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Question Movement in Some SOV Languages and the Theory of Feature Checking

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In some SOV languages, a *wh*-phrase must show up in a position immediately to the left of V. Using Malayalam data, it is argued that the *wh*-phrase is in fact moved into the Spec of a Focus Phrase immediately above vP. This IP-internal *wh*-movement can be understood in terms of the Phase Impenetrability Condition of phase theory.

If a *wh*-phrase in an embedded clause has matrix scope, the scope-marking is done by two movements: (i) the *wh*-phrase moves into the Focus position in the minimal clause; (ii) this clause is pied-piped into the Focus position of the matrix clause. It is shown that the device of feature checking is unable (by itself) to describe these movements; and it is suggested that we must factor in a parameterized property of the question operator's probe.

Key words: EPP, feature checking, Malayalam, *wh*-movement

Some SOV languages instantiate a type of IP-internal question movement: a *wh*-phrase must show up in a position immediately to the left of V (linearly speaking). Using Malayalam data,[1] I argue that the *wh*-phrase in fact is moved into the Spec of a Focus Phrase immediately above vP. As I shall demonstrate, this movement can be explained by the need of a question operator to access the *wh*-phrase in a theory which incorporates a Phase Impenetrability Condition (Chomsky 1998, 1999, 2001). Looking at it differently, this movement provides interesting confirmation of a claim of phase theory.

Scope-marking in Malayalam questions presents an interesting problem. When a *wh*-phrase in an embedded clause has matrix scope, the scope is marked by two movements: the *wh*-phrase moves to the Focus position in the minimal clause, and this clause then undergoes clausal pied-piping to the Focus position of the matrix clause. I show that the current device of feature checking *per se* is unable to describe these movements. I additionally suggest that we need to postulate a parametrically variable lexical property of the question operator: in some languages, a question operator's 'probe' (which I

[1] I confine myself to Malayalam data in this paper, although what I say about Malayalam here is true of some other SOV languages of the South Asian region and elsewhere.

conceive of as a search algorithm that looks for phrases with a [+Focus] feature in the operator's domain) looks at only Focus positions.

The paper is organized as follows: In §1, I examine clause-internal *wh*-movement in Malayalam; in §2, I look at two movements that are involved in scope-marking in Malayalam questions, show the inadequacy of feature checking in accounting for these movements, and suggest a solution; and §3 is the conclusion.

1. SOV languages and IP-internal question movement

1.1 IP-internal question movement

This paper concerns some languages which do not move their *wh*-phrases into COMP,[2] but which nevertheless move them into a certain fixed position. The languages I have in mind are all OV languages, and they move their *wh*-phrases into a position immediately to the left of V. It appears to be now generally acknowledged that in OV languages, the position to the immediate left of V is a Focus position; it has been so characterized in German, for example (Fanselow 2001:409). What these languages do then can be seen as moving their *wh*-phrases into an IP-internal Focus position, instead of into COMP.

It has of course been suggested that movement into COMP also is Focus movement: thus Rizzi (1997) claims that there is a Focus Phrase in the "C system" and that English *wh*-movement targets the Spec of this Focus Phrase. Echoing the Rizzi claims, Chomsky (1995, 1998, 1999) has suggested that when C^0 gets an EPP feature, it automatically also gets a P feature, by which he means a Force, Topic, or Focus feature. If we take the Focus feature as relevant here, the Chomskyan devices can be taken to mean that when C^0 attracts a *wh*-phrase, it does so by virtue of being (or having become) a Focus position. Now, from this perspective, the comparison of English and the languages we have in mind is straightforward and simple: English moves its *wh*-phrase into a clause-peripheral Focus position; these languages move their *wh*-phrases into a clause-internal (IP-internal) Focus position.[3]

1.2 Some illustrative data

Let us illustrate this IP-internal Focus position. I shall draw my data from Malayalam, a language belonging to the Dravidian family of languages. In Malayalam, a

[2] I shall use COMP to refer ambiguously to the "more articulated" C system of Rizzi (1997) and the more traditional conception of CP, when it is not necessary to choose between them.

[3] Not everyone agrees that *wh*-movement into COMP is Focus movement. See Rudin (1988), Bošcovic (1999) for a claim about a distinction between them.

wh-phrase must occur to the immediate left of V. Thus, of the following sentence pairs, the (b) sentences are unacceptable:

(1) a. nin-ne aarə talli ?
you-acc. who beat(Past)
'Who beat you?'
b. *aarə nin-ne talli ?
who you-acc. beat(Past)

(2) a. awan ewiDe pooyi ?
he where went
'Where did he go?'
b. *ewiDe awan pooyi ?
where he went

(3) a. nin-akkə ii pustakam aarə tannu ?
you-dat. this book who gave
'Who gave you this book?'
b. *aarə nin-akkə ii pustakam tannu ?
who you-dat. this book gave

(The 'canonical' order of the verb and its arguments in Malayalam is: 'Subject - Indirect Object - Direct Object - V', i.e. the order in (3b).)

This requirement of the Malayalam *wh*-phrase had long gone unnoticed, because Malayalam normally prefers to cleft a constituent question, placing the *wh*-phrase in the cleft focus. Thus (1a) will normally be expressed as (4):

(4) **aarə** aaNə [nin-ne talli-(y)atə] ?
who copula you-acc. beat(Past)-Nominalizer
'Who was it that beat you?'

(In (4), the cleft focus is shown in boldface; the cleft clause is within brackets.) In the Malayalam cleft, moreover, the focus-plus-copula can "float" into the cleft clause, as shown below ((5a)=(4)):

(5) a. **aarə** aaNə [nin-ne talli-(y)atə] ?
who copula you-acc. beat(Past)-Nominalizer
b. nin-ne **aarə** aaNə talli-(y)atə ?
you-acc. who copula beat(Past)-Nominalizer
c. nin-ne talli-(y)atə **aarə** aaNə ?
you-acc. beat(Past)-Nominalizer who copula

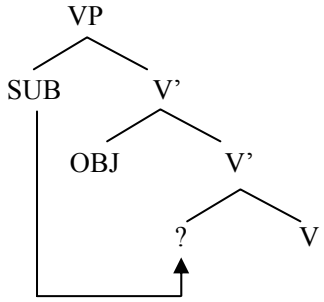
A casual inspection of the sentences of (5) gives the impression that the *wh*-phrase can be *anywhere* in the sentence; i.e., that it can be freely scrambled. But recall that in the cleft construction, the matrix V is the copula; and note that, in all the sentences of (5), the *wh*-phrase is immediately to the left of the copula. So clefting itself can be seen as a strategy for placing the *wh*-phrase in the position contiguous to V.

1.3 Generating a Focus position contiguous to V

The claim that some languages move their *wh*-phrases into a Focus position, and not into COMP, is of itself not new. The theoretical challenge here is the particular placement of the Focus position vis-à-vis the other elements of the clause. The problem is as follows: Suppose that we go along with the traditional analysis of SOV languages and assume an underlying OV order in the VP. How do we generate a COMP-like position *within VP*, between the direct object and the verb? Especially, consider a sentence like (1a) (repeated below), in which the subject is a *wh*-phrase. No matter whether we generate the subject in Spec,IP (as per older assumptions) or VP-internally, the subject NP will have to be lowered into the position contiguous to V. This is shown in (6):

(1) a. nin-ne aarə talli ?
you-acc. who beat(Past)
'Who beat you?'

(6)



If we were assuming a flat clause structure with arguments generated in any order whatever,[4] we could think of the placement of the *wh*-phrase as prosodically motivated. But if we adopt binary branching, it is difficult to see how the problem illustrated in (6) can be avoided.

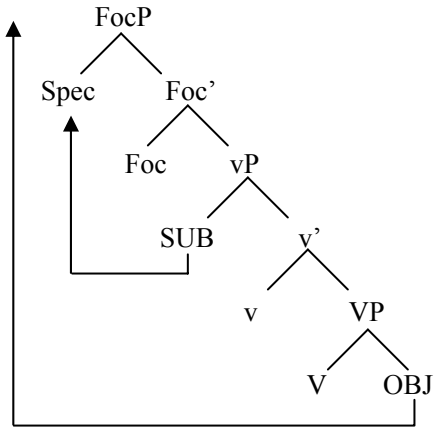
[4] Hale (1983) proposed such a structure to explain SOV languages having a rule of scrambling; see Mohanan (1982) for a proposal to adopt this structure for Malayalam.

In Jayaseelan (1996, 1999, 2001a), I have argued that these problems can be given a very natural solution, if we assume an underlying Spec-Head-Complement order universally. Given this assumption, the superficial OV order of some languages must be seen as a derived order: V's internal arguments must have all moved out of the VP, into the Specs of higher functional projections. Now if we postulate a Focus Phrase (FocP) immediately above vP/VP,[5] the VP-vacating movements of V's internal arguments will move elements across this FocP, leaving a *wh*-phrase which has moved into Spec,FocP closest to V:

(7) . . . . [$_{FocP}$ *wh*-phrase Foc^0 [$_{vP}$ V . . . .]]

To illustrate: in (1a), the subject NP, which is a *wh*-phrase, will move into Spec,FocP; and the object NP will move past it on its way to its surface 'canonical' position:

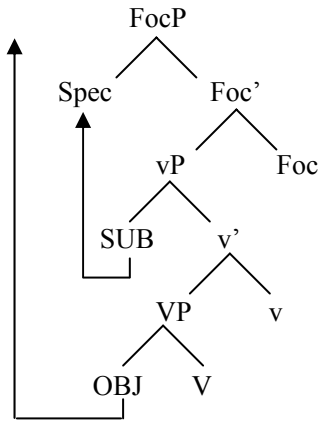
(8)



Chomsky (2001) suggests that Spec-Head may be a universal order, but that Head-Complement or Complement-Head may be a parametric option. Suppose that we accept this suggestion. We still need to generate the position of the *wh*-phrase next to V in an SOV language like Malayalam. And unless we can countenance the type of downward movement shown in (6), there seems to be no escape from postulating a FocP above vP/VP and moving all the elements of vP, that do not move into this FocP, *past* it. Instead of (8), we must now postulate (9):

[5] Such a FocP above vP/VP has been found necessary in many languages, e.g. Hungarian (Brody 1990), Basque (Laka & Uriagereka 1987), Chadic (Tuller 1992), Kirundi (Ndayiragije 1999).

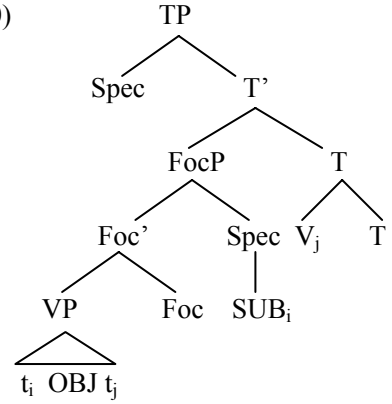
(9)



In other words, it is immaterial whether the underlying order is Head-Complement or Complement-Head; in either case, we need the VP-vacating movements. (Therefore, there is no saving of any movements as a result of allowing an underlying Complement -Head order.)

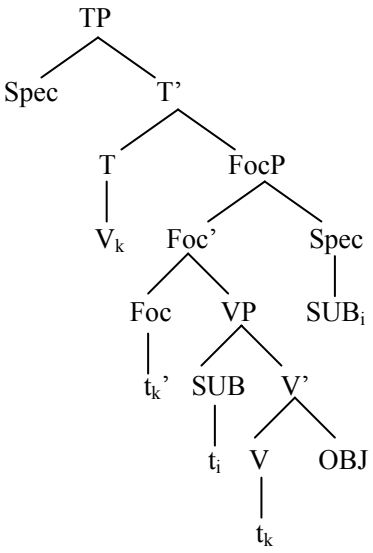
The VP-vacating movements can indeed be avoided if we postulate a FocP having its Spec position to the *right* of the Head, which would in fact be contrary to Chomsky's aforementioned suggestion. Assuming a head-final structure in all other phrases, we can now obtain the desired word order by moving the *wh*-phrase—in (1a), the subject—to Spec,FocP, and raising V to T, possibly adjoining to Foc^0 on its way up:

(10)



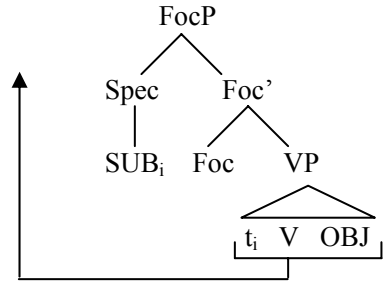
A rightward Spec position is in fact Ndayiragije's solution for Kirundi (Ndayiragije 1999). In Kirundi (an SVO language), a focused subject comes after the verb and the object. Ndayiragije proposes the following structure to explain this:

(11)



Note that the FocP—and *only* the FocP—has a rightward Spec position here. In Jayaseelan (2001a) I pointed out that we can keep the regular Spec-Head order for the FocP as well, and still generate the focused subject's position vis-à-vis the verb and the object, if we assume a VP-preposing operation such as has been attested in many SVO languages (Kayne 1998):

(12)



Thus there is no real motivation for a FocP with a rightward Spec position.[6]

So then, the prediction of antisymmetry, namely that all the verb's internal arguments are outside VP in the canonical order of SOV languages, receives strong support from the position of the *wh*-phrase next to V in Malayalam. The only way around this conclusion seems to be to deny that the position of the *wh*-phrase has anything to do with narrow syntax at all. That is, someone could perhaps claim that the position of the *wh*-phrase is

[6] The VP-preposing operation itself could be a "p-movement" (prosodically-motivated movement) in the sense of Zubizaretta (1998).

due to some kind of a scrambling operation that takes place purely in the phonological component. If we adopt this position, this particular instance of scrambling—namely the rightward scrambling of a *wh*-phrase—could even be justified in terms of prosodic requirements.[7] But I shall now contest this suggestion by trying to show that the position of the Malayalam *wh*-phrase is in fact dictated by the question operator's need to access it; and therefore its placement cannot be outside narrow syntax.

1.4 The phase theory and clause-internal question movement

Given the phase theory of cyclicity (Chomsky 1998, 1999, 2001), a 'phase impenetrability condition' (PIC) ensures that once a phase is passed, the domain of the head of the phase is opaque; i.e., an element in the domain is no longer accessible to C_{HL}. Only the 'edge' of the phase—the head of the phase and its Spec position(s)—remains accessible in the next phase.[8] A consequence of this is that, for extraction of an element from a phase, or for interpretation of an element by an operator in the higher phase, the element must first move to the 'edge'.

We can assume that the question operator is universally generated in COMP (Baker 1970, Jayaseelan 2001b). Given the phase theory, it can only access a *wh*-phrase which is in the 'edge' of the highest vP in its domain, or higher. In English, a *wh*-phrase moves all the way to COMP. (Chomsky (2001) solves the problem of *wh*-in-situ by opting for covert movement.) In Malayalam the *wh*-phrase does not move to COMP, for reasons that we need not go into here. But it moves *overtly* to the nearest position where it becomes accessible to the question operator, namely the 'edge' of the vP phase. (Of course, the 'edge' position of the *wh*-phrase is disguised by the VP-vacating movements of the other elements of the vP, in the manner we described above.) In a multiple question, all the *wh*-phrases must be stacked in this position, cf. the following:

(13) ninne aarə eppooL entinə talli ?
you-acc. who when why beat(Past)
'Who beat you why when?'

Chomsky (1995, 1998, 1999) implements *wh*-movement by assigning an optional EPP feature to C^0 and v^0. This aforesaid EPP feature is twinned with a P feature, which in

[7] It must be noted, however that Zubizaretta's (1998) prosodically-motivated movements ("p-movements") take place *in the syntax* (p.141).

[8] Actually the domain of v is closed off only when the derivation has reached the end of the CP phase, i.e. when C has been merged. This is done to ensure that an *in-situ* nominative object (as occurs in a "quirky" subject construction in some languages) is still accessible to T for Case-agreement. But we shall ignore this detail, since we are concerned only with *wh*-movement.

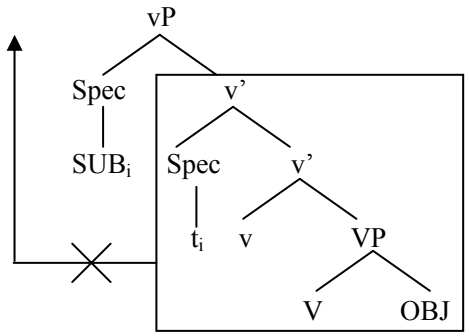
this case we take to be a Focus feature. Given PIC, a *wh*-phrase contained in vP first moves to the 'edge' of vP, and then to the 'edge' of CP. The P feature on C^0 and v^0 possibly expresses (or at least accommodates) the claim that both steps of *wh*-movement are Focus movements. In English the first step of *wh*-movement is 'invisible'. What we see in Malayalam is this 'invisible' step made 'visible'. Thus question movement in Malayalam provides evidence for the two-step *wh*-movement analysis, and for the phase theory entailing it.

1.5 Some questions about structure

There is a small difference between the Chomskyan picture of the vP phase and what I have proposed. I have been assuming a separate Focus Phrase above vP, whereas for Chomsky Focus is only a feature on v, and the Focus position is an outer Spec of vP. Chomsky makes a similar move about Rizzi's proposed Focus Phrase in the C system: he reduces it to an optional Focus feature on C^0, and this feature makes the Spec of CP a Focus position. The advantage of the Chomskyan analysis is that it makes it easier to define the edge of a phase: the edge consists of the highest head of the phase, and its Spec position(s). However there is some evidence suggesting that we may have to sacrifice this advantage and postulate a separate Focus Phrase in both vP and CP.

Consider Ndayiragije's Kirundi facts discussed above. (See figures (11) and (12) and accompanying text.) If we discountenance a rightward Spec position, the most natural way to generate the subject's surface position appears to be the solution I suggested, namely the subject's movement to Spec,FocP followed by VP preposing. But adopting Chomsky's system, if we were to move the focused subject into the outer Spec of vP, the preposing operation will be impossible, since this would constitute the movement of a non-maximal projection (an intermediate projection):

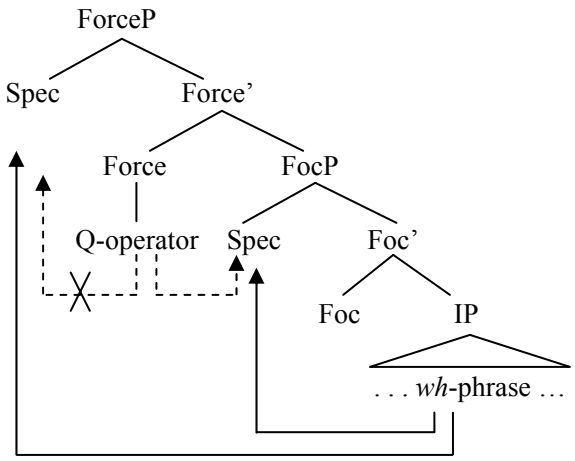
(14)



This suggests that the Focus position is in fact in a separate phrase above vP.[9]

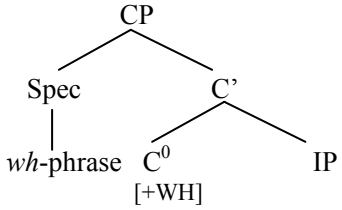
Again, in the case of CP, suppose we assume that the question operator is generated in the COMP, as originally proposed by Baker (1970), and as argued in Jayaseelan (2001b). Call the head in which the Q-operator is generated Force^0 (Rizzi 1997). Also assume that there is no Head-Spec relation (Chomsky 2001). The *wh*-phrase must now move into a position c-commanded by the Q-operator, e.g. into a Focus Phrase which is below ForceP; for, if it moves into the Spec of ForceP, it cannot be interpreted, given that there is no Head-Spec relation. (The dotted-line arrow in (15) indicates the interpretation relation.)

(15)



Crucially, what must be noted is that the "Wh-Criterion" configuration (Rizzi 1996), which requires a *wh*-phrase to be in the Spec of a C^0 with the feature [+WH], can no longer remain a part of the theory.

(16) "Wh-Criterion" configuration



[9] A reviewer suggests that in (14), we could prepose the lower VP (with V not raised to v), and that this would be consistent with Chomsky's system. But if the adjunction of V to v is driven by a need of v (say, its affixal nature), it may not be possible to avoid V-to-v raising. But in a theory which has no head-movement at all, it is unclear to me what the prediction will be.

This configuration was dependent on some other assumptions, e.g. that the Q-operator was part of the meaning of the *wh*-phrase. (So Chomsky (1992), who proposes an interpretation rule separating out the question operator from other pied-piped material in the *wh*-phrase.) Given this view, the question of the Q-operator not being able to access the *wh*-phrase did not arise.[10] Note that we were using the [+WH] feature on C^0 only as a device to attract the Q-operator into COMP, and that C^0 itself was not the operator. Even if it were, our earlier assumptions sanctioned a Head-Spec relation, so an operator in C^0 would have been able to interpret a *wh*-phrase in its Spec position. But if we assume that the Q-operator is independently generated in the COMP as the head of a phrase, and if the Head-Spec relation is given up, the Wh-Criterion configuration must be abandoned.

Actually, all we need to say about English is that the English Q-operator, generated as the head of ForceP, obligatorily selects a Focus Phrase as its complement. This selectional feature is a lexical property, and so is the right locus for parametric variation; as is well known, other languages do not require obligatory *wh*-movement into COMP. In fact, there is a parallelism with other English operators, like *only* and *even*: These optionally select a Focus Phrase as their complement; the surface manifestation of this is that the focused element associated with the operator can optionally move up close to the operator, to a position immediately to its right; cf. the movements described in Kayne (1998).[11] In Jayaseelan (2001b), I showed that question interpretation involves "association with focus", the same operation that is involved in the interpretation of the adverbial particles *only* and *even* (Rooth 1985). The selection of a Focus Phrase by all the English operators that employ "association with focus" therefore falls together in an intuitive way.

The simplest assumption to make about a Topic or Focus Phrase is that it is always generated optionally, although of course it may appear to be obligatory when it is obligatorily selected by a higher head—as we just suggested is the case with the Focus Phrase in the COMP of English questions. Also, instead of saying that the EPP feature gets a P feature added to it, it seems that the dependency must be stated the other way round: that is, the right thing to say is that EPP is a property of Topic or Focus on a functional head; which expresses the requirement that the Spec of a Topic/Focus Phrase must be filled.[12] Suppose we revive a traditional idea that the subject position is a

[10] The same observation is true of the view of Rizzi (1996) that a *wh*-phrase becomes an operator when-and-only-when it moves into COMP.

[11] Actually, Kayne (1998) moves the focused element to the Spec of the phrase headed by *only*. To get the right word-order—e.g. 'only JOHN' instead of 'JOHN only' —he must then move *only* to the left by adjoining it to a higher functional head. This 'flip' operation can now be saved, if we say that *only* selects a Focus Phrase as its complement, and the focused element moves into the Spec of the Focus Phrase.

[12] Kayne (2000:322) considers the possibility that "[f]unctional heads must always attract something overtly to their Spec."

grammaticalized Topic position; the EPP feature of T^0 can now be seen as properly belonging to the Topic feature of T^0.

Implementing movement as Attract, where the attracting element is always an EPP feature, has given us a very simple theory of movement. But I shall now present some facts which seem to argue that Attract-by-EPP is not adequate (all by itself) to describe the movement behavior of phrases completely.

2. Scope marking movements in Malayalam questions

2.1 Two scope marking strategies in Malayalam questions

In English, if a *wh*-phrase in an embedded clause has matrix scope, it moves successive-cyclically to the matrix COMP. In Malayalam, this way of indicating scope is unavailable, possibly because the Focus position of the COMP is not available as an "escape hatch". Thus a sentence in which a *wh*-phrase from an embedded clause shows up in the Focus position of the matrix clause is ungrammatical:[13]

(17) a. *nii [nii t_i kaNDu ennə] aar-e_i paRaññu ?
you you saw COMP who-acc. said
'Who did you say that you saw ?'

b. *nii aar-e_i paRaññu [nii t_i kaNDu ennə] ?
you who-acc. said you saw COMP

Since Malayalam requires scope to be indicated in the overt syntax, it employs two different devices to achieve this. One is a strategy of clefting, illustrated in (18):[14]

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[13] In (17a), the embedded clause is shown in the canonical position of the verb's direct object, which is to the left of the Focus position (see (7)). In (17b), the embedded clause is extraposed to the right. As we see, both sentences are ungrammatical.

[14] Clefting appears to involve relativization; and relativization (unlike question movement to Focus) *can* extract an element from an embedded clause. Cf. the following:

(i) (Relativization)
[nii [nii t_i kaNDu ennə] paRaññ-a] kuTTi $_i$
you you saw COMP said-Relativizer child
'the child that you said that you saw'

(ii) (Clefting)
ii kuTTi-ye_i aaNə [nii [nii t_i kaNDu ennə] paRaññ-a-tə]
this child-acc. is you you saw COMP said-Relativizer-Nominalizer
'It is this child that you said that you saw.'

Note that in a finer analysis of the morphology at the end of the cleft clause (glossed simply as 'Nominalizer' in (4), (5) and (18)), the 'Relativizer' *-a* can be seen. Incidentally, relativization

(18) aar-e$_i$ aaNə [nii [nii t_i kaNDu ennə] paRaññ-atə] ?
who-acc. is you you saw COMP said-Nominalizer
'Who is it that you said that you saw?'

The other strategy of indicating scope is what we may call "clausal pied-piping". This is done in the following fashion: the *wh*-phrase first moves into the Focus position of the embedded clause, and then the whole embedded clause moves into the Focus position of the matrix clause.

Consider (19):

(19) a. avan ninn-ooDə [avan-e aarə talli ennə] paRaññu (?)
he you-to he-acc. who beat COMP said
'Who did he say to you beat him?'
'He told you who beat him.'

b. avan [avan-e aarə talli ennə] ninn-ooDə paRaññu
he he-acc. who beat COMP you-to said
#'Who did he say to you beat him?'
'He told you who beat him.'

c. ?*avan ninn-ooDə [aarə avan-e talli ennə] paRaññu
he you-to who he-acc. beat COMP said
'Who did he say to you beat him?'
'He told you who beat him.'

Example (19a) (and only (19a)) is a good matrix question. We may take it that both the movements described above have taken place, since the question word **aarə** 'who' is contiguous to the embedded V, and the embedded clause is contiguous to the matrix V.[15] (19a) can also be an indirect question, since the embedded clause could very well be in its

in Malayalam clearly involves movement, since it shows island effects (Mohanan 1984, Jayaseelan 2001b).

[15] There are some speakers of Malayalam who accept only the cleft construction in a constituent question and who will find (19a) somewhat unacceptable. But many speakers (like me) find (19a) perfectly acceptable, if there is stress on the question word **aarə** 'who'. But in any case, the data dispute need not detain us here, since all the points we are going to make regarding the clausal pied-piping in (19a), could also be made about the following sentence:

(i) [avan-e aarə talli ennə]$_i$ aaNə [avan ninn-ooDə t_i paRaññ-atə]
he-acc. who beat COMP is he you-to said-Rel.-Nom.
'It is that who beat him that he said to you?'

(i) is a cleft construction in which the entire embedded clause is pied-piped into the 'cleft focus'. A sentence like (i) is acceptable to all speakers. (However I shall continue to use the sentence (19a) for my arguments, because it is simpler.)

'canonical' position (which is that of the direct object) and not in the Focus position. (If the Focus position is not generated, the direct object will be to the immediate left of V, see (7).) Example (19b) is fine as an embedded question because the question word is in the Focus position of the embedded clause; but it is bad as a matrix question,[16] because the embedded clause has clearly not moved into the Focus position of the matrix clause, as evidenced by its non-contiguity to the matrix V. Example (19c) is bad (as *any* type of question) because the *wh*-phrase has not moved to the Focus position within the embedded clause.

2.2 The scope-marking movements and the inadequacy of feature checking

There are cross-linguistic parallelisms for clausal pied-piping, e.g. Basque (Mey & Marácz 1986, Ortiz de Urbina 1990). But instead of pursuing these parallelisms,[17] let us ask a question: How can the current device of feature checking describe Malayalam question movements? Consider (19a, repeated below), when it is interpreted as a matrix question:

(19) a. avan ninn-ooDə [avan-e aarə talli ennə] paRaññu ?
he you-to he-acc. who beat COMP said
'Who did he say to you beat him?'

There are two movements here: (i) the movement of the subject noun phrase **aarə** 'who' to the pre-verbal Focus position in its own clause; (ii) the movement of the embedded clause to the pre-verbal Focus position of the matrix clause. We need to generate two FocPs—one above the embedded vP and one above the matrix vP—to implement these movements.

There is a general problem affecting all implementation of movement by the device of Attract, where the attracting element is a feature of the target. How do we ensure that the target is generated? Consider a Malayalam vP containing a *wh*-phrase. Suppose we decide not to generate a FocP above this vP. Recall that in an optimal theory, a Topic/Focus Phrase is generated optionally. In English, and possibly in Bulgarian and Serbo-Croatian as well, one can get around this problem by saying that a ForceP headed by a question operator *selects* a FocP as its complement. But in Malayalam, the FocP above vP is too far away from the COMP, for a question operator in the COMP to select it. Also, in a case like (19a), a question operator in the matrix COMP cannot conceivably select a FocP above the embedded vP.

[16] The '#' symbol indicates the non-availability of a reading.
[17] See Jayaseelan (to appear) for a consideration of these parallelisms.

If FocPs are generated optionally, the prediction is that Malayalam *wh*-movement to the pre-verbal Focus position is optional, which is false. How do we ensure that whenever a vP contains a *wh*-phrase (or *wh*-phrases), it also has a FocP above it? The problem is compounded in the matrix clause of a sentence like (19a), where something must force the generation of the FocP above the matrix vP, so that it can induce the clausal pied-piping.

Consider whether there is a way around this problem, in terms of current devices. Chomsky (1998:128) postulates the following mechanisms for *wh*-movement. An interrogative C^0 has an uninterpretable feature [Q], which acts as a probe. A *wh*-phrase has an interpretable feature [Q] and an uninterpretable feature [wh], the latter having the function of making the *wh*-phrase an active goal for C^0's probe. After feature-matching (Agree), the uninterpretable features—the [Q] of C^0, the [wh] of the *wh*-phrase—delete. Failure of Agree will result in a crash.

One may wonder: Will these mechanisms enable us to say (about Malayalam) that if a FocP above vP is not generated (and a *wh*-phrase not moved into it), the derivation will crash? It will not. The Chomskyan mechanisms have only got to do with the relation of an interrogative C^0 to a *wh*-phrase. Thus consider (1b) (repeated below):

(1) b. *aarə nin-ne talli ?
who you-acc. beat(Past)

This sentence is bad because the *wh*-phrase has not moved to the Focus position but is in the subject's canonical position. However, assuming an interrogative C^0 in COMP, the C^0's probe should have no problem in matching features with this *wh*-phrase and simultaneously deleting the latter's [wh] feature. Therefore, nothing here forces us to generate a FocP above vP and to move the *wh*-phrase into it.

Another tack is suggested by "indirect feature-driven movement" (or IFM, Chomsky 1998:108), specifically its subcase "long *wh*-movement". It is assumed that in this type of movement the intermediate C^0s and v^0s have a Focus feature ('P feature'), which has an EPP feature associated with it. Either the P feature or the EPP feature acts as a probe; the choice between them is unclear to me. Although the P feature is assigned only optionally to C^0 and v^0, its non-assignment to the intermediate C^0s and v^0s results in a crash. This is because, in the final stage of the "long *wh*-movement", the *wh*-phrase must be present in the 'edge' of the highest vP in the interrogative C^0's domain in order to be accessible to the C^0's probe, given the PIC. In other words, the assignment of the P feature in such cases is in a sense obligatory, owing to considerations of final convergence. Now, will considerations of convergence force us to generate FocPs in the appropriate places in Malayalam questions? Again, the answer is in the negative. Consider again (1b): Since an interrogative C^0's probe should be able to access any element which is in the 'edge' of the

highest vP in its domain *or higher*, the *wh*-phrase in (1b) ought to be accessible to it.[18]

Finally, will it help if we go back to an earlier stage of the theory and postulate a 'strong' feature in the phrases which move? This solution is particularly appealing when we try to account for multiple *wh*-fronting; cf. (13, repeated below):

(13) nin-ne aarə eppooL entinə talli ?
you-acc. who when why beat(Past)
'Who beat you why when?'

But the fact is that such a move will not succeed. Thus in (19a), suppose we say that **aarə** 'who' has a strong feature. This feature will be checked and deleted when the word moves into Spec,FocP in the embedded clause. But now, what will enforce the second movement, namely the pied-piping of the embedded clause?[19]

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[18] In fact in a sister language of Malayalam, Tamil, a *wh*-phrase can surface in its 'canonical' position, although optionally it can also move to the Focus position contiguous to V. Thus, both the following sentences are acceptable (examples from Savio 1991:26):

(i) a. evan kaTai-kku poonaan ?
who shop-dat. went
'Who went to the shop?'
b. kaTai-kku evan poonaan ?
shop-dat. who went
(same as (a))

Anoop Mahajan (p.c.) has suggested an alternative to postulating a Focus Phrase above vP in a language like Malayalam. His suggestion is that in SOV languages, V is in C; all other elements in the clause (therefore) are in positions higher than C. Malayalam question words now move, not into a Focus position above vP, but into the same position which English *wh*-phrases move into, namely a Focus position in the "C system" (assuming Rizzi's (1997) analysis). We shall have more to say about this proposal. But here we note that it may (prima facie) appear to provide a solution to our problem. In (1b) now, what we called the 'canonical' position of the subject is higher than C^0; and one can argue that a *wh*-phrase in that position will not be accessible to C^0's probe.

Unfortunately, this analysis does not give us a real solution to our problem. Consider (19a), in which—going by Mahajan's analysis—the embedded clause is in the COMP of the matrix clause. One can assume that an interrogative C^0 in Malayalam—like an interrogative C^0 in English—always has a 'P feature' (a Focus feature), which in this case attracts the embedded clause to its Spec position. But a non-interrogative C^0 has a P feature only optionally; and therefore, there is nothing that will force the movement of the *wh*-phrase (to COMP) in the embedded clause. (Or in any number of embedded clauses, given that a *wh*-phrase can be merged "n-clauses down".) To put this point concretely, we have no explanation of why (19c)—as opposed to (19a)—is bad.

[19] Boščovic (1999) proposes an "attract-all-F" feature located on the target, which can account for multiple *wh*-fronting without the need to postulate a strong feature in the phrases which move; a functional head with this feature has the property of repeatedly attracting focused elements in its

2.3 Supplementing feature checking: The question operator's 'probe'

In sum, what we see is that a feature checking approach fails to give a complete account of question movement. I wish to suggest, however, that a solution is possible if we can think in terms of a property of the question operator playing a role here.

Assume (following Jayaseelan (2001b)) that the question operator accesses question words by "association with focus". (The latter operation, as I said earlier, was first postulated in connection with the syntax of focusing particles like *only* and *even*. The term "association with focus" was first employed for this operation in Rooth (1985).) Syntactically, let us think of "association with focus" as a 'probe' which the operator sends "down the tree" to find an element with the feature [+Focus]. The interpretation of this element, when found, will of course depend on the semantics of the operator. The operator's probe has several properties: for one thing, it does not stop when it finds its first focused element, but can go on to search for more elements with this feature. (Thus one operator can bind several variables; cf. multiple questions and multiple binding of focused elements by a single *only*/*even* (Rooth 1985).)[20] A probe can choose to bind (to its operator), or not bind, a [+Focus] element that it finds; but if it binds it, this element is "closed" to other probes. (I.e., a variable cannot be bound by two operators.) Another constraint on this binding is that a probe cannot "skip" a potential goal which is not "closed off" in the above-mentioned manner, and bind a farther-off goal. This generates the 'nested' pattern of interpretation in sentences with two question operators, noted by Pesetsky (1982).

If we may think of the probe as a property of the operator, we can readily imagine this property being parameterized. I wish to suggest that this is in fact the case. There appear to be two choices. One choice—possibly the unmarked choice—is a domain search probe. This probe searches its c-command domain, subject only to the locality

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domain until all of them have been moved up. An interesting thing about this proposal is that—as Bošcovic points out—"attract-all-F" can apply vacuously. This means that it can be made the invariant property of certain functional heads in certain languages, e.g. C^0 in Bulgarian or (for our purposes) Foc^0 in Malayalam. I.e., we can now say that a Foc^0 is generated above every vP in Malayalam; when the vP contains no *wh*-phrase, the "attract-all-F" feature applies vacuously! So, the problem created by the optionality of FocP disappears. However, see Jayaseelan (to appear) for an argument that 'vacuous' application of "attract" is inconsistent with the notion of "deficiency" which underlies checking theory.

[20] The operator's probe is in this respect different from the Chomskyan probe (Chomsky 1998). The latter is an uninterpretable feature of a functional head, which needs to be checked; accordingly, when the checking is done, the probe deletes. Therefore, it can relate to only one goal. However, Hiraiwa (2001) proposes a version of the Chomskyan probe which can in fact simultaneously check several goals.

constraint imposed by the phase theory: it "sees" every element in the edge of the highest phase properly contained in its domain, or higher. I wish to suggest that the other choice is a position search probe. This probe is actually a relation between the operator and a fixed position—in the present case, the Focus position. It "sees" only elements in the associated position.

Assume that Malayalam has a position search probe, targeted at a Focus position. (Unlike Tamil—see fn.18—which we must assume has the unmarked domain search probe.)[21] In an SOV language like Malayalam, the FocP in the COMP system is never generated, as earlier mentioned. The only FocP generated is the one immediately above vP. So this is the only position the question operator "looks at" (in Malayalam). For this reason, all the *wh*-phrases must be present in that position, if they are to be interpreted. This accounts for the stacking of *wh*-phrases in that position in a multiple question.[22]

Now, consider (19a), interpreted as a matrix question. The question operator's probe, starting from the matrix COMP, looks at the Focus position above the matrix vP. It finds a pied-piped clause there. We must assume that it seeks the Focus position of this clause in a recursive step. The same recursive step would be necessary in a case of CP pied-piping in English, like (20):

(20) Who came, did you say?[23]

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[21] The choice seems to correlate with whether a language has a preference for strong focusing devices. As already noted, Malayalam is a language which normally has a cleft construction in constituent questions.

[22] In the Bulgarian/Serbo-Croatian type of multiple *wh*-fronting languages, possibly the probe "sees" only the nearest FocP, namely the FocP of COMP.

[23] A reviewer asks: But how does the probe "see" into the embedded CP in (19a)—given the PIC? Note that this question is not specific to our analysis of (19a), or of Malayalam questions, but arises also with respect to the English sentence (20). We can restate the question in terms of the notion of TRANSFER (Chomsky 2001). Since TRANSFER (to the semantic and phonological interpretation) of a chunk of the derivation closes it off to further access, how do we argue that the embedded CPs in (19a) and (20) have not already undergone TRANSFER?

A tentative solution to this problem is as follows. Let us say that the domain of the head of a lower phase undergoes TRANSFER when the head of the next higher phase is merged. (Thus, v^0's domain is "closed off" when C^0 is merged, as mentioned in a previous footnote. We may take it that this pattern is general.) Consider the English sentence first. The *wh*-phrase "escapes" TRANSFER within the embedded clause by moving successive-cyclically to the Spec,CP of that clause. In this position it will not undergo TRANSFER when the matrix v^0 is merged; but as a matter of fact, the embedded C^0's domain also "escapes" TRANSFER because the embedded CP moves to the edge of the matrix vP, and then again to the edge of the matrix CP.

Now consider the Malayalam sentence. The Malayalam *wh*-phrase moves to the edge of the embedded vP; in this position it "escapes" TRANSFER when the embedded C^0 is merged. When

Since the probe looks at only Focus positions, the *wh*-phrase must move into the Focus position of the minimal clause (the 'first' movement in (19a)), and the embedded clause must move into the Focus position of the matrix clause (the 'second' movement in (19a)). If both these movements do not take place, the probe will not "find" the *wh*-phrase, which will remain uninterpreted, leading to a crash at LF.

3. Conclusion

We saw that an implementation of phrasal movement in terms of an EPP feature on the target is inadequate *per se*: it cannot completely describe the movement behavior of *wh*-phrases in at least one language. We need to postulate an ancillary mechanism, which we conceive of as a parameterized property of the question operator.

An important consequence of our abandoning the "Wh-Criterion" configuration—i.e. the insistence that all *wh*-phrases must be in the Spec of an interrogative C^0 ($C^0_{[+WH]}$) at LF—is that Malayalam *wh*-phrases need not undergo any LF-movement. Given the phase theory, for a question operator in COMP, there are two Focus positions which are simultaneously accessible, namely the Focus position in COMP and the Focus position above vP. Malayalam *wh*-phrases are in the latter Focus position and so can be interpreted by the question operator. The clausal pied-piping strategy of indicating scope can be seen as having the function of making a *wh*-phrase in an embedded clause accessible to a question operator in the matrix clause, in the overt syntax. If all movement is overt movement (Kayne 1998), Malayalam question movement accords well with that position.

Malayalam question movement also provides some indirect evidence for the 'two-step *wh*-movement' analysis of English-type languages entailed by the phase theory. Malayalam, as it were, makes the first step 'visible'. This can be taken as confirmatory evidence for the phase theory.[24]

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the matrix v^0 is merged, the embedded C^0's domain—which contains the *wh*-phrase—ought to have undergone TRANSFER; but it "escapes" TRANSFER because the embedded CP moves to the edge of the matrix vP.

We are assuming that TRANSFER and movement may be freely ordered with respect to each other; but that movement before TRANSFER "bleeds" TRANSFER.

[24] A word in conclusion about Anoop Mahajan's alternative to postulating a Focus Phrase above vP, namely taking V to be in C in SOV languages. (Variants of this proposal have already been made for the European SOV languages; cf. Kayne's (1994:52) proposal for German, Haegeman's (2000) proposal for German and Dutch.) This proposal is very attractive in many ways, but it leaves unexplained why German, which, as is generally acknowledged, has a Focus position immediately to the left of V (exactly as in Malayalam), nevertheless moves its *wh*-phrases into the left periphery of the clause. This argues that in German, two Focus positions are generated—one above vP, and one in CP. The Focus position to the left of V in European

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languages is often analyzed as a matter of only stress assignment, not a Focus Phrase. But it is difficult to dismiss this position so lightly when we note that in English as well—which is clearly an SVO language, and to which therefore many of the phonological arguments do not carry over neatly—a Focus position above vP plays a role in several rules; although this fact is disguised on the surface by "remnant" VP-preposing (Kayne 1998). The latter operation—as we indicated in earlier footnotes—could indeed be a phonologically triggered rule, a 'p-movement' in the sense of Zubizaretta 1998. In Jayaseelan (1999, 2001a), I explain English clefts, heavy NP shift, pseudogapping and some other rules as involving the movement of a focused element to the above-vP Focus position. All this argues that UG sanctions two Focus Phrases, one above vP and one in the "C system". It cannot be accidental that the picking out of vP and CP for this purpose falls together with the phase theory.

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某些 SOV 語言中的疑問詞移位與屬性檢核理論

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某些 SOV 語言中的 *wh* 詞組須緊臨在動詞左邊。本文使用馬拉亞拉姆語 (Malayalam) 的語料論證在這些語言中，*wh* 詞組移至 vP 之上的焦點詞組指示語位置，該移位可以用「相位理論」(phase theory) 來解釋。

若從屬子句中的 *wh* 詞組以主要子句爲其疑問範域，則其經過兩步驟的移位：該 *wh* 詞組先移到從屬子句裡的焦點位置，再帶著整個從屬子句移到主要子句的焦點位置。我們指出，單單由「屬性檢核」(feature checking) 的機制無法說明這些移位，必須將「疑問運符」(question operator) 之「搜尋」(probe) 的性質參數化。

關鍵詞：擴充的投射原則，屬性檢核，馬拉亞拉姆語，疑問詞移位