, i.e. has pitch accent, the maximal projection that it is the head or an argument of can be interpreted as focused. Consequently, (1a) can be understood in any one of the meanings (i) `it is a used car rather than a used truck that Bill bought', in which the N is focused, (ii) `it is a used car rather than a pick-up truck that Bill bought', in which the NP is focused, and (iii) `what Bill did was buy a used car, rather than find a mechanic', in which the whole VP is in focus, to illustrate contrastive readings only.[2]

As follows from the Höhle-Selkirk analysis, if an adjunct is focused, the category it is adjoined to cannot be automatically interpreted for focus; this is shown in (1b), which cannot have the reading `It is a used car rather than a truck that Bill bought.' Furthermore, the ambiguity between nonexclusive and contrastive focus also disappears: (1b) can be understood only in contrast with some statement, presupposition, belief, etc., to the extent that Bill bought a car that has some property other than `used'.[3]

Current research converges on a unitary interpretation of focus, although under different premisses (cf. Rooth 1992, 1996; Roberts 1998). For our purposes here the relationship between the three types of free focus is seen as one of identification, and in the case of contrastive focus with respect to some domain of discourse, cf. note 1. That these foci are distinguished in at least

some languages is illustrated next.

In an extensive analysis of focus constructions in the Bantu language of Kimatuumbi, Odden (1984) reports that there are two forms of past tense for verbs used in focused sentences: a `neutral perfective' and a `verb-focal past tense'. He observes that the verb-focal tense cannot be used in answers to constituent questions (e.g. `What did he cook?' in (2a)), but they are acceptable if they are given in answer to a general information question (e.g. `What did he do?' in (2a)), while the `neutral' tense-form behaves just the opposite way.

(2) a. aatíteleká kindoólo
3s-cooked-VF sweet-potato
`He cooked sweet potato.'

b. aatélike <u>kindoólo</u> (ńama líili)
3s-cooked sweet-potato meat NEG
`He cooked sweet potato, not meat.'

The difference between the two sentences (2a-b) is possibly one of nonexclusive versus contrastive focus: in (2a) the VP is `new information', while in (2b) the object is in contrast.[4] If there were a single focus feature available for both types of focus, the distinction in (2a-b) could not be accounted for. Further African languages show similar dichotomies, cf. Hyman and Watters (1984) and Thwing and Watters (1987), but other languages also make the separation of the two types of focus explicit. One such example is Hungarian.

(3) a. Péter vett egy használt autó-t.
Peter bought a used car-ACC
`Peter bought a used car.'

b. Péter <u>egy használt autó-t</u> vett.
`It's a used car that Peter bought.'

(3a) can convey new information (presentational focus), or it can be used to answer a question, such as `What did Peter buy yesterday?', without necessarily implying that all he bought

yesterday was a used car (i.e., information focus). In comparison, (3b), by itself or as an answer to a similar question, can only be understood as asserting that what Peter bought was none other or more than a used car, thus conveying an exclusive reading.

In the next section we will survey and summarize proposals put forward to account for the variety of focusing devices. For the time being we will remain within the boundaries of the Government-Binding model, and will show that these suggestions are inadequate or make wrong predictions even on their own terms.

Since every language chooses its quantifiers and other logical operators from a limited vocabulary, focus must be generally available as such an operator with the same range of semantic representations. This claim merely asserts that Logical Form is identical or at least very similar across languages; a theorem that has been an essential component of generative grammar all along its development (cf. Chomsky 1995; 359). Note that it has to be true whatever the actual form of semantic representation may be - and we are not committed here to any particular option conceivable in, or compatible with, a principles-and-parameters approach.[5]

2.2. Proposals to account for focus phenomena

There are two distinct ways in which focus is expressed. One is to apply phonological prominence (i.e., stress) in situ and/or a rearrangement of prosodic structure, as English, Chichewa (Kanerva 1989), or Bengali (Hayes and Lahiri 1991), which is illustrated here.[6]

(4) a. Šaemoli amar bari eše ^{h}ilo
Shamoli my house had-come-to
`Shamoli had come to my house.

b. Šaemoli <u>amar</u> bari eše ^{h}ilo
`Shamoli had come to <u>my</u> house.'

c. Šaemoli amar <u>bari</u> eše ^{h}ilo
`Shamoli had come to my/<u>my house</u>.'

The other, ex situ procedure moves the focused constituent into some designated position, whether initial, as in Basque (Ortiz de Urbina 1986, 1989, 1995), Finnish (Holmberg 1989, Vainikka 1989, Vilkuna 1989, 1995), Russian (King 1993); preverbal, as in Mayan languages (Aissen 1992), Hungarian (Kiss 1987, Horvath 1986); postverbal, as in Aghem (Watters 1979), Kimatuumbi (Odden 1984), and the Chadic languages discussed in Tuller (1992); or final, as in Tangale and Ngizim (Tuller 1992). The following Hungarian examples illustrate.

(5) a. Anna tegnap olvasta a cikk-et.
Anna yesterday read the article-ACC
`Anna read the article yesterday.'

b. Anna tegnap a cikket$_i$ olvasta e$_i$
`It's the article that Anna read yesterday.'

c. Tegnap Anna olvasta a cikket.
`It's Anna that read the article yesterday.'

d. *Anna tegnap olvasta a cikket.'

Some languages make exclusive use of the in situ or the ex situ strategy. Others, such as Finnish, Modern Greek, or the Chadic language Kanakuru, allow the two methods to coexist.[7]

For focus-in-situ languages, the case is relatively simple in a Government-Binding framework: focus must be assigned to some constituent, which is then interpreted for prosodic focus in Phonetic Form and for semantic focus in Logical Form, cf., e.g., Culicover and Rochemont (1983), Selkirk (1984), Rochemont (1986), Rochemont and Culicover (1990), Jacobs (1991). While Rochemont and Culicover (1990), for example, assign focus at the level of S-structure, others, including Jacobs (1991) or Horvath (1995) locate the operation at D-Structure. The formulation below accords well with most proposals in the principles-and-parameters approach.

(6) Focus Assignment

Assign [+focus] to a head X^0 or a maximal projection XP.

Note that most functional categories (determiners, tense auxiliaries, complementizers) do not lend themselves to a contrastive focus reading, since they do not determine domains of discourse, unlike the open-class items of nouns, verbs, adjectives and adverbs, and the phrasal categories containing them. However, if LF can make the relevant distinctions between items that do and those that do not determine domains, no further restriction need be mentioned.[8]

Following the spirit, though not the letter, of Selkirk's (1984) Phrasal Focus Rule, cited in note 2, and by and large in line with Jacobs (1991), the feature [+focus] assigned to a head will not be allowed to percolate up along the tree, but if it is assigned to a phrase node, it has to trickle down to a word-size item for proper phonological implementation.

(7) Focus Realization

The feature [+focus] is realized on the head (and/or the head of an argument) of the XP it is assigned to.

The rule in (7) applies recursively in the Phonetic Form and thus has no effect on semantic interpretation, for which only the original position of the feature is visible. Note that in an apparent analogy with the prohibition on the semantic focusing of functional heads in (6), prosodic focus must, in general, also be prevented from being placed on functional heads.[9]

In other words, the examples in (1a-b), repeated below, will undergo the following operations. First, [+focus] (+F, for short) is assigned to the nodes identifying the bracketed items:

(8) a. Bill bought $[_{DP}$ a used car]
+F

b. Bill bought a used $[_{N}$ car]
+F

c. Bill bought a $[_{AP}$ used] car.
+F

For LF, that is all the information that is necessary: the bracketed constituents will be interpreted for focus accordingly. For PF, however, (7) must apply. In (8b-c) +F is assigned either to a head category, in which case the rule applies vacuously, or to an XPs that consists of a single lexical

item and in which the phonological realization of the feature is unproblematic. In (8a), however, +F is at the DP node, so it has to appear on the lexical head (and/or the lexical head of an argument) of the category. Given that the indefinite article is in D, since it is a functional category, it cannot be selected. Used is (the head of) an adjunct AP, so it is also passed over. That leaves the head of the NP complement of D, car. In other words, if a used car is focused as a DP, the pitch accent must be located on car, rather than on a, used, or used and car.

Although I have followed Selkirk's (1984) analysis of the data in English, it must be noted that a number of linguists, in particular, Stechow and Uhmann (1986), Jacobs (1991), and Drubig (1994) are critical of the option in which the whole phrase is in semantic focus with only the head or an arbitrary argument bearing the pitch accent, and argue for a more even distribution of pitch accents within the XP that is focused. They also claim that there is a difference between the pitch accent characteristics of adjuncts preceding and those following a head. Be that as it may, as long as there is some distinction between the phonological expressions of (semantic) focus on adjuncts and phrases, which none of them have questioned, there must be some rule of phonological realization of the form of (7). Note that in principle it is also possible for the phonological realization to differ from one language to another in these and other respects.[10]

We will now turn to proposals for focus-movement languages. The received analysis of ex-situ focus (Horvath 1986, Kiss 1987) hinges upon the assignment of the feature [+focus], or +F for short, at the head of some }-chain, as is shown by a typical proposal quoted below.

"The feature +F is inherently associated with the predicate of the sentence, in the case of Hungarian, with the VP. If the specifier position of the VP is filled, the feature +F percolates on the constituent in [Spec, VP]. [...] If the feature percolates on an NP or PP (i.e., a constituent denoting an entity), it is interpreted as a focus operator." (Kiss 1994; 30)

Others take a slightly different option as to the choice of the feature assigner; for example, Horvath (1986) considers the verb to be the source of [+F], Ortiz de Urbina (1989, 1995) argues that it is the C, rather than the V, that has the focus assigning potential in Basque,

while in a proposal for Hungarian Brody (1990) posits a functional category FP, which assigns the feature to a constituent moved into the specifier of FP, and requires that the verb move to the head of FP. Tsimpli (1995) differs from Brody (1990) in assigning the focus feature in D-structure and checking them optionally in the Spec of FP at S-structure. Kenesei (1992) applies Brody's suggestion to Finnish on the basis of its overt focus morphology, but not to Hungarian, in which the head of IP is proposed to be the relevant focus assigner, similarly to Horvath's (1995) independently argued position.

Proposals for the analysis of postverbal focus are based on adjunction structures and adjacency of the verb to the focused constituent, cf. (9), based on Tuller (1992) and Horvath (1995).

(9) $[_{IP}\,[_{I'}\,[_{I}\ \underset{+F}{I} + \underset{+F}{V_i}]\,[_{VP}\ XP_j\,[_{VP}\ \underline{e}_i \ldots \underline{e}_j]]]]$

In summarizing the various options available for focus-movement languages, Horvath (1995) offers the following generalizations for a parametrized approach to the problem. First of all, she notes that there is unanimous agreement that focused constituents are in a designated }-position at S-structure. Then, following her own earlier work (Horvath 1986) as well as Tuller (1992), she claims that the assignment of +F and that of structural Case are analogous processes. Her final tabulation of the choices is given in (10), which combines her (26) and (28).

(10) Horvath's (1995) Feature-Assignment Parameters

1. the nature of the feature

(i)	freely occurring i.e., not transferred from another category; e.g.: Nominative Case (ga) in Japanese; [+FOCUS] in English	vs.	(ii)	assigned by a specific X^0 category; e.g. Nominative Case in English, Welsh, West Flemish; [+FOCUS] in Hungarian, Western Bade, Kanakuru

2. What X^0 functional category of the clause is the assigner, i.e. the source of the feature (e.g. I vs. C)

3. whether the feature-assigning category needs to be "lexicalized"

4. the configuration of assignment:

    (i) under government

    (ii) under Spec-head relation

5. the mode of assignment:

    (i) feature transfer, subject to an adjacency requirement

(ii) (dynamic) agreement [no adjacency relevant; available only for assignments under Spec-head relation]

Parameter 1 distinguishes focus-in-situ and focus-ex-situ languages. Since, however, focus-assignment by X^0 must target the head of an }-chain, according to Horvath (1995), free assignment of focus in the in-situ languages must take place at D-structure, rather than at S-structure, which sets the two language types even further apart.

In ex-situ languages the positions in which focused constituents can occur are determined by Parameters 2 through 5. Parameter 2 also relies on the analogy with nominative assignment, which may be a function of the I (as in Irish, Welsh or Standard Arabic) or C (as in West Flemish-type languages), as argued by Rizzi (1991), both I and C being within the extended

projection of the V according to Grimshaw (1991). Parameter 3 specifies whether or not the +F feature to be assigned by some head needs to be absorbed by a lexical head, such as V. Parameter 4(i) serves, among others, to account for the cases in which +F assignment is into some adjunction position in the domain of the assigning head, though not necessarily in the specifier of its phrase. Finally, Parameter 5 is intended to generalize over classes of Case and focus assignment (whether to Spec or adjuncts) where adjacency is or is not required.

The question of the parallel behavior of Case and focus assignment is far from clear. In contrast to Horvath (1995), Tuller (1992), for example, takes into account an analogy with Spec-head agreement as well, at least in some instances of focus-assignment in Chadic languages. Note, furthermore, that (structural) Case and focus are crucially different in their grammatical effects: Case has no semantic consequences, it is always assigned only to entire DPs (and possibly clauses), it occurs on a single constituent or several constituents of the DP independently of any semantic relations, none of which is true of focus assignment. Focus does have semantic effects, it can be assigned to any phrase node, and it can have multiple instantiations in a single phrase under well-defined (semantically significant) conditions. In more recent terminology (cf. Chomsky 1995), Case is -Interpretable and thus is invisible at LF, whereas focus must be a +Interpetable feature. Furthermore, Case is obligatory (in the sense of the Case Filter or the Visibility Condition) and variable at least between nominative and accusative, but focus is optional and instantiated as an `on/off' feature.

Whether or not the analogies with Case assignment or Spec-head agreement can elucidate the issue of focus assignment to some degree, in the light of the data and the arguments in the next section they will prove to be untenable even within their own context.

3. Heads, adjuncts, and arguments in focus

In this section I will first recapitulate the analysis of adjunct vs. phrasal focus in focus-in-situ languages, then present a set of new examples from an ex situ language, which demonstrates that

the accepted analysis of focus assignment in focus-movement languages cannot cope with such a distinction, and thus falls short of being empirically adequate.

According to Selkirk's Phrasal Focus Rule (see note 2) or its reinterpretation in (7), the positions of phonological focus (= CAPITALS) and semantic focus (= italics) interact as predicted in the examples below. Note that in (11) negatives are used to make the contrastive focus reading more transparent.

(11) a. Bill didn't buy a used CAR.

b. Bill didn't buy a used CAR.

c. Bill didn't buy a USED car.

In (11a), as was discussed before, the head of the argument of the (functional) head of DP carries the pitch accent, which allows the whole DP to be interpreted for focus. Pitch accent in the same position is also compatible with semantic focus only on the head (of the argument), as in (11b). With pitch accent on the adjunct, as in (11c), no focus interpretation for the dominating DP is available.

So far little, if any, attention has been paid to the occurrence and distribution of prosodic focus, i.e. pitch accent, within the phrases that are moved into focus position in focus-movement languages. The following characteristic examples from Hungarian, which has invariable preverbal focus, demonstrate that the regularity concerning adjuncts versus heads and arguments also obtains in this language. (Brackets enclose the constituent moved into focus position.)

(12) a. Anna [a tegnapi CIKKEK-ET] olvasta.
Anna the yesterday's articles-ACC read
`It's articles from yesterday that Anna read.'

b. Anna [a TEGNAPI cikkeket] olvasta.
`It's articles from yesterday that Anna read.'

(13) a. Anna [a használt AUTÓ-T] adta el.
Anna the used car-ACC sold PFX

`It's the used car that Anna sold.'

b. Anna [a HASZNÁLT autó-t] adta el.

`It's the used car that Anna sold.'

In (12a) the head noun cikkeket has focus accent, the entire DP can be interpreted for focus (or only the head, which is irrelevant at this point). In (12b) the focus accent is carried by a (left) adjunct, therefore it is the adjective, rather than the entire DP, that has the corresponding focus reading. Similarly, in (13a) the entire DP can be in contrast if autót has pitch accent, whereas whenever the adjunct is focused, as in (13b), this option is not available.[11]

While these data from a focus-movement language give further support to Selkirk's Phrasal Focus Rule, or any equivalent thereof, they call into question any proposal that is based on assigning a focus feature to a constituent moved into some designated position at S-structure. For if the feature +F, which is to be interpreted for semantic and phonological focus, is assigned at S-structure to the Spec position of some projection by its head (such as I, V or F in Hungarian, as has been suggested), only (12a) and (13a) can be accounted for, and examples of the type of (12b) and (13b) cannot be directly derived.

To elaborate, if we argue that focus assignment takes place along the lines of Case assignment or Spec-head agreement, the focus feature has to be assigned to the maximal projection occupying the designated focus position at S-structure. Then we will have to suppose that, in order to account for phonological focus occurring on word-size units, the feature percolates down on some or another constituent, roughly along the lines of (14).

(14) F-Assignment to Head of }-Chain

a. Assign +F to XP at the head of its }-chain.

b.Allow the feature to percolate onto the head, an argument of the head, or an adjunct of the XP.

Although (14) can, in principle, produce all of the configurations illustrated above, it is liable to a number of conceptual and empirical difficulties.

To begin with, while it is obvious that (14a) operates at S-structure, it is unclear whether a rule like (14b) should apply at S-structure or at PF. On the one hand, the downward percolation of features, such as Case, does not generally have any semantic effect, in which case (14b) should operate at the level of PF. On the other hand, if it were not allowed to apply at S-structure, it could not assign (semantic) focus to anything below the maximal projection moved into the designated position where focus assignment takes place. Let us then suppose that (14) operates at S-structure.

The next question to address is whether the focus feature assigned to a maximal category in Spec remains at that category node or disappears when it percolates down. If it remains on the XP node, percolation of the feature onto an adjunct will be illegitimate, since PF would then assign pitch accent to the adjunct, but LF would consider the entire XP (which includes the adjunct) as focused, contrary to facts as was seen above. If, however, the focus feature disappears from the XP by virtue of percolation, what would remain unaccounted for is the configuration in which the head or the (head of the) argument receives pitch accent and the entire XP is interpreted for semantic focus function. Finally, if the percolation rule in (14b) were modified so that the focus feature on the XP node would disappear if it percolates onto an adjunct, but it would not do so if it percolates onto a head or an argument, the semantic distinction between head-focus and phrasal focus would disappear, cf. (12a), (13a). Whichever option is chosen, rule (14) runs counter to empirical data and observations.

Even if we abandon the view that focus assignment is like Spec-head agreement or Case assignment, and follow another direction, according to which the assignment of focus has more in common with wh-licensing, cf. Kiss (1987), Ortiz de Urbina (1989), Brody (1990), Kenesei (1992), and Tsimpli (1995), we would encounter the same problems of assignment, and no account could be given for postverbal foci, such as those in the Chadic languages, since all of these proposals are based on Spec-head configurations, as was pointed out by Horvath (1995) with reference to Brody (1990).

Note, finally, that a movement-and-assignment approach is at a loss when faced with Gapping or VP-focus in a focus-movement language. The equivalent of English Gapping in Hungarian, cf. (15a) for example, is a structure with multiple focus, in which only one XP is moved into the designated focus position at S-structure, the other(s) is/are in-situ, each with a focus pitch accent. Moreover, one possible option for VP-focus in Hungarian is to place a complement of the verb into the designated focus position with the rest of the constituents of the VP lined up to the right of the inflected verb, as in (15b).[12]

(15) a. Anna MARI-NAK olvasta a CIKKET (és PÁL-NAK a NOVELLÁ-T)
Anna Mary-DAT read the article-ACC and Paul-DAT the short-story-ACC
'Anna was reading the article to Mary and the short story to Paul.'

b. Anna MARINAK olvasta a CIKKET (és nem énekelt)
and not sang
'Anna was reading the article to Mary (rather than singing).

If focus is assigned to some designated position, under no circumstances can a postverbal constituent or the phrase it is the argument of acquire focus accent and interpretation.[13]

4. Focus movement in a checking theory

In this section we will first take stock of similarities and differences between focus and wh-movement, then propose how to accommodate the data in a Government-Binding model, and finally outline a possible analysis within the minimalist program. Although it is not followed to the last detail, our proposals will be fundamentally minimalist in nature.

4.1. Focus and wh-movement

Even though the interpretation of focus may show some variation across languages (within the range outlined in section 2.1), the properties of overt focus movement should follow identical principles. If it is not possible to assign the focus feature in the head of the }-chain, there can be

no analogy with Case-assignment or Spec-head agreement. That leaves wh-licensing as the only remaining parallel to be drawn with the syntax of focus. Since both structures undergo quantifier interpretation, such an analogy is very much at hand.

One important and obvious distinction between wh-phrases and focused items is the origin of the relevant feature. A wh-phrase contains some item lexically determined and marked by a [+wh] feature. Such a lexical source is inaccessible for free focus in general, although there are lexical focusing particles, e.g. only, even, or Russian -li and the like. However, they at best select items other than themselves from a range of possible candidates and then mark them for focus, cf. Rooth (1985) or Jacobs (1991). Even if it were claimed that particles assigning focus accomplish some sort of lexical selection, it must be ensured that the particle and its targeted (focused) phrase end up in the designated focus position.

The idea that foci can be determined by, and therefore correspond to, wh-questions goes back to Hermann Paul (1880; 283).[14] The fact that in some languages, e.g., Finnish, Hungarian, Korean, wh-phrases (can) occupy the same position as foci at S-structure has given further support to identifying the two. Just as there are languages, such as Chinese or Japanese, in which there is no overt wh-movement in contrast to those that move wh-phrases in overt syntax (English, Hungarian, Italian, Georgian, etc.), so there are languages (Bengali, Chiche⌊a, English, etc.) in which there is no overt focus-movement in contradistinction to those that exhibit such processes (Hungarian, Korean, Modern Greek, Western Bade, etc.). Following Brody (1990) we may then assume that some equivalent of focus-movement at LF is at work in every language that makes no use of overt scope assignment to foci.

4.2. Focus-movement in Government-Binding theory

The semantic consequences of the difference between phonological focus on the adjunct and on the head and/or its arguments makes it impossible to analyze focus features as being assigned to constituents by some X^0 in the head of their }-chain at S-structure. We are thus forced to suppose

that the constituents in question acquire their focus features in a different process. Relying on the analogy with wh-movement and on Brody's Focus Criterion (see note 13), we may return to Rochemont's (1986) and Jacob's (1991) proposals, rendered here as (6) and (7), and extend them to ex-situ languages. Then, similarly to languages with in-situ focus, the focus features would be assigned at the level of D-structure to heads or phrases, which would then have to move at S-structure to their designated positions as required by clause (a) of the Focus Criterion.

But, in contrast with in-situ languages, the movement of constituents marked for focus is possible only if it is the dominating phrase node that has the feature. If, however, an adjunct phrase or the head carries it, movement is illegitimate the same way as in the case of wh-phrases.

(16) a. *What did you read [___ book]?

b. *What did you buy [John's ___]?

(17) a. *Anna vastag olvas [egy ___ könyv-et]

Anna thick reads a book-ACC

b. Anna [egy vastag könyv-et]$_i$ olvas e_i

`It's a thick book that Anna is reading.'

(18) a. *Anna könyv-et olvas [egy vastag ___]

b. Anna [egy vastag könyv-et]$_i$ olvas e_i

`It's a thick book that Anna is reading.'

As in the case of overt wh-movement, focus movement has to make use of some process of pied-piping. If a head or an adjunct of some XP is marked either for +wh or +focus, it pied-pipes the dominating phrase node to satisfy the Wh or the Focus Criterion.

As of this time we have the following devices necessary to account for the semantic, syntactic and phonological properties of focus phenomena. First, the feature [+focus] is assigned to head or phrase nodes. This is the feature that has direct semantic consequences: whatever is marked by it will be interpreted for semantic focus. Then, if [+focus] is on some head or an adjunct XP inside some phrase node, its pied-piping reflex, say [+FOCUS], has to occur on the

dominating phrase node - a process identical to the pied-piping of wh-phrases, were the dominating phrase node moves but is not interpreted for operator functions. Finally, in the Phonetic Form component, the [+focus] feature on phrase nodes percolates down onto the head and/or arguments for proper phonological interpretation, i.e., for pitch accent assigment. Although the picture may be complex, each move is independently necessary, as follows from what we have argued for so far. What it incorporates is the descriptive generalization that an adjunct in prosodic and semantic focus does not project its semantic focus but (possibly) pied-pipes the phrase it is adjoined to, while under similar conditions a head or an argument focused in a phonological sense can both pied-pipe its phrase node and project semantic focus to it.

4.3. Focus from a minimalist perspective

Although the processes described above can generate all and only the well-formed strings of constituents in a technical sense, an important question has been begged throughout. When wh-questions and focus constructions are compared, it is worth examining how the respective features arise. As is well-known, wh-words are lexical: certain items in the lexicon have the intrinsic feature [+wh] marking them for subsequent quantifier interpretation. Focus, on the other hand, is a feature freely assignable to any head or XP, as was argued above. Note here incidentally, that some principle like Last Resort, which is independently necessary, requires that items (whether features or phonetically interpretable strings) be moved to enter into some feature checking relation with a target node, rather than move freely and have features assigned to them.

As far as heads are concerned, no problem arises, as will be seen directly. But there is no comparable process in our model which would allow free assignment of a feature to a non-head category. This is a serious drawback even within a Government-Binding approach, but it becomes an unsurmountable obstacle in the minimalist version of Chomsky (1993, 1995).

To begin with, there is no separate level of D-structure, therefore, the site of random syntactic feature assigment is nowhere to be found. Consequently, phrase nodes are no longer

available as targets of feature assignment in either ex-situ or in-situ languages. That leaves lexical items, i.e. heads, as the only possible carriers of the focus feature. In this view, [+focus] is a formal feature, chosen optionally by any word as it enters the numeration. (Items not selecting the feature remain unspecified for it.) Optional features cannot be predicted from the lexical entry, thus they are chosen arbitrarily.

We can now maintain the descriptive generalization concerning adjuncts, heads and arguments in the following manner.

(19) Focus projection principle

a. The feature [+focus] optionally projects from X^0 to X^{max}.

b. The feature [+focus] optionally projects from X^{max} to Y^{max} iff X^{max} is a complement of Y^0.

The feature [+focus], which is initially exclusively associated with an X^0 head, optionally projects onto the highest dominating X^{max} node. Then the feature may, again optionally, project onto the next highest Y^{max} node, if and only if X^{max} is the complement of the head of Y^{max}. Since (19) is recursive, a complement can project, as it were, across complements of other heads. Note that (19) is the only statement in the grammar necessary to account for focus phenomena, and that it relies on information, such as head-complement relations, that is fully accessible to lexical items, in accordance with minimalist assumptions requiring that all information for further computation be provided in the lexicon.[15]

So far both major language types behave alike with respect to focusing. As has been repeatedly argued above, the feature [+focus], similarly to the formal lexical feature [+wh], induces pied-piping in ways still not very well understood (cf. Chomsky 1995; 263f). What is certain is that a pied-piped focus feature, just as its counterpart wh-feature, is not Interpretable and thus erased when checked. The focus feature then undergoes phonological interpretation on the items it is assigned to and if, for example, it happens to be a functional category whose lexical entry is negatively characterized for focus pitch accent, the derivation will crash at PF.

Phonological interpretation may involve further operations, such as assigning pitch accent to right adjuncts in languages like English provided the dominating X^{max} node carries the focus feature, but these details need not concern us here. Whether or not PF takes an active role in determining focus accents, the Focus Projection Principle (19) must operate before Spell-Out; if it worked only at PF, no focus interpretation could be assigned to anything larger than a head, and if it were in effect after Spell-Out, the focus movement of complements with semantic focus on the full VP could not be accounted for, cf. (15b).[16] Although the projection of the feature [+focus] is reminiscent of pied-piping, it is fundamentally different from it in that in contrast with pied-piping focus projection has a distinct logico-semantic consequence: it is the topmost category marked for [+focus] that is interpreted as focused at LF, while, as is well-known, pied-piping of phonetic material has no effect on LF-interpretation since it is necessary only for PF convergence. For further discussion, see directly below.

Now we are in a position to discuss the varieties of focus constructions in a number of languages or language types with a view to minimalist requirements. In one group of languages (e.g. English, Chiche_a, Bengali) the feature [focus] is weak. Consequently there is no displacement of focused constituents: focused items will remain in situ at PF. The focus feature is then raised to some functional head F^0, or if weak functional categories do not exist, to C or T. This is the realization of Procrastinate in terms of focus movement. Note that the focus feature is Interpretable, and since it need not be checked, it does not have to move, similarly to wh-in-situ or quantifiers. Then the feature is moved only if it leads to a distinct interpretation. For some illustration, see below.

If the formal feature [focus] is strong in a given language, it will have to be checked overtly before Spell-Out. Items marked for [focus] move, by themselves or pied-piping other material, by adjunction or substitution to some category in the extended projection of the verb, i.e., F, I, T, Agr_S or C, depending on the choice the language makes to host the strong feature [focus]. The strong feature [focus] on the lexical item necessarily pied-pipes phonetic material,

minimally the phonetic features of the head that carries it, but possibly other constituents as well. Similarly to the pied-piping of phonetic material in case of the strong wh-feature, which also results in overt movement, the strong focus feature appears on some maximal projection dominating the item carrying it, where it is checked off, deleted and erased, after it has moved to the checking domain of some functional category. Pied-piping and focus projection can be coextensive, as in the case of DP-focus, cf. (12a), or pied-piping can involve more items than the scope of focus projection, as in case of adjuncts in focus, cf. (12b), or focus projection can extend to more items than pied-piping, as in the example for VP-focus in (15b). This distinction between the pied-piped and the projected focus features is also among the issues ill-understood in pied-piping, but note that it does not differ from the kind of distinction to be drawn between a pied-piped, and therefore erasable, wh-feature on, e.g., the PP in whose book, and an Interpretable, and therefore unerasable, wh-feature on a DP that is coextensive with a wh-word, e.g., what. Individual options will be surveyed directly.

Since [focus] is Interpretable, it need not be checked at all, but certainly it cannot be erased after checking, so it remains accessible for LF computation and phonological processing. Note that it must be allowed even within one language for [focus] to be strong or weak, making it possible for the language to choose freely between ex situ and in situ options, as in Finnish or in a different pattern in Somali as is argued below. In both major language types, [focus] is instantiated as a phonological feature on the lexical item, i.e., the head, that it is originally assigned to, if it is licensed by independent factors, such as the lack of prohibition to assign focus stress.

There is a variety of positions in which focused constituents show up in the languages of the world. At least some of this diversity can be seen as the result of the interaction of the instantiation and the location of the focus feature: it can occur as a feature on some functional category, in particular C, or as the head of the functional category Focus (= F) itself placed or merged in various positions. In what follows, we will take up a neutral stand between Chomsky's

(1993) Agr_S-Tense-Agr_O analysis and Chomsky's (1995) elimination of Agr, pointing out where difficulties in either approach arise.

To illustrate: Basque (Ortiz de Urbina 1989, 1995) in (20), Somali (Lecarme 1994, 1996; Svolacchia et al. 1995) in (21) and Russian (King 1993) in (22) all locate the focus feature in the head of CP. In Basque the focus marker is a finite auxiliary in a putative verb-second position, similarly to the Somali focus marker, which can have Neg^0 or $Agr_S{}^0$ adjoined to it. In Russian li is the clitic question complementizer itself.

(20) a. [$_{CP}$ Mirenek$_i$ [$_{C'}$ du$_j$ [$_{IP}$ e$_i$ Jon ikusi e$_j$]]]

Mary-ERG AUX John seen

`It's Mary that saw John.'

b. [$_{CP}$ Jon$_i$ [$_{C'}$ du$_j$ [$_{IP}$ Mirenek e$_i$ ikusi e$_j$]]]

`It's John that Mary saw.'

(21) a. [$_{CP}$ Ardáyda$_i$ [$_{C'}$ baan$_j$ [$_{AgrSP}$ e$_i$ e$_j$ kasin]]] su'áashaadii]]]

students-Det-ACC F+NEG have-understood question-DetF-Poss2SG

`The students didn't understand your question.'

b. [$_{CP}$ Annágu$_i$ [$_{CP}$ ujeeddádaada$_j$ [$_{C'}$ báanu$_k$ [e$_i$ e$_k$ garannay ej]]]

we-NOM intention-Det-Poss2S-ACC F-1SG have-understood

`We understood your intention.'

(22) a. [$_{CP}$ Ivan$_i$ [$_{C'}$ li [$_{AgrSP}$ e$_i$ itaet knigu ...]]]

Ivan Q/F reads book-ACC

`Is it Ivan that is reading the book?'

b. [$_{CP}$ Knigu$_i$ [$_{C'}$ li [$_{AgrSP}$ Ivan itaet e$_i$]]]

`Is it the book that Ivan is reading?'

Another group of languages do not have verb-second associated with focus, nor complementizers functioning as focusing clitics. In Finnish the complementizer occurs to the left of the constituent in focus, optionally marked by any one of a set of harmonizing focusing clitics

pa(s)/pä(s), han/hän and ko/kö, which project a Focus Phrase, cf. (23). Maximal projections having a focus feature are moved into the Spec of FP, while inflected verbs or auxiliaries adjoin to the head of the FP. Procrastination prevents (23c) from arising, since once a focused constituent is moved into the Spec of FP, it has its feature checked and no other constituent is forced to move overtly, even though it may have a focus feature.[17]

(23) a. Jussi sanoi [$_{CP}$ että [$_{FP}$ Matti$_i$-pa [$_{IP}$ e$_i$ luki sen kirjan]]]
Jussi said that Matti-F read that book-ACC
`Jussi said that it was Matti that read that book'

b. Jussi sanoi [$_{CP}$ että [$_{FP}$ luki$_i$-pa [$_{IP}$ Matti e$_i$ sen kirjan]]]
`Jussi said that Matti had read that book.'

c. *Jussi sanoi [$_{CP}$ että [$_{FP}$ Matti$_i$ luki$_j$-pa [$_{IP}$ e$_i$ e$_j$ sen kirjan]]]

Hungarian differs from Finnish, among others, in that the inflected verb has to move into the head of the FP. Brody (1995) suggests that this follows from the requirement that [focus] must be a feature of Tense, to be checked by adjoining to the head of FP.[18]

(24) a. [$_{TopP}$ Anna$_i$ [$_{FP}$ a cikket$_j$ [$_{F'}$ olvasta$_k$ [$_{IP}$ e$_i$ e$_j$ e$_k$]]]]
Anna the article-ACC read
`It's the article that Anna read.'

b. ... [$_{FP}$ Anna$_i$ [$_{F'}$ olvasta$_j$ [$_{IP}$ e$_i$ e$_j$ a cikket ...]]]
`It's Anna that read the article.'

Aissen (1992) lists evidence supporting the analysis of preverbal focus in the Mayan languages Tzotzil, Jakaltek and Tz'utujil as movement into the Spec of IP, which is consistent with the focus feature located in Infl and checked by Spec-head agreement. In the VOS language Tzotzil, for example, the topic, which is marked by the particle a, precedes the focus, which in turn is followed by the inflected verb. Note that the focus is preceded by negation, making it impossible to locate it in CP.

(25) a. [$_{CP}$ A ti prove tzeb-e [$_{IP}$ sovra [$_{I'}$ ch'ak'bat]]]

TOP DET poor girl-ENCL leftovers was-given

`It was the leftovers that the poor girl was given.'

b. [$_{IP}$ Mu chobtik-uk [$_{I'}$ tztz'un]]

NEG corn-PRT he-plants

`It wasn't corn he was planting.'

If there is a separate category Agr_S, the focus feature cannot be located in the head of the Tense, partly because Tense has a crucial role in nominative case assignment (cf. Chomsky 1993, Brody 1995), partly because if focused subjects were moved/adjoined to Tense, they would have to move on (overtly or covertly) into (the Spec of) Agr_S. Since a focused constituent, as any other operator, moves into an }-position and there can be no further movement to an A-position, Tense cannot be the location of the focus feature, just as FP cannot be placed to the right of Agr_SP. If Agr does not exist, as Chomsky (1995) argues, Tense checks off subject features and object features are checked in a more articulate `Larsonian' VP. It follows that in a language where negation and focused elements occur between the complementizer and the subject, Focus as the head of FP is optionally merged with TenseP, yielding the approximate structure: CP - (TopicP) - (NegP) - (FP) - TP - VP. The positions of NegP and TopicP may vary; for example, in Finnish both are below FP, in Hungarian and Tzotzil both are above it.[19]

Postverbal focus supports an FP analysis only if no subject occurs to the left of the focused phrase. Tuller (1992) analyzed some of the Chadic languages by assuming the verb to move into Infl and govern the focused constituent, which is adjoined to the VP, cf. (9). In our analysis, however, government is unavailable and focus-assignment by heads is illegitimate. In Podoko, for example, a focused constituent is preceded only by the inflected verb; all other material follows it, suggesting a CP - FP - Agr_SP/TP structure.

Note to typesetter: M = schwa

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(26) a. [$_{C'}$ a təla$_i$ [$_{FP}$ hawə$_j$ [$_{AgrSP}$ ndi e$_i$ sləbə e$_j$ ...]]]

cook where one meat

`Where did one cook the meat?'

b. [$_{C'}$ a təla$_i$ [$_{FP}$ də ^{y}kwəd'əgə$_j$ [$_{AgrSP}$ malə e$_i$ sləbə e$_j$]]]

cook in kitchen mother-my meat

`My mother cooked meat in the kitchen.'

In some of the Chadic languages verbs have their objects incorporated in them, as Tuller (1992) demonstrates, but since the subject can occur to the left of the verb, the focus feature can be checked off in the `outer' Spec of the VP, or more possibly of the vP as headed by the light verb v, against a strong feature on the v. The verb complex v-V (= Vb) then adjoins to a strong Tense, while the subject moves into Spec of Tense. The following examples from Kanakuru will illustrate.

(27) a. [$_{T'}$ [$_{Vb+T}$ [$_{Vb}$ are lowoi]$_i$] [$_{vP}$ jewoi$_j$ [$_{vP}$ e$_j$ e$_i$ la lusha ...]]]

bury boy-the slave-the in bush

`The slave buried the boy in the bush.'

b. [$_{CP}$ [$_{TP}$ a$_i$ [$_{Vb+T}$ [$_{Vb}$ wupə-(ro) landai]$_j$] [$_{vP}$ gən shire$_k$ [$_{vP}$ e$_i$ e$_j$ e$_k$]]]]

he sold-CL cloth-the with her

`He sold the cloth to her.'

Since the subject in (27a) is essentially in an operator position, it cannot overtly move into an argument position in a Spec of Tense on its left. However, its formal features can adjoin to Vb+T after Spell-Out, corresponding to the overt movement of the subject in (27b). Note that there cannot be an FP between Tense and the vP or the overt movement of the subject across the nonempty Spec of F would violate minimality.

In Aghem, a Grassfields Bantu tonal language spoken in Cameroon, contrastive focus can be optionally marked by a morpheme nň to its right, while the inflected verb must occur on its left, as seen in (28b-c), cf. Watters (1979), Hyman and Watters (1984). Note in particular that

if the subject is in focus, its usual position is filled by a `dummy', i.e., an expletive, cf. (28d).

Note to typesetter: ɛ stands for the phonetic symbol `open-mid [o]'. Some diacritics are added by hand.

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(28) a. m̀ mɛ zě kí-bɛ nɛ̀

I PAST eat fufu today

'I ate fufu today.'

b. m̀ mɛ zí **nɛ** bɛ-kɛ̀

'I ate fufu TODAY.'

c. m̀ mɛ zě **kÍ-bɛ** nň nɛ

'I ate FUFU today.'

d. ŕ mɛ zě **mů̀ɛ** bɛ-'kɛ nɛ̀

DS PAST eat I fufu today (DS = dummy subject)

`I ate fufu today.'

The analysis we propose here for focus in Aghem is similar to the one put forward for Kanakuru.

(29) a. $[_{TP}\ SU_i\ [_T\ T+Vb_j\ [_{vP}\ XP_k\ [_{vP}\ \underline{e}_i\ \underline{e}_j\ \underline{e}_k\ \ldots\ ]]]]$
+F

b. $[_{TP}\ Expl\ [_T\ T+Vb_j\ [_{vP}\ SU_i\ [_{vP}\ \underline{e}_i\ \underline{e}_j\ \ldots\ ]]]]$
+F

In Aghem verbs move to Tense invariably. Focused nonsubjects end up in the outer Spec of VP, checked off by an extra focus feature of the light v. The verbal complex v-V (= Vb) moves on to Tense, creating the minimal domain for the subject (= SU) to move into TP to check its strong D-feature, cf. (29a). Subjects can move to the Spec of Tense only if they are negatively specified for [focus]. If the subject is [+focus], as in (29b), its strong focus feature is checked by the extra focus feature of the light verb v. Incidentally it may well be the case that the subject remains in situ in the `inner' Spec of vP. After checking its focus feature the verb moves into a strong Tense,

which is merged with an expletive subject, which in its turn checks off the strong D-feature of Tense thus satisfying what remains of the Extended Projection Principle (EPP). Unchecked features of the subject raise into Tense at LF.

While in both Kanakuru and Aghem focus morphology is strong, in Kanakuru the D-feature on Tense is weak, and therefore the EPP need not be overtly observed. In Aghem, however, the D-feature is strong, and if no subject moves into Spec of Tense, an expletive must check off the feature.

Whereas the properties of subject expletives are familiar, little is known of focus expletives. Somali, which has CP-focus, is claimed to have such a category. According to Lecarme (1994, 1996), the focus position in the Spec or the head of CP can be filled by an expletive associated with the postposed constituent interpreted as focus, cf. (21) above.

(30) a. [$_{CP}$ waxaan [$_{IP}$ búug keenín ...ardáygan]]
expl-F-Neg book brought students-Det
`The students didn't bring the books.'

b. [$_{CP}$ waxáanu [$_{IP}$ garannay ... ujeedádaada]]
expl-F-1P have-understood intention-Det-Poss2SG
`We understood your intention.'

c. [$_{CP}$ wáxaa [$_{IP}$ layskú wada raacsán yahay
expl-F one-Refl-on together agreeing are
[$_{CP}$ ín falálkaasi ay ká soo jeedaan ásal af Semétig ah]]]
COMP verbs-Det 3P from are coming origin language Semitic is
`Everyone agrees that these verbs have a semitic origin.'

We assume that Somali can freely choose a [∀focus] feature to mark lexical items, but the focus feature on Comp is invariably strong. Then a constituent marked by a strong focus feature must raise overtly into the Spec of CP, as in (21). If a lexical item is marked by a weak focus feature, it will not move overtly, but the focus feature on Comp needs to be checked by a

special focus expletive, carrying an intrinsic focus feature (and nothing else, in fact). Since the expletive has no LF-interpretation, the features of the associate have to raise to Comp at LF. Observe the analogy with expletive-associate construction in English, driven by the checking of D-feature.

The option of focus expletive is not unique to Somali. Languages such as German and Hungarian have been known to apply expletive-like items as some kind of scope markers for quantifiers, in particular for wh-phrases, embedded in clauses, a structure called partial wh-movement (cf. McDaniel (1989) and Horvath (1997)).

(31) a. Mit akar mindenki [hogy melyik tanár vizsgáztassa]?
what wants everyone that which teacher examine-him
'Which teacher does everyone want to examine him?'

b. Melyik tanár-t akarja mindenki [hogy e_i vizsgáztassa]?
which teacher-ACC wants everyone that examine-him
`Which teacher does everyone want to examine him?

c. Mindenki emlékszik [hogy melyik tanár vizsgáztatta]
everyone remembers that which teacher examined-him
`Everyone remembers which teacher examined him.'

In (31b) the wh-phrase moves overtly; in (31a) it does not. But (31a) and (31b) are fully synonymous: in other words, whether or not the wh-phrase is in the matrix clause, it has no distributive interpretation dependent on the universal quantifier everyone, i.e., it is one teacher that everyone wants to examine him. They fully contrast with (31c), in which the wh-phrase which teacher has distributive reading, under which everyone remembers a different teacher. These observations carry over to embedded foci, where comparable structures come from numerical expressions studied by Szabolcsi (1997).[20]

(32) a. Az-t szeretné sok fiú [hogy három tanár vizsgáztassa]
it-ACC would-like many boy that three teacher examine-him

'It is three teachers that many boys would like to examine them (∀distributive).'

b. Három tanár-t_i szeretne sok fiú [hogy e_i vizsgáztassa]

'It is three teachers that many boys would like to examine them (∀distributive).'

c. Sok fiú szeretné azt [hogy három tanár vizsgáztassa]

'Many boys would like there to be three teachers examining them (+distributive only).'

In (32a) a clausal expletive is in the matrix focus position, while in (32b) its place is occupied by the raised embedded focus. Again, (32a) and (32b) both have nondistributive readings, i.e., they allow the expression three teachers to take scope over the matrix quantifier many boys. Such a reading is not possible in (32c), where the clausal expletive is not in the designated matrix focus position. The distributive reading is possible in (32a-b), since an ordinary quantifier can be interpreted in a declarative clause, but, in (31a-b) the wh-phrase cannot remain or reconstruct and be interpreted inside the noninterrogative embedded clause. What all this shows is that embedded foci can take matrix scope, or in other words, covert focus raising is possible, contra Rooth (1985, 1992).

The mechanism of focus-raising in Hungarian follows the Somali pattern in general, though it departs from it in that the optionality of the movement into the matrix clause cannot be derived from the strength of the feature on the lexical item, since there must be overt focus movement in the embedded clause. If there is an F head in the embedded clause to check the strong focus feature, the XP carrying the focus feature remains in the embedded clause and a focus-marked expletive is merged with the matrix F, checking off its strong focus feature. If there is no expletive in the matrix and no F in the embedded clause, the embedded focus must raise to enter into a checking relation with the matrix focus feature. This latter scenario is similar to the raising of wh-phrases, as in (31b), where there is no wh-feature in the embedded clause to license the wh-phrase there.

The structural options for the positions of ex-situ focus can be summarized in the following schemata.

(33) a. [CP* [Agr_SP [TP* [Agr_OP [VP]]]]]

b. [CP ... [FP ... [Agr_SP [TP [Agr_OP [VP]]]]]

c. [CP [TP [vP [vP]]]]

In (33a) one or another of the starred functional categories has a strong focus feature attracting constituents marked for focus in overt syntax: in Basque, Somali and Russian to Spec of CP, in Tzotzil arguably to Spec of TP. Preverbal focus is accommodated in (33b), where Finnish has a clitic head of FP, while Hungarian moves the inflected verb there, with an additional TopicP and NegP either to the left or right of the FP. One type of postverbal focus also makes use of the structure in (33b), moving the verb on to C, as in Podoko, thus guaranteeing verb-initial structures. (33c) illustrates another type of postverbal focus, which is moved overtly to and/or checked off in the Spec of vP, as in Kanakuru and Aghem. We have found conflicting evidence as to the existence of Agr: Finnish makes a strong case for the existence of Agr_S, and the postverbal focus in the Chadic languages make an equally strong case against it. Rather than complying with the radical position eliminating Agr completely, the data reviewed here favor an interim position more in line with the thesis: "Agr exists only when it has strong features" (Chomsky 1995: 351).

5. Conclusion

This paper has been an attempt at providing a unified analysis for at least some of the observations relating to focus. First, it surveyed the semantic distinctions relevant to the understanding of focus, such as nonexclusive and contrastive focus, and offered an array of descriptions of the latter. It was pointed out that focus assignment in a Government-Binding model is inconceivable at the head of the }-chain: the focus feature must be randomly assigned to heads and/or phrases at D-structure and checked at LF and/or PF by something like the Focus Criterion, depending on the choice the language makes. The well-known descriptive generalization that differentiates between ajuncts and head/arguments must be observed without respect to the properties of the model.

The assignment of the focus feature to phrase nodes raises a number of problems in the Government-Binding approach, and it becomes clearly impossible in a minimalist analysis, where no D-structure exists, that is, it is no longer possible to contemplate XPs as possible targets of feature assignment, whether free or by some other head. Instead, and in line with the minimalist approach, lexical items are optionally assigned [+focus], and then enter into checking relations in overt syntax before Spell-Out, or covertly to satisfy LF requirements relating to quantifier scope and interpretation. The semantic and prosodic interpretations of the focus feature were shown to follow different tracks. The adjunct versus head/argument distinction was accommodated by the Focus Projection Principle (19), which allows the focus feature to project to the dominating X^{max} category if it is on its head (or on the head of one of its complements).

Languages with focus in situ are largely free from problems: all they have to take care of is allow the focus feature to have a prosodic interpretation `as is'. In languages with ex-situ focus the case is more complex. Since the focus feature is assigned to heads, independently of focus projection it has to pied-pipe the dominating maximal category that needs to move for PF convergence into the designated position. The problems of pied-piping are further complicated by the realization of prosodic focus, which takes place mostly along the lines seen in languages

with focus in situ.

The various choices languages make with respect to the landing sites of focus movement were analyzed in terms of parameters selecting between a strong focus feature in Comp, Tense, Agr (if strong) or the verb, and a functional category Focus Phrase, as well as between the overt landing sites Comp, Agr_S/Tense or F of verb movement. Constructions involving focus expletives and focus-raising also appear to be a function of the strength of the focus feature in a functional category or a lexical item.

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*Acknowledgements

Earlier versions of this paper have been presented to audiences at Institute of Linguistics, Budapest, the University of Venice, and the University of Tübingen. Questions and comments from colleagues and students have been extremely helpful in developing and clarifying the ideas presented here; I particularly wish to thank Tom Ernst, Julia Horvath, Manfred Krifka, Mark Steedman, Anna Szabolcsi and the reviewers. All remaining shortcomings are mine.

The research reported here has been supported in part by grants from the Hungarian National Research Fund (OTKA T17263) and the Higher Education Research Programs (4113/1997). I enjoyed the hospitality of Clare College, Cambridge, while I was working on the final version; the Master and the Fellows are gratefully thanked here for providing an ideal environment.

Notes

1. Here we will neglect other uses of `focus', such as emotional `highlighting' or contrasting parts of words, also called `contexts of repair' (cf. Bolinger (1961), Rochemont and Culicover (1990)) as in (i)-(ii). Here and throughout, italics signify focus.

(i) I hate them.

(ii) I didn't say blueberry, I said bluebird.

Exclusive or contrastive focus in (iii) corresponds roughly to the formula in (iv).

(iii) Jeff hit Bill in the office.

(iv) a. λx, x 0 D, (Jeff hit x in the office), Bill

b.`It is Bill, rather than Jim, Jack, John, ... (or any other student, man, person, ...), that Jeff hit in the office.'

In other words, contrastive focus constitutes exclusion by identification with respect to some domain of discourse D. For more on the interaction of focusing and semantic interpretation, see Szabolcsi (1994).

2. Phrasal Focus Rule (Selkirk 1984:207)

A constituent may be a focus if (i) or (ii) (or both) is true:

(i) The constituent that is its head is a focus.

(ii) A constituent contained within it that is an argument of the head is a focus.

Note that right adjuncts do not seem to behave the same way in this respect as left adjuncts and Selkirk's distinction between adjuncts and heads/arguments apply only to left adjuncts without problems. We will therefore make use of left adjuncts where such differences are at stake. For more, see below. Note also that arguments are understood as internal arguments or complements, i.e., external arguments are excluded.

3. This is particularly clear in case of negation and focus, cf. Bill didn't sell a USED car.

4. Roberts (1996; fn. 12) argues that the difference is simply between "wide and narrow Information Focus", rather than between nonexclusive and contrastive foci. But narrow information focus on a single word, especially when accompanied by a context such as in (2b), indicating an explicit or implicit negation of other entities in the universe of discourse, qualify for exclusive interpetation, thus contrastive focus. For more discussion of these and related issues, see Kiss (1998a).

5. Particular options that have been proposed in the literature are (i) focus-raising at LF in analogy with wh-raising in Chinese/Japanese type languages, cf. Huang (1982); (ii) co-indexing with a c-commanding focus scope marker as in Brody's (1990) Focus Phrase, or on the pattern of Baker (1970), adopted for Hungarian by Marácz (1991), or as in Aoun and Li's (1993) coindexing with a c-commanding operator; or (iii) movement of an empty operator, as discussed by Watanabe (1992) for Japanese, and for wh-phrases in general by Chomsky (1993), or (iv) feature movement as in Chomsky (1995).

6. I am grateful to Khale Quzzaman for discussing the Bengali examples. Numbers in the Chichewa examples indicate noun classes, RecPst = Recent Past.

7. See Kenesei (1992), Tsimpli (1995), Tuller (1992).

If a language has focusing particles inserted, they are probably instantiations of the head of some functional category, such as CP, as Lecarme (1994, 1996) argues for Somali, or FP (= Focus Phrase), as we will claim below.

8. This is a distinction that can be maintained even in the face of cases of focus on functional heads, such as auxiliaries in English or auxiliaries and complementizers in German and Norwegian, cf. Hetland (1992), which shows that they express polarity rather than identification

in a domain.

9. Various devices can be considered. Jacobs (1991), for example, makes use of a feature [-ns], marking items that cannot accommodate nuclear stress. Holmberg (1997) marks nonfocusable weak pronouns by [-focus].

10. One plausible theory is Cinque's (1993), who proposes that stress falls on the most deeply embedded constituent.

11. In other words, (12a) contrasts (possibly) with some sentence meaning `Anna was not reading a book' and (13a) with `Anna didn't sell the truck'. (12b) in turn can only be in contrast with a sentence of the type `Anna was not reading articles from last month' and (13b) with one like `Anna didn't sell the new car.' Focus pitch accent is taken to be the rightmost or last full, i.e. unreduced, accent in the clause. For more, see Vogel and Kenesei (1987), Kenesei and Vogel (1989).

12. For the semantics of multiple focus constructions, see, e.g., Krifka (1992). For more on VP-focus in Hungarian, see Kenesei (1998).

13. Brody's (1990) was the first proposal in the literature to discuss gapped structures in a focus-movement language, cf. his Focus Criterion in (i).

(i) a. At S-structure and LF the Spec of an FP [= Focus Phrase] must contain a +f [= +focus] phrase.

b. At LF all +f phrases must be in an FP.

Languages with in-situ focus do not observe the requirement in (ia).

Note that in order to account for Gapping, Brody allows free focus assignment in addition

to the `move-and-assign' analysis he proposes. Besides, the case of VP-focus illustrated here cannot be accommodated by this or any other feature assignment analysis.

14. Cf. Stechow and Uhmann (1986), Stechow (1991).

15. One exception to focus projection from complements is pronouns. As noted by Holmberg (1997), in Swedish the VP cannot be construed as focus if a pronoun in object position carries the focus stress. The same holds for English, and probably for other in-situ languages, but curiously not for Hungarian, an ex-situ language.

16. If PF has to redistribute focus stress from X^{max} nodes to adjuncts that happen to be the most deeply embedded constituents in Cinque's (1993) sense, it comprises yet another argument for focus projection to take place before Spell-Out.

17. Vilkuna (1995) challenges Kenesei's (1992) claim of the existence of FP in Finnish by arguing that not all of these clitics are true focusing particles. Be that as it may, the functional category Focus has no semantic content independent of the intrinsic features of the individual clitics that instantiate it. If no clitic occurs, the default interpretation is that of contrastive focus as is evidenced by the data.

18. TopP stands for Topic Phrase. This is not the place to account for all aspects of focus in Hungarian, including in particular, the notorious problem of verbal prefixes. For more discussion, see Koopman and Szabolcsi 1998 and Kiss 1998b.

19. Finnish provides particular difficulties for the elimination of Agr, cf. Mitchell (1991) and Kenesei (1992), who demonstrate that the Agr_S > Neg > Tense > VP structure is necessary in

view of examples such as below, in which the `negation verb' en has agreement morphology, while tense is marked on the auxiliary verb in Tense.

(i) Minä ol-i-n tul-lut
I-NOM be-PAST-1SG come-PPART.SG
`I had come.'

(ii) Minä e-n ol-lut tul-lut
I-NOM NEG-1SG be.PAST-PPART.SG come-PPART.SG
`I had not come.'

For a similar argument in Hebrew, see Shlonsky (1996).

20. We indicate in parentheses whether or not the embedded quantifier three teachers has distributive reading with respect to the matrix quantifier many boys.