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Wh-in-situ and Null Operator Movement in Sinhala

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(Abstract)

This article argues that Sinhala, which is one of the wh-in-situ languages, implements movement of a null operator in wh interrogations, and that this movement may be induced either in overt syntax or in LF. On the basis of the Sinhala data, I demonstrate that XP movement may occur even in LF, and further, that island conditions such as Subjacency must be observed by covert as well as overt movement.

1. Introduction

In the literature, it has been a locus of issue whether various island conditions applying to overt movement (e.g. Subjacency) hold for LF movement. The prevalent view is that LF movement is not constrained in the same way as syntactic movement, but this raises a serious theoretical problem in the Minimalistic design of grammar, which posits only two levels of linguistic representation, i.e. PF and LF.

Under the standard GB view, Subjacency depends on the level of S-structure (since the constraint ceases to be relevant after this level). But within a Minimalist approach, statements using the level of S-structure are not available. Consequently, the constraints that are said to apply only at S-structure (such as Subjacency) have to be captured in a different manner.

On the Minimalist approach, every principle that constrains derivations must apply at LF, at PF, or at every step of the derivation where it is relevant. Under this guideline, the S-structure constraints must be reformulated either as well-formedness conditions at one of the interfaces or as conditions on derivations that apply as a whole.

In the case of Wh movement, one promising way is to hold that Subjacency applies at every step of derivation, and to claim that there is no asymmetry between syntactic and LF movement. This is essentially a strong version of the strict correspondence hypothesis.

However, if the standard assumption that wh words are moved at some syntactic level is held, it is difficult to maintain this view, since there are languages in which wh words can be deeply embedded within islands. This is a situation that typically arises with the so-called 'wh-in-situ' languages, where movement of wh phrases is traditionally assumed to occur in the LF component.

Recently, however, it is suggested by Watanabe (1991, 1992a) and Aoun and Li (1993), among others, that in 'wh-in-situ' languages, wh words do not undergo movement throughout

the derivation, and that a null operator is overtly moved instead. In their analysis, since a null operator can be generated in a position separate from a *wh* phrase, island effects can be evaded even if a *wh* phrase is embedded deeply in a syntactic island.

On this approach, movement of an empty operator is induced in overt syntax (at least in Chinese-Japanese type languages), a re-evaluation of the status of LF movement is called for. Some of the questions that arise are: (1) Are there any ‘*wh-in-situ*’ languages which implement LF movement of *wh* phrases (or null operators)? (2) If there are, do island conditions hold for LF movement in the same way as overt movement in such languages?

In the present article, I will attempt to answer these questions. My main concern is to attest a ‘*wh-in-situ*’ language which shows a clear diagnostic of LF movement (as well as overt movement), and to check the status of LF movement. If such a language is examined in detail, the questions raised above are readily answered.

Sinhala serves as such a language. In Sinhala, there is strong empirical evidence that a null operator may be moved in LF as well as in overt syntax. In this paper, I show on the basis of Sinhala data that locality conditions such as Subjacency hold uniformly and do not depend on levels of representation at all. A careful examination of the Sinhala data firmly establishes that island conditions must be a constraint imposed on XP movement in every step of the derivation.

The discussion proceeds as follows. Section 2 summarizes some of the basic facts on Sinhala *wh* questions, and Section 3 considers the clause structure of Sinhala. I demonstrate, in Section 4, that movement of a null operator is implemented in Sinhala *wh* questions. In Section 5, I show that Subjacency is observed for LF movement. Conclusions are presented in section 6.

2. WH-Constituents in Sinhala

Recently in the literature, there has been an issue over whether *wh* elements are raised by *Wh* movement in derivation in ‘*wh-in-situ*’ languages at all. This is quite an intricate problem, but some researchers claim (e.g. Aoun and Li 1993) that a *wh* phrase is allowed to stay in place without movement in overt syntax (and presumably, even in LF) if a *Q* element is placed in clause final position (specifying scope).

In effect, in many languages that allow *wh* words to stay in place, an overt *Q* element is found in clause-final position, as exemplified below:

- (1) a. Dare-ga ki-masu **ka**? (Japanese)
 who-NOM come Q
 ‘Who will come?’
 b. Shei lai **ne**? (Chinese)
 who come Q
 ‘Who is coming’

The generalization that a *wh* word may remain in place when a *Q* particle appears in clause final position, however, does not always hold. Sinhala is a ‘*wh-in-situ*’ language, but a *wh* interrogative is typically formed with a *Q* element appearing next to a *wh* element:¹

- (2) a. Kau **də** enne?
 who Q come
 ‘Who comes?’
 b. Chitra monəwa **də** gatte?
 Chitra what Q bought
 ‘What did Chitra buy?’

In Sinhala, a Q element, more often than not, appears immediately after the host wh word, but this does not mean that the Q particle is directly cliticized onto a wh word; rather it is attached to some XP constituent. The following examples confirm the point:

- (3) a. Chitra [monə potə] **də** gatte?
 Chitra what book Q bought
 ‘What book did Chitra buy?’
 b. Chitra [kauru ekkə] **də** kataa kəlee?
 Chitra who with Q talk did
 ‘Who did Chitra talk with?’
 c. Chitra [mokee-tə] **də** gəhuwe?
 Chitra what-DAT Q hit
 ‘What did Chitra hit?’

In (3a) the Q element appears after the noun potə ‘book’. In (3b) the Q element is preceded by the postposition ekke ‘with’, and in (3c), by the dative case marker tə. These examples suggest that the attachment of the Q element is associated with some maximal projection comprising a wh word.

In Sinhala, there is at least one indication that in wh questions like (2), a wh word is interpreted with respect to an element independent of the wh word. In a Sinhala wh interrogative, when a Q element occurs after the host wh phrase, the predicate receives a special verbal ending, i.e. e-ending, in lieu of a neutral a-ending, which is shared by declarative verbs. The e-form of the verb ending encodes the scope of the wh element, and forms part of particle-predicate concord with the Q element.

In a wh question where a Q element stands after a wh-in-situ, the predicate cannot have an ordinary a-ending:

- (4) *Kau **də** enəwa?
 who Q come
 ‘Who comes?’

In (4), the e-ending verb enne ‘come’ in (2a) is replaced by the a-ending form enəwa ‘come’, and the sentence is unacceptable. Particle-predicate concord is obligatory in a wh question in which a Q element is placed next to its host wh phrase.

The particle-predicate relation can be long distance. When a Wh-Q constituent is embedded in a complement clause selected by a verb like dannōwa 'know', the ε-marking may appear either on the embedded predicate or on the main predicate:

- (5) a. Ranjit [kau də aawa kiyəla] danne?
 Ranjit who Q came that know
 'Who does Ranjit know came?'
- b. Ranjit [kau də aawe kiyəla] dannōwa.
 Ranjit who Q came that know
 'Ranjit knows who came.'

The sentence in (5a), where the matrix predicate danne 'know' bears the ε-marking, is understood as a matrix wh question. In (5b), the lower predicate aawe 'came' receives the ε-marking, thereby the sentence being understood as an embedded wh question. The descriptive generalization here is that the special ε-marking on a predicate which appears as part of particle-predicate concord specifies the scope of wh phrases.

In Sinhala, as opposed to Japanese-Chinese type languages, the placement of a Q element in clause final position is fairly restricted. The following wh question having a clause-final Q particle is ill-formed irrespective of whether the verb has the ε-marking or the α-marking:

- (6) *Kauru enōwa/enne də?
 who come Q
 'Who comes?'

There are at least two cases in which a Q element is allowed in clause final position (see Gair 1983, Kishimoto 1992, Gair and Sumangala 1992). First, a Q element may be placed clause-finally when a wh phrase is embedded within the complement clauses of certain verbs (like dannōwa 'know', səkə-kəṛənōwa 'doubt', and parik[aa-kəṛənōwa 'look into'):

- (7) Ranjit [kauru aawa də kiyəla] dannōwa.
 Ranjit who came Q that know
 'Ranjit knows who came.'

In general, verbs permitting this type of Q particle placement take statements expressing doubt in their embedded clauses (cf. Gair 1983). Other types of verbs do not allow a Q element to be placed in the clause final position:

- (8) *Ranjit [kauru aawa də kiyəla] kiiwa.
 Ranjit who came Q that said
 'Ranjit said who came.'

The class of verbs allowing the placement of a Q element in clause final position does not necessarily coincide with the class of verbs taking interrogative complements:

- (9) a. Ranjit [kau **də** aawe kiyəla] əhuwa.
 Ranjit who Q came that asked
 ‘Ranjit asked who came.’
 b. *Ranjit [kauru aawa **də** kiyəla] əhuwa.
 Ranjit who came Q that asked
 ‘Ranjit asked who came.’

A verb like əhuwa ‘ask’ can take an interrogative clause as its complement, but the verb cannot place a Q element at the end of the complement clause. The option of taking a clause-final Q element cannot simply be specified by the verb’s ability to take an interrogative subordinate clause.

In the complement clause of dannəwa ‘know’, there is an alternative way of Q element placement. In lieu of placing it in clause final position, the Q particle may be placed in a position contiguous with the wh phrase, as in (10):

- (10) Ranjit [kau **də** aawe kiyəla] dannəwa.
 Ranjit who Q came that know
 ‘Ranjit knows who came.’

In this case, the embedded verb involves ‘particle-predicate’ concord. When (10) is compared with (7), it becomes clear that when a Q element is placed in clause final position, the verb takes the ordinary declarative a-ending, not the e-ending (without particle-predicate concord). Notably, in (7), the wh element is interpreted relative to the Q element, the sentence being understood only as an embedded question.

A second case can be found among a class of wh phrases including kiidenek ‘how many’ and kiiy-ak ‘how much’. If these wh phrases appear in wh interrogatives, the associated Q element may show up clause-finally even in the matrix clause:

- (11) Kiidenek ənəwa **də**?
 how.many come Q
 ‘How many people come?’

In (11), the Q element appears to the right of the predicate, and no particle-predicate concord is found, just as in (7). Furthermore, just as in the first case, kiidenek ‘how many’ is allowed to have a Q element occurring after the wh word:

- (12) Kiidenek **də** enne?
 how.many Q come
 ‘How many people come?’

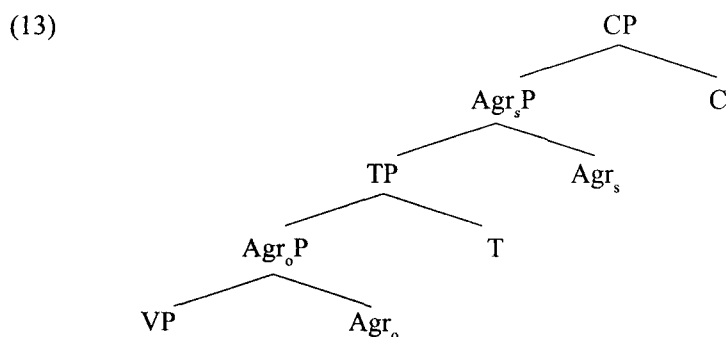
Note that in (12), particle-predicate concord emerges. Example (12), together with (10), shows that where it is possible to place a Q element in clause final position, there is always an alterna-

tive way of Q particle placement in which the Q element appears in a position adjacent to the host wh phrase.

Summarizing, in Sinhala, a wh question is typically formed with a Q particle appearing in a position next to a wh element. In this type of wh question, the predicate involves particle-predicate concord, possessing a special verbal marking. Under some contexts, however, a Q element may be placed in clause final position. If a Q element appears clause-finally, the verb involves an ordinary ending, and particle-predicate concord is absent.

3. Clause Architecture

In this section, I delineate some of the preliminary assumptions and determine the basic clause architecture of Sinhala, which are of relevance to the discussion that follows. First, I adopt the view that case checking is mediated through the projection of Agr, proposed by Chomsky (1993). In this framework, the basic clause structure must include at least three functional projections intervening between CP and VP, namely, Agr_sP, TP, and Agr_oP, as in (13):



Second, in Sinhala, it is necessary to postulate an articulated CP system which allows for the stacking of CP, which is somewhat different from the CP system usually posited for a ‘wh-in-situ’ language like Japanese. In Japanese, a Q element does not co-occur with an ordinary complementizer:²

- (14) Masao-wa [dare-ga kita **ka** (*to)] sitteiru.
 Masao-TOP who-NOM came Q that know
 ‘Masao knows who came.’

By contrast, in Sinhala, a Q element is allowed to appear together with the ordinary complementizer kiyəla ‘that’, as in (15):

- (15) Ranjit [Chitra monəwa gatta **də kiyəla**] dannəwa.
 Ranjit Chitra what bought Q that know
 ‘Ranjit knows what Chitra bought.’

A commonly held assumption about the clause final Q element is that it serves as a kind of complementizer. If we hold that a single CP generally cannot host more than one complementizer, it follows that in Japanese, only one layer of CP is allowed, but in Sinhala two layers of CP must be permitted, as represented in (16):

(16) [CP₁ .. [CP₂ .. [AgrsP .. [TP .. [AgrOP .. [VP]]]]]]

(For the sake of convenience, I designate the topmost complementizer projection as CP₁ and the lower one, as CP₂.) The stacking (*or* recursion) of CP is proposed by a number of researchers including Culicover (1992), Authier (1992), Watanabe (1992b), Browning (1996) and others. In particular, Watanabe (1992b) claims that the recursion of CP is created by virtue of movement of an overt complementizer, but in Sinhala, this cannot be true. Since two complementizer elements are co-existent in a single clause, the two CPs must be independently created.

In any event, the essential claim shared by the researchers advocating the CP stacking is that the lower CP₂ serves as the landing site of topic-like elements, while the topmost CP₁ is always not lexically filled (to the exception of its head). This means, as suggested by Browning (1996), that the highest CP₁ is an ordinary complementizer position, and that the lower CP₂ is a distinct topic position.³

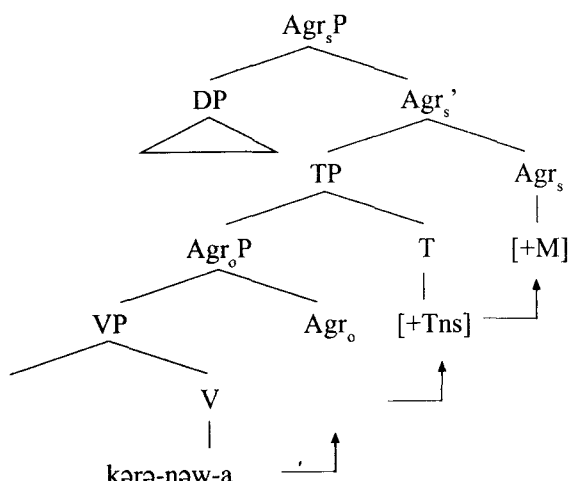
This generalization holds true for Sinhala as well. Since the Q element is ordered lower than the ordinary complementizer, as shown in (15), and since the Spec of CP headed by a Q element may serve as a landing site for an operator element, we could reasonably state that the lower CP₂, but not the topmost CP₁, is allocated for a landing site for an operator element in Sinhala, just as in languages permitting the stacking of CP.

Since the number of complementizer elements permitted in a single clause is a good indicator of a difference in clause structure between Sinhala and Japanese, I assume in the following discussion that the Sinhala clause comprises two CP projections, as in (16), while Japanese can include only a single layer of CP projection.⁴

Turning now to verb inflection, it should first be mentioned that the verb endings, which alternate between *a*- and *e*- forms depending on the place of a Q element, are inflectional affixes co-occurring with a tense element on a finite verb.⁵ Notably, these affixes lie outside the tense; for example, with the verb *kəɾənəwa* 'do', the verb root is *kəɾə*, and the non-past tense *-nəw* precedes the verbal affix *-a*.

The basic assumption adopted concerning verb morphology is that the verb is generated on the V head with all the inflectional properties, and that the verbal features on the verb morphemes are checked against the features on each functional head as the verb proceeds to Agr_s (cf. Chomsky 1993):

(17)



The tense feature [+Tns] that is checked against the tense morpheme is located on the head of TP, and given Baker's (1985) Mirror Principle, the feature [+M] to be checked with the verb-final affix must be located on the head of Agr_s.⁶

In Sinhala, the verb seems to be overtly raised as far as C₂, since the negative prefix no, attached to the verb, takes scope over the entire sentence, behaving just like a sentential negation.⁷

- (18) Kauru-wat Columbo-tə no-yaawi.
 anyone Columbo-to NEG-will.go
 'No one will go to Columbo.'

As observed by de Abrew (1981), if the NPI kauru-wat 'anyone' falls within the scope of negation, kauru-wat 'anyone' is understood to mean 'no one'. In (18), since the subject carries the meaning 'no one', the negative verb must take scope over the entire sentence.

In the present perspective, the verb to which the negative prefix no is appended must be generated in V. If, however, negative scope is determined by the c-command domain of the verb with NEG, the verb (along with no) must be overtly raised up to C₂; otherwise, the subject NPI kauru-wat cannot fall within the scope of the negative verb.

In V2 languages, it is often observed that movement of V to C is blocked by a lexical complementizer (cf. den Besten 1983, Haider 1989, and many others). But in Sinhala, the overt raising of the verb into C₂ is permitted even in the presence of a lexical complementizer like kiyəla, because kiyəla occupies the upper C₁ position, which is distinct from C₂.

Now, with these discussions on clause structure and the verb position in mind, let us proceed to a discussion of Sinhala wh questions.

4. Null Operator Movement

4.1 *Focusing and Scope Marking*

In Gair (1983) and Gair and Sumangala (1992), the discussion of *wh* constructions is presented in the context of ‘focus’ constructions, for the distribution of particles used in focus constructions, which include the emphatic particles tamay and y, and the negative particle newey, is essentially the same as that of the *wh* questioning particle da.

To take a few examples, first, when a focus particle is attached to a constituent other than the verb, it triggers predicate-particle concord:

- (19) Chitra ee potə **tamay** kieuwe.
 Chitra that book FOC read
 ‘It was that book that Chitra read.’

Second, when the particle is embedded in a complement clause, the special verb marking can appear in the main predicate as well as in the embedded predicate, just as in a *wh* question:

- (20) a. Ranjit [Chitra ee potə **tamay** kieuwa kiyəla] kiiwe.
 Ranjit Chitra that book FOC read that said
 ‘It was that book that Ranjit said that Chitra read.’
 b. Ranjit [Chitra ee potə **tamay** kieuwe kiyəla] kiiwa.
 Ranjit Chitra that book FOC read that said
 ‘Ranjit said that it was that book that Chitra read.’

In (20a), the DP ee potə ‘that book’ is understood to take matrix scope, and in (20b), it takes embedded scope. Furthermore, a focus particle like tamay can be placed in clause final position:

- (21) Chitra ee potə kieuwa **tamay**.
 Chitra that book read FOC
 ‘It was certainly the case that Chitra read that book.’

In focus constructions, as is the case with *wh* constructions, particle-predicate concord does not obtain if the particle appears in clause final position.

There is, in fact, a tight correlation in the position of focus and *Q* particles, since focus particles may appear in the positions where the da particle is allowed to show up. In view of this fact, I claim, in line with Gair and Sumangala (1992), that both *wh* and focus constructions involve essentially the same grammatical operation. Specifically, in my analysis, focus constructions are taken to invoke the same kind of null operator movement as in *wh* constructions (see Section 4.4).

Despite these similarities noted above, however, there are several differences between the two constructions. First, whereas *wh* questions allow multiple foci, focus constructions do not (see Kishimoto 1992, Gair and Sumangala 1992):⁸

- (22) a. Kau **də** monəwa **də** kieuwe?
 who Q what Q read
 ‘Who read what?’
 b. *Chitra **tamay** ee potə **tamay** kieuwe.
 Chitra FOC that book FOC read
 ‘It was certainly the case that Chitra read that book.’

Second, a clause-final focus particle can be found freely even in the matrix clause in a focus construction, but a wh question does not typically permit a clause final Q particle:

- (23) a. *Kauru ee potə kieuwa **də**?
 who that book read Q
 ‘Who read that book?’
 b. Chitra ee potə kieuwa **tamay**.
 Chitra that book read FOC
 ‘It was certainly the case that Chitra read that book.’

Interestingly, as observed by Gair (1983), when the focus particle appears next to the verb, focus is not limited to the verb, but can be extended to other constituents. Thus, (23b) can have an interpretation on which ee potə ‘that book’ is focused as one of the possible interpretations.

In contrast, when a focus particle is attached to a constituent other than the verb, only the constituent marked by the focus particle can have a ‘focus’ meaning. Thus, in (19), only the DP ee potə ‘that book’ can receive a focus interpretation. That means that whereas the focus particle in (19) serves to delimit a focused constituent, located in ‘focusing’ position, the same particle in (23b) simply serves as a scope marker, rather than a focus marker, residing in a position specifying ‘scope’.⁹

In wh constructions, essentially the same fact obtains in regard to the position of the particle, but its semantic interpretation differs:¹⁰

- (24) a. Kiidenek **də** potə kieuwe?
 how.many Q book read
 ‘How many people read the book?’
 b. Kiidenek potə kieuwa **də**?
 how.many book read Q
 ‘How many people read the book?’

Whereas **də** stands in ‘focusing’ position in (24a), the same particle appears in clause-final ‘scope’ position in (24b). Despite the difference in the position of the particles, both sentences are understood to be a question asking for the number of people.

Sidestepping a little, it should be noted that a particle used in yes-no questioning is spelled out as də just as in the wh question particle **də**. This yes-no questioning particle can be used as a focus marker, which induces predicate-particle concord, as in (25):

- (25) Chitra **də** ee potə kieuwe?
 Chitra Q that book read
 ‘Did Chitra read that book?’

The yes-no question particle, however, patterns with tamay, rather than the wh question particle də. With the yes-no question particle, it is impossible to have multiple foci in a single clause, and its clause final placement is allowed freely, as in (26):

- (26) a. *Chitra **də** ee potə **də** kieuwe?
 Chitra Q that book Q read
 ‘Did Chitra read that book?’
 b. Chitra ee potə kieuwa **də**?
 Chitra that book read Q
 ‘Did Chitra read that book?’

The fact shows that the yes-no question particle must be distinguished from the wh question particle, despite the fact that they are both spelled as də.

In any event, the data presented here indicate that when the focus or Q particle is placed clause-finally, it functions as a scope marker, specifying the scope of a constituent in focus. If it appears in sentence medial position, then it serves as a focus marker, which triggers particle-predicate concord. In Sinhala, the choice between them is relatively free in focus constructions. But the choice is limited in wh constructions, and the Q particle is usable as a scope marker only in a restricted context.

4.2. Movement from Focus Position into Scope Position

The primary function of focus and Q particles is to focus or delimit a constituent (and that is why the constructions involving these particles are called ‘focus’ constructions). The reasonable view, then, is that these focusing particles are merged (i.e. base-generated) only in ‘focusing’ positions. On this view, if these particles are to mark scope, as a secondary use, movement must be involved (since they cannot be merged in scope positions.)

This view gains empirical support from fact that particles taking the same scope cannot appear simultaneously in two different positions, i.e. ‘focus’ and ‘scope’ positions:

- (27) a. *Kiidenek **də** potə kieuwa **də**?
 how.many Q book read Q
 ‘How many people read the book?’
 b. *Chitra **tamay** ee potə kieuwa **tamay**.
 Chitra FOC that book read FOC
 ‘It was certainly the case that Chitra read that book.’

The prohibition against a concomitant occurrence of the particles in ‘scope’ and ‘focusing’ positions in (27) is peculiar, since a wh question can generally have more than one Q particle:¹¹

- (28) Ranjit [kau **də** monəwa **də** gatte kiyəla] dannəwa.
 Ranjit who Q what Q bought that know
 ‘Ranjit knows who bought what.’

Even in focus constructions, a multiple occurrence of particles is permitted if they do not take the same scope (although multiple foci is not permitted):

- (29) Ranjit [Chitra **tamay** ee potə kieuwe kiyəla] kiiwa **tamay**.
 Ranjit Chitra FOC that book read that said FOC
 ‘It was certainly the case that Ranjit said that it was Chitra that read that book.’

(Example (29) is acceptable since these two particles are scopally independent of each other.) The fact that particles cannot appear in two different positions when they take the same scope indicates that the ‘scope’ and ‘focusing’ positions are derivationally related.

If this derivational relation is mediated by movement, it is tempting to state, then, that a Q element undergoes head movement; that is, when the particle serves as a focus marker, it remains in its focusing position, and when it acts as a scope marker, the particle is overtly head-moved into scope position (i.e. C_2). Although this analysis is attractive, there are reasons that the relevant constructions involve movement of an XP element, rather than movement of an X^0 element. From now on, I will demonstrate this by limiting our attention to wh constructions (although the same holds true for focus constructions).

To start with, notice that head movement generally shows the effect of Head Movement Constraint (HMC) (see Baker 1988, Travis 1984). In wh constructions, however, movement can start from positions where head movement is generally not possible, running afoul of the HMC:

- (30) a. Ranjit [kau **də** aawe kiyəla] dannəwa.
 Ranjit who Q came that know
 ‘Ranjit knows who came.’
 b. Ranjit [kauru aawa **də** kiyəla] dannəwa.
 Ranjit who came Q that know
 ‘Ranjit knows who came.’
- (31) a. Ranjit [Chitra kohomə **də** aawe kiyəla] dannəwa.
 Ranjit Chitra how Q came that know
 ‘Ranjit knows how Chitra came.’
 b. Ranjit [Chitra kohomə aawa **də** kiyəla] dannəwa.
 Ranjit Chitra how came Q that know
 ‘Ranjit knows how Chitra came.’

In both cases, the head movement of the Q element to C_2 should be ruled out, but no effect of the HMC violation is manifested here.

Second, as often noted, movement of an X^0 item is restricted in such a way that it cannot go beyond a clause-boundary. A comparison of the examples in (32) shows, however, that the Q element may be moved across a clause-boundary:

- (32) a. Mamə [Ranjit [Chitra monəwa **də** dækka kiyəla] kiiwe kiyəla] dannəwa.
 I Ranjit Chitra what Q saw that said that know
 ‘I know what Ranjit said that Chitra saw.’
 b. Mamə [Ranjit [Chitra monəwa dækka kiyəla] kiiwa **də** kiyəla] dannəwa.
 I Ranjit Chitra what saw that said Q that know
 ‘I know what Ranjit said that Chitra saw.’

Since the distance that the Q element travels in (32) is not permissible for X^0 movement, its movement should in no way be legitimized (i.e. an illicit movement of X^0 element across a clause-boundary).¹² But the sentence is acceptable, contrary to the expectation.

Severe constraints imposed on head movement do not obtain here, and in fact, a Q particle displays a behavior which looks like A-bar movement of an XP element. This suggests that movement of an XP element, instead of movement of a Q particle, is implemented in a Sinhala wh question.

4.3. Blocking Effect

Given the data in the foregoing section, one might argue that the Q element is a clitic, which has both X^0 and XP properties (just as with clitics in Romance languages) and that it is a Q element that undergoes movement. The crucial property of a clitic is that it is an XP in terms of its movement, but occupies a head position structurally, i.e. it behaves like an XP element until it is adjoined to a head. If the Q element is a clitic, we would expect that its movement may allow the HMC violations, and the fact presented in the previous section might follow without positing an extra XP element.

This ‘clitic movement’ account, however, is not plausible for Sinhala wh questions, since the Q particle occupies an X^0 position in its pre-movement (i.e. base generation) site. Moreover, there is evidence that even when a Q element appears in scope position after movement, its position displays XP properties. In what follows, I present such empirical evidence, and argue that the movement must involve an empty XP operator, rather than the Q particle.

To begin with, observe that overt extraction of an XP item from the subordinate clause of the verb dannəwa ‘know’ is generally well-formed, as shown by (33), where the DP ee potə ‘that book’ is scrambled to the sentence initial position:

- (33) Ee potə, Ranjit [Chitra t_i kieuwa kiyəla] dannəwa.
 that book Ranjit Chitra read that know
 ‘That book, Ranjit knows that Chitra read.’

Mahajan (1990) demonstrates that long distance scrambling is an instance of A-bar movement.¹³ Under the current assumptions, it is fairly feasible to view that the intermediate Spec’s of CP_i

and CP₂ serve as the landing sites. Then, the XP item extracted by scrambling must proceed through the embedded Spec's of CPs in a manner indicated below:¹⁴

- (34) [_{AgrSP} ee potə_i [... [_{CP1} t_i [_{CP2} t_i [_{AgrSP} ...t_i ...]]]]
-
- The diagram shows three upward-pointing arrows. The first arrow starts from a trace *t_i* under the bracketed part [_{CP2} t_i [_{AgrSP} ...t_i ...]]] and points to the Spec position of the first CP, ee potə_i. The second arrow starts from a trace *t_i* under the bracketed part [_{CP1} t_i ...] and points to the Spec position of the second CP, ee potə_i. The third arrow starts from a trace *t_i* under the bracketed part [_{AgrSP} ...t_i ...] and points to the Spec position of the second CP, ee potə_i.

In the system in which two CPs are posited in the clause structure, the scrambled phrase must move through the two CPs. If one of the intermediate Spec's is unavailable as an escape hatch, then the movement will yield a Subjacency violation:

- (35) ??Ee potə_i Ranjit [Chitra t_i kieuwa də-næddə kiyəla] dannəwa.
 that book Ranjit Chitra read 'whether that know
 'That book, Ranjit knows whether Chitra read.'

Since Spec of CP₂, which indicates yes-no interrogation, is generally not available for a landing site for A-bar movement, the movement of the DP ee potə 'that book' to the clause front must skip the embedded Spec of CP₂. This movement incurs a mild Subjacency effect, as shown in (35).¹⁵

In Sinhala, a wh interrogative clause does not necessarily constitute an island for long distance A-bar movement. This fact can be clearly envisioned by the acceptability of (36):

- (36) Ee potə_i Ranjit [kau də t_i kieuwe kiyəla] dannəwa.
 that book Ranjit who Q read that know
 'That book, Ranjit knows who read.'

In (36), the DP ee-potə 'that book' is overtly extracted from the embedded clause via scrambling, and the sentence is fully acceptable. An embedded wh question, however, sometimes forms an island for extraction, as in (37):

- (37) ??Ee potə_i Ranjit [kauru t_i kieuwa də kiyəla] dannəwa.
 that book Ranjit who read Q that know
 'That book, Ranjit knows who read.'

In (37), the DP ee potə 'that book' is extracted via scrambling. The sentence displays a mild Subjacency effect, and its acceptability decreases. The only visible difference between (36) and (37) lies in the position of the Q element. In (36), the Q particle is contiguous with the wh phrase kauru 'who', but in (37), the Q particle is located in the C₂ head position.

Suppose here that in (37), the Q element is moved from its original position into its scope position acting like a clitic. Since the Q particle is an X⁰ element in phrase structural terms, it appears in the C₂ head position:

- (38) [_{AgrSP} ee potə_i [... [_{CP1} t_i [_{CP2} t_i [... WH..t_i ..]də]]]]
-

In this structure, CP₂ is available as an intermediate landing site even after the movement of the Q particle. Since an X⁰ element generally does not block movement of an XP category, no Subjacency effect is anticipated in (37), just like (36), contrary to fact. On the other hand, if, as suggested above, a null XP operator is moved into its scope position, rather than a Q element, and further, if its movement takes place when the Q element appears in the scope position, the fact follows straightforwardly. First, in (36), since the Q element is next to the wh word, no overt movement of the null operator is induced, as in (39):

- (39) [_{AgrSP} ee potə_i [... [_{CP1} t_i [_{CP2} t_i [... **OP** WH..t_i ...]]]]]
-

In (39), the DP *ee potə* ‘that book’ can be extracted from the embedded clause, since the embedded Spec of CP₂ (as well as the Spec of CP₁) is empty and accessible as an intermediate landing site.

In (37), by contrast, the Q particle appears to the right of the embedded verb. In this case, the null operator is overtly moved, and occupies the Spec of CP₂ before Spell-Out:

- (40) [_{AgrSP} ee potə_i [... [_{CP1} t_i [_{CP2} **OP**_j [... t_j WH.. t_i ..]]]]]
-

In (40), the potential landing site of the embedded Spec of CP₂ is no longer accessible to further movement. If an XP item is extracted from the embedded clause, then its movement must skip this Spec, and the sentence displays a wh island effect, as in (37).

The blocking effect discussed here is clearly one of the XP properties which can be defined in structural terms (as well as in ‘movement’ terms), but a Q element invariably appears in a head position. Therefore, the fact shows that when a Q element appears in scope position, there must be an invisible XP element in its scopal position. This brings us to the conclusion that the relevant wh construction involves movement of an XP category, rather than movement of a Q particle.

Under the ‘null operator movement’ hypothesis, proposed by Aoun and Li (1993), it is simply stipulated that the null operator is an XP element, but the Sinhala data presents a piece of solid empirical evidence in support of this view. In particular, since the wh constituent is not displaced from its original position both in (36) and (37), it can be concluded that an ‘invisible’ operator, which is independent of a wh constituent (and a Q particle), undergoes overt movement in (37).

Finally, note that in Gair and Sumangala (1992), it is argued that when a wh question has a Q particle attached to a wh word, a null pronominal is overtly moved to its scope position, which is marked by the verb’s *e*-ending. However, the data indicate that in a Sinhala wh ques-

tion, a weak *wh* island effect is present only when a *Q* element appears clause-finally. This shows, contrary to their claim, that when the *e*-marking appears in a *wh* question, i.e. when the *Q* element is accompanied by the *wh* word, no movement of a null element occurs in overt syntax.

4.4. *Verb Inflection and Null Operator Movement*

Now, recall a close relation between verbal inflection and the position of a focus or *Q* particle. The verb residing in the clause where a *wh* word acquires scope takes on a special *e*-ending when the particle is in focusing position. If the particle appears clause-finally (i.e. in scope position), the relevant verb yields an ordinary *a*-ending, and this ending is shared by a verb in the declarative form.

At first sight, the verbal marking in Sinhala looks similar to verbal inflection (*wh* concord) in languages like Chamorro and Palauan (see Chung 1982, Georgopoulos 1985, 1991a, 1991b).¹⁶ But the resemblance is only apparent. Sinhala verb inflection displays properties that crucially differ from those involving *wh* concord in Chamorro and Palauan.

First, in Chamorro and Palauan, *wh* concord is realized when overt *wh* movement occurs. In Palauan, for instance, when the *wh* word remains in-situ, the verb takes realis morphology. If the *wh* word is overtly fronted, the verb involves *wh* agreement, taking irrealis morphology (i.e. *wh* concord) (Georgopoulos 1991b: 85):

- (41) a. ke-momerek el melu'es er a babilengem er a oingerang
 R-2s-finish Comp R-write P paper-2s P when
 'When will you finish writing your paper?'
 b. ng-oingerang a 'o-bomerek el melu'es er a babilengem er ngii
 cl-when IR-2-finish Comp R-write P paper-2s P then
 'When will you finish writing your paper?'

In Sinhala, the *e*-marking emerges when the associated *Q* element is contiguous with a *wh* phrase, but in Chamorro and Palauan, *wh* concord is triggered when overt *Wh* movement is induced.

Second and more importantly, in a long-distance *wh* construction, both Chamorro and Palauan may induce agreement morphology on every intervening verbal head, which is exemplified by the Chamorro sentences below (Chung 1994:1):

- (42) a. Humállum si Maria [na ha-pänak si Juan i pätgun]
 AGR-assume Maria COMP AGR-spank Juan the child
 'Maria assumes that Juan spanked the child.'
 b. Hayi hinalomña si Maria [t pumänak t i pätgun]
 who WH.assume Maria WH.spank the child
 'Who does Maria assume spanked the child?'

Sinhala differs from Chamorro and Palauan, in that the special verbal form cannot appear on intervening verbs:

- (43) *Ranjit [kau **də** enne kiyəla] danne?
 Ranjit who Q come that know
 ‘Who does Ranjit know comes?’

Some irrelevant details aside, the behavior of verb morphology in Chamorro and Palauan has traditionally been explained by invoking the notion of successive Wh movement, namely, if a wh element moves through Spec of CP, wh concord occurs on the verb. Given the differences between Sinhala, on the one hand, and Chamorro and Palauan, on the other, it is clear that Sinhala verbal inflection cannot be explained in the same manner as wh concord in Palauan and Chamorro.

The question is how this behavior of Sinhala verbal inflection can be accounted for. In the next subsection, I argue that this property of Sinhala verbal marking can be naturally explained in association with feature checking rather than wh movement.

4.5. Feature Checking and Null Operator Movement

In Sinhala, wh constructions involve movement of an invisible operator, and our data show that if the Q element is found in focusing position, the null operator remains in situ position, and that if the Q element appears in scope position, i.e. in the C₂ head, the null operator is overtly moved to Spec of CP₂.

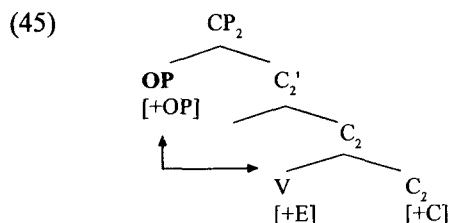
To explain this relationship between the Q element and the null operator, I propose here that a Q element is inserted in a head with which the null operator has a local relation, as a result of agreement. (cf. Aoun and Li 1993):

- (44) A Q particle is created in a local head by agreeing with an empty operator at Spell-Out.

To be concrete, a Q element is taken to be generated in a Y head (by way of agreement) if the associated null XP operator is in Spec of YP, or in a position adjoined to YP (at Spell-Out).

The overt movement of the null operator, which occurs when the Q particle is used as a scope marker, must be feature-driven; if a feature assigned to the null operator, the C₂ head or the predicate marked for question scope is strong, the null XP operator is overtly moved into Spec of CP₂ for feature checking.

For feature checking, I assume a system comparable to case checking by Chomsky (1993). That is, the [+OP] feature on the operator, which is raised to Spec of CP₂, is checked against an amalgamated complex comprising [+E] and [+C] in a Spec-head relation, as in (45):



In (45), the amalgamated complex is formed by the raising of the verb marked with [+E] into C₂, which has the feature [+C].¹⁷ The feature-checking between the operator and the inflectional element is mediated by C₂, just in the same way as DPs are case-checked by V (or T) with the mediation of Agr.

In this paper, I keep to the simple assumption that the features motivating null operator movement are [-Interpretable] in the sense of Chomsky (1995). On this assumption, the features must be eliminated by the LF output, and strong features need to be checked before Spell-Out (for PF convergence). I also assume that the elimination of the features takes place as early as possible once they are checked; if possible, deletion occurs at the point of feature checking, but if not possible (primarily for the reasons of PF convergence), it may be delayed until LF (see Chomsky 1995).

Turning to Sinhala verbal morphology, the major function of the special verbal ending is to specify scope at the PF level, and I claim that Sinhala verbal morphology is determined by the following rule:

- (46) A finite verb has an e-ending if the feature [+E] is present on the verb at PF; otherwise, it has an a-ending.

Scope marking is an essential ingredient of the focus and wh constructions. In unmarked cases, scope is marked by the special verbal marking in these constructions.

The feature [+E] is a [-Interpretable] feature which needs to be deleted by the LF output (by assumption). Thus, once the feature is checked, it can be deleted. In particular, when a Q element appears in clause final position, scope is marked by the Q element. The structural requirement of scope marking is fulfilled by the Q element here, so that if [+E] is overtly checked, it can be deleted before Spell-Out (without causing a crash in PF).

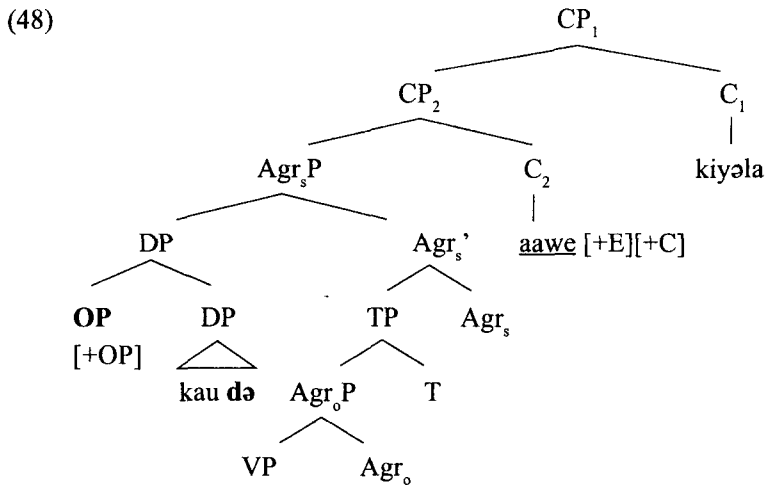
However, there are cases in which checking does not automatically lead to the removal of the [+E] feature. This happens if a Q element does not occupy a scope position. In such a case, the requirement of scope marking can be satisfied only by the verbal inflection, and the presence of the [+E] feature is required at PF even if the feature is checked before Spell-Out. In this case, the deletion of the feature has to be suspended until LF.

The present system can correctly capture the behavior of verbal inflection and particles in constructions that induce focus (or null operator) movement, including focus and pseudo-cleft constructions as well as wh constructions, which is first noted by Gair (1983). The generalization to be captured, which Gair (1983) observes, is that in constructions where scope marking i.e. the e-marking, occurs on the verb, the e-marking can be changed into the neutral a-marking only when a particle is attached to the verb and the verb retains the e-marking otherwise.

To illustrate how the generalization can be accounted for in the present system, let us now turn to some concrete examples. First, consider how the embedded clauses of (47) are derived:

- (47) a. Ranjit [kau **də** aawe kiyəla] dannəwa.
 Ranjit who Q came that know
 ‘Ranjit knows who came.’
 b. Ranjit [kauru aawa **də** kiyəla] dannəwa.
 Ranjit who came Q that know
 ‘Ranjit knows who came.’

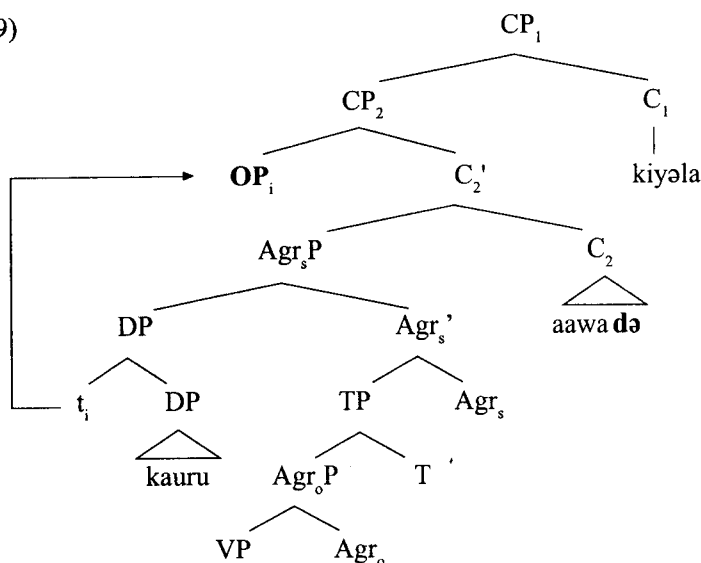
In (47a), the Q element is used as a focus marker, which means that the null operator remains in situ, with the relevant features being all weak. In this case, the Q element is generated in the DP head by agreeing with the null operator, as in (48):



In (48), since the checking of the features does not take place in overt syntax, the feature [+E] remains visible at PF, and the verb receives the e-ending, which marks scope, as in (47a).

When the Q particle marks scope, as a secondary use, overt movement of the null operator is implemented. In this case, the feature [+C] is strong, so that the null operator is overtly moved into CP₂.¹⁸

(49)



The features are checked in the checking domain of C_2 before Spell-Out, and the Q element is generated in the C_2 head by agreeing with the null operator. In (49), the Q element serves as a scope marker, satisfying the PF requirement for scope marking. The checked feature [+E] can then be deleted before Spell-Out without causing a crash at PF. The surface form in (47b), where the Q element is placed in clause final position (without particle-predicate concord), can thereby be derived legitimately.

The same analysis applies to the focus construction, the only surface difference being the kind of particle generated in agreement with a null operator:

(50) a. Ranjit paadām tamay kəɾənne.

Ranjit study FOC does
‘It is studying that Ranjit do.’

b. Ranjit paadām kəɾənəwa tamay.

Ranjit study do FOC
‘It is certainly the case that Ranjit does studying.’

(In (50a), the particle tamay is used to mark focus, but in (50b), the same particle marks scope.) In (50a), the relevant features are all weak, and the null operator remains unmoved. Consequently, the focus particle is generated in sentence-medial position. In this case, particle-predicate concord is triggered. On the other hand, in (50b), the null operator is overtly moved by the strong feature [+C]. The overt movement of the null operator allows the particle to be generated in scope position and since the feature [+E] is deleted before Spell-Out, particle-predicate concord does not obtain.¹⁹

The special verbal inflection encoding scope also appears on a predicate in a pseudo-cleft construction. Notably, in this construction, a constituent can be overtly moved to the right of the verb, but the verb retains the e-marking, as in (51b):²⁰

- (51) a. Ranjit ee potə **tamay** kieuwe.
 Ranjit that book FOC read
 ‘It was that book that Ranjit read.’
 b. Ranjit t_i kieuwe ee potə **tamay**_i.
 Ranjit read that book FOC
 ‘What Ranjit read was that book.’

Notice that in (51b), the moved constituent is not an empty operator, but a DP (containing a null operator). Since the moved DP cannot generate a particle in its scope position under agreement, nothing can take over the scope marking function of the verb. Hence, in this case, even if the feature [+E] is checked by the overt movement of the DP, this feature must be preserved to PF for the verb to yield a ‘scope’ marking. The feature has to be deleted in LF, but not before Spell-Out, and the verb possesses the $\bar{e}$ -marking here.

As illustrated above, the present analysis, which analyzes the special verbal marking as assuming the dual role of a scope/focus marker and a formal feature, can correctly capture Gair’s (1983) generalization on Sinhala verbal marking.

5. Island Effects in LF

5.1. LF Raising of Null Operator

So far, I have not explicitly raised the issue of what happens in LF when a null operator is not overtly raised to a scope position. In this section, I present evidence that LF raising is sensitive to various island conditions in exactly the same way as overt XP movement, and argue that when a null operator is not overtly displaced from its original position, the entire operator is moved into its scopal position in LF.

First, for the purpose of checking syntactic islands in Sinhala, let us consider examples which involve overt pseudo-cleft extraction:

- (52) a. *Oyaa [[Chitra t_i dunna] potə] kieuwe Ranjit-tə.
 you Chitra gave book read Ranjit-DAT
 ‘It was to Ranjit_i that you read the book that Chitra gave t_i.’
 b. *Chitra [[Ranjit t_i gatta kiəna] kaṭəkataawə] æhuwe ee potə.
 Chitra Ranjit bought that rumor heard that book
 ‘It was that book_i that Chitra heard the rumor that Ranjit bought t_i.’
 c. *[Chitra t_i kanə koṭə] Ranjit pudumə unee maalu.
 Chitra ate when Ranjit surprise became fish
 ‘It was fish_i that Ranjit was surprised when Ranjit ate t_i.’
 d. ??Chitra [Ranjit t_i gatta kiyəla] kendiruwe ee potə.
 Chitra Ranjit bought that whispered that book
 ‘It was that book_i that Chitra whispered that Ranjit bought t_i.’

- e. ??Ranjit [Chitra t_i kieuwa dā-næddā kiyōla] danne ee potə.
 Ranjit Chitra read whether that know that book
 ‘It is that book_i that Ranjit knows whether Chitra bought t_i .’

In (52), the focused DPs are extracted from various syntactic positions, i.e. from within the relative clause, the noun complement, the adjunct clause, the complement clause of a non-bridge verb, and the ‘whether’ clause.²¹ The examples illustrate the effects of Subjacency under overt extraction.²²

Next, let us consider wh questions. Interestingly, the following examples, which are the counterparts of those in (52), are all unacceptable just in the same way as (52):

- (53) a. *Oyaa [[Chitra kaa-ʔə dā dunnā] potə] kieuwe?
 you Chitra who-DAT Q gavé book read
 ‘Who_i did you read the book that Chitra gave to t_i ?’
 b. *Chitra [[Ranjit monāwa dā gatta kiōnā] kaʔəkataawā] æhuwe?
 Chitra Ranjit what Q bought that rumor heard
 ‘What_i did Chitra hear the rumor that Ranjit bought t_i ?’
 c. *[Chitra monāwa dā kanā koʔə] Ranjit pudumā unee?
 Chitra what Q ate when Ranjit surprise became
 ‘What_i was Ranjit surprised when Chitra ate t_i ?’
 d. ??Chitra [Ranjit monāwa dā gatta kiyōla] kendiruwe?
 Chitra Ranjit what Q bought that whispered
 ‘What_i did Chitra whisper that Ranjit bought t_i ?’
 e. ??Ranjit [Chitra monāwa dā kieuwa dā-næddā kiyōla] danne?
 Ranjit Chitra what Q read whether that know
 ‘What_i does Ranjit know whether Chitra read t_i ?’

The island effects in (53) are quite analogous to the Subjacency effects observed in overt pseudo-cleft extraction in (52). Obviously, these island effects must be caused by extraction of an XP element out of the islands.

Watanabe (1991, 1992a) argues for ‘overt’ movement of a null XP operator in wh-in-situ constructions in Japanese. If this analysis can be generalized to Sinhala, one might claim that the island violations are caused by overt null operator movement, which is motivated by a strong feature in scopal position (just like Japanese). This claim is, however, not desirable conceptually, since, in this analysis, we would be forced to say that there is no correlation between the position of a Q element and the position of the null operator.

Furthermore, in Sinhala, there is good reason to believe that no XP element is overtly moved into its scope position when the Q element appears next to the wh word, as illustrated by the lack of a wh island effect in (54) (= (36)):

- (54) Ee potə, Ranjit [kau dā t_i kieuwe kiyōla] dannāwa.
 that book Ranjit who Q read that know
 ‘That book, Ranjit knows who read.’

The fact shows clearly that the null operator does not occupy the embedded CP₂ when the Q element is in focusing position, and that (54) has a surface configuration like (55):

(55) [..... [CP₁ [CP₂ [..... **OP WH Q**]]]]

If so, scoping in (55) must involve LF movement of an XP category, i.e. a null operator, into Spec of CP₂, rather than its overt movement:

(56) [_{AgrSP} ee potə_i [... [CP₁ [CP₂ **OP_j** [..t_j WH Q.. t_i ..]]]]]



Notice that the intermediate Spec of CP₂ is filled by a trace of the scrambled phrase in overt syntax, but since the trace, which is irrelevant for the operator-variable structure pertaining to scrambling, is deleted in LF, the LF raising of the null operator into this position is possible. (This option is only available in the LF component.)

Note that all the examples in (53) have essentially the same configuration as (54), in that the Q element appears next to a wh phrase. Since this position of the Q element indicates that the associated null operator is not displaced in overt syntax, the fact provides us with definite evidence that island violations in (53) must be incurred by LF extraction.

The situation differs in Japanese. In Japanese, the Q element is always placed in clause final position. Under our view, this means that a null operator is overtly moved to a scopal position. The validity of the claim can be confirmed by the wh island effect found in (57):

(57) ?*Kuukoo-e-wa, Taroo-ga [Hanako-ga dare-o okutta **ka**] sitteiru.
 airport-to-TOP Taroo-NOM Hanako-NOM who-ACC took Q know
 'To the airport, Taroo knows who Hanako took.'

In (57), the PP kuukoo-e 'to the airport' is topicalized from within the embedded clause, and this movement operation yields a wh island effect.²³ Needless to say, no such effect is observed when the PP is topicalized from a non-interrogative complement clause:

(58) Kuukoo-e-wa, Taroo-ga [Hanako-ga kodomo-o okutta to] omotteiru.
 airport-to-TOP Taroo-NOM Hanako-NOM child-ACC took that think
 'To the airport, Taroo thinks that Hanako took the child.'

The wh island effect in (57) indicates that the Japanese wh-in-situ construction involves overt movement of an empty XP operator into Spec of CP, which ascertains the validity of Watanabe's (1991, 1992b) claim for overt null operator movement in Japanese.

Recall here that the same type of wh island effect is found if a Q particle is placed in clause final position in Sinhala as well, as shown by (59) (= (37)):

- (59) ??Ee potə, Ranjit [kauru t_i kieuwa də kiyəla] dannəwa.
 that book Ranjit who read Q that know
 ‘That book, Ranjit knows who read.’

Both in Sinhala and in Japanese, the clause final Q element indicates that the associated null operator is overtly moved and comes to occupy its scope position before Spell-Out:

- (60) [..... [_{CP1} [_{CP2} **OP** [..... WH] Q]]]

Given the systematic difference in the wh island effect between the two languages, correlated with the place of the Q element, it is obvious that whereas a null operator is moved only in overt syntax in Japanese (as claimed by Watanabe 1991, 1992a), null operator movement may be induced either in overt syntax or in LF in Sinhala. In the light of this fact, it is not possible to claim that Sinhala and Japanese are the same in that they only have overt null operator movement (motivated by a universally strong feature in scope position).

In (53), albeit the empty operator is not moved in overt syntax, the effects characteristic of Subjacency violations are observed. This fact raises a theoretical question. In the framework of Chomsky (1995), only those formal features necessary for convergence are moved in the LF component. Under his conception, no XP element should be raised in LF for the derivation to converge, for the XP element contains extra materials.²⁴

According to Chomsky (1995), feature movement is not constrained in the same way as XP movement. If this is correct, then the island facts in (53) indicate that in a wh question where the null operator is not overtly displaced from its base position, XP movement of the null operator is implemented in LF, instead of the movement of the formal feature [+OP] alone, which is required for LF convergence.

The question is why it is that the null XP operator is moved even in LF. The answer seems to be that the null operator movement is necessary on behalf of ‘scope’ determination. In a Sinhala wh question, since the scope of a wh phrase is determined relative to the position of the null XP operator, we can say that the correct scope interpretation of the wh phrase is derived when the null operator is legitimately connected to the wh phrase (via unselective binding) while the wh phrase serving as a variable (see Heim 1982, Pesetsky 1987, Chomsky 1995).

When the null operator is overtly moved, the correct scope interpretation is obtained simply by way of unselective binding:

- (61) [_{CP2} **OP**_i [.... WH_i...]]

When the null operator remains in situ in overt syntax, on the other hand, the LF structure in (62) may be created if the formal feature [+OP] alone undergoes movement for feature checking (by feature movement):

(62) [_{CP2} [.... **OP**_i WH_i ...]]

The structure in (62), however, is not a legitimate LF representation (even if the derivation converges), since the null operator does not reside in an appropriate position in which the wh phrase takes scope.

Obviously, the function of the operator is to reside in its scope position and binds appropriate variables. In a case like (62), a legitimate operator-variable structure can be formed only if the entire XP operator is raised. Thus, movement of the entire null XP operator into scope position is necessitated in LF if it is not raised before Spell-Out.²⁵ If this reasoning is correct, it is clear that XP movement may override feature movement in LF when XP movement is required for reasons independent of feature checking in spite of Chomsky's suggestion.

Needless to say, the same sorts of island violations as observed in (53) occur in focus constructions if a focus particle is embedded in a syntactic island:

- (63) a. *Oyaa [[Chitra Ranjit-ə **tamay** dunnə] potə] kieuwe.
 you Chitra Ranjit-DAT FOC gave book read
 'It was to Ranjit_i that you read the book that Chitra gave t_i.'
- b. *Chitra [[Ranjit ee potə **tamay** gatta kiənə]] kaʔəkataawə əhuwe.
 Chitra Ranjit that book FOC bought that rumor heard
 'It was that book_i that Chitra heard the rumor that Ranjit bought t_i.'
- c. *[Chitra maalu **tamay** kanə koʔə] Ranjit pudumə unee.
 Chitra fish FOC ate when Ranjit surprise became
 'It was fish_i that Ranjit was surprised when Chitra ate t_i.'
- d. ??Chitra [Ranjit ee potə **tamay** gatta kiyəla] kendiruwe?
 Chitra Ranjit that book FOC bought that whispered
 'It was that book_i that Chitra whisper that Ranjit bought t_i.'
- e. ??Ranjit [Chitra ee potə **tamay** kieuwa də-næddə kiyəla] danne.
 Ranjit Chitra that book FOC read whether that know
 'It is that book_i that Ranjit knows whether Chitra read t_i.'

Since I am claiming that movement of a null operator is involved in focus constructions, just as in wh constructions, the presence of island effects in (63) is naturally expected.

5.2. Voiding Effect

The Sinhala data in the foregoing subsection show that island violations may be incurred both by overt XP movement and by LF XP movement. However, in 'wh-in-situ' languages, wh words can often be embedded in syntactic islands without Subjacency effects. If island constraints are at work both in overt and LF components, why is it possible for 'wh-in-situ' to escape island effects? The key to the answer lies in the fact that a null operator can be merged (or base-generated) in a position separate from its host wh word.

The voiding effect in Sinhala is first noted by Gair (1983), who observes that the islandhood of a complex DP can be evaded by putting a Q particle on the island (and he claims that in such

a case, LF movement occurs). In Sinhala, however, the voiding effect is quite general, and wh words, in fact, can occur in various syntactic islands:

- (64) a. Oyaa [[Chitra kaa-ʔə dunna] potə] **də** kieuwe?
 you Chitra who-DAT gave book Q read
 ‘You read the book that Chitra gave to who?’
- b. Chitra [[Ranjit monəwa gatta kiənə] kaʔəkataawə] **də** æhuwe?
 Chitra Ranjit what bought that rumor Q heard
 ‘Chitra heard the rumor that Ranjit bought what?’
- c. [Chitra monəwa kanə koʔə] **də** Ranjit pudumə unee?
 Chitra what ate when Q Ranjit surprise became
 ‘Ranjit was surprised when Chitra ate what?’
- d. Chitra [Ranjit monə potə gatta kiyəla] **də** kendiruwe?²⁶
 Chitra Ranjit what book bought that Q whispered
 ‘Chitra whispered that Ranjit bought what book?’
- e. Ranjit [Chitra monəwa kieuwa də-næddə kiyəla] **də** danne?
 Ranjit Chitra what read whether that Q know
 ‘Ranjit knows whether Chitra read what?’

All the examples in (64), in opposition to (53), are acceptable, and involve the Q particle appearing to the right of the island.²⁷ Under the view being advanced here, this is the sign that the null operator is created outside the island. This is possible, since the null operator is not directly attached to the associated wh item, but its adjunction site involves some maximal projection which contains a wh word:

- (65) a. Chitra [kaa-ge amma] **də** dække?
 Chitra who-GEN mother Q saw
 ‘Whose mother did Chitra see?’
- b. [koi newaadu kaale] **də** Chitra piʔa raatə giye?
 which vacation time Q Chitra foreign country went
 ‘During which vacation did Chitra go abroad?’

Since the adjunction site is not fixed by the kind of wh word, and since it can be any focusing position as long as the operator can bind its host wh word, it is easy to see that the null operator can be generated outside the island in sentences like (64).

It must be noted that in (64), the verb inside the island takes an *a*-ending. This verb ending (inside the island) is not due to the fact that the null operator has passed through CP₂ in the clause in which the verb resides. Rather, this is simply due to the fact that the verb is in the ordinary declarative form. As discussed earlier, the *g*-marking can only be placed on the verb in the clause where a wh word takes scope, so that the *g*-marking cannot appear on the verb inside the island. (Compare (64) with (53). The verbal marking of the verb in the island is the same regardless of the position of the Q particle.)

The same sort of voiding effect that is obtained in (64) is also observed for focus constructions if a focus particle is attached to an island:

- (66) a. Oyaa [[Chitra Ranjit-*tə* *dunnə*] *potə*] **tamay** kieuwe.
 you Chitra Ranjit-DAT gave book FOC read
 ‘It was the book which Chitra gave to Ranjit that you read.’
 b. Chitra [[Ranjit *ee* *potə* *gatta* *kiənə*] *kaṭəkataawə*] **tamay** æhuwe.
 Chitra Ranjit that book bought that rumor FOC heard
 ‘It was the rumor that Ranjit bought that book that Chitra heard.’
 c. [Chitra *maalū* *kanə* *koṭə*] **tamay** Ranjit *pudumə* unee.
 Chitra fish ate when FOC Ranjit surprise became
 ‘It was when Chitra ate the fish that Ranjit was surprised.’
 d. Chitra [Ranjit *ee* *potə* *gatta* *kiyəla*] **tamay** kendiruwe.
 Chitra Ranjit that book bought that FOC whispered
 ‘It was that Ranjit bought that book that Chitra whispered.’
 e. Ranjit [Chitra *ee* *potə* *kieuwa* *də-næddə* *kiyəla*] **tamay** danne.
 Ranjit Chitra that book read whether that FOC know
 ‘It is whether Chitra read that book that Ranjit knows.’

In all the examples in (66), the emphatic (*or* focus) meaning can be added only to the constituent marked by the focus particle. This fact further corroborates the view that a particle, when attached to an island, appears in focusing position, but not in scope position.

In (64), since the Q particle is created in a focusing position where the entire island is focused, the null operator must be base-generated by adjoining to the island. Since its adjunction site is not a scope position (just like when a Q element appears next to a *wh* word), the LF raising of the null operator (from outside the island) into scope position is necessitated.

The later movement of the null operator does not cross the island, for the operator is dominated only by a segment of the category constituting the island. Since a segment escapes domination by the category and does not count as a barrier, the LF extraction of the empty operator from this position is permitted (cf. Chomsky 1986).²⁸ Hence, the well-formedness of (64).

This, however, does not obviate the islandhood of a category intervening between the null operator and its scopal position. In effect, an island violation ensues if a Q element which is attached to an island appears inside another island:

- (67) ?*Chitra [Ranjit [[*kauru* *liyəpu*] *potə*] **də** *kieuwa* *də-næddə* *kiyəla*] danne?
 Chitra Ranjit who wrote book Q read whether that know
 ‘Chitra knows whether Ranjit read the book that who wrote?’

In (67), the Q element is attached to a relative clause which contains the *wh* word *kauru* ‘who’. The entire relative clause is further embedded in the ‘whether’ clause. The status of the sentence is comparable to the one in (68):

(68) ?*Chitra [Ranjit monəwa **də** kieuwa də-næddə kiyəla] danne?

Chitra Ranjit what Q read whether that know

‘What does Chitra know whether Ranjit read?’

The difference is that the relative clause in (67) is replaced by a simple *wh* phrase in (68). In both cases, it is not possible for the questioned constituent to take matrix scope (due to the *wh* island).

The island violation in (67), where a *Q* element is attached to the relative clause, must be yielded by LF movement of a null operator, for its scope position is not filled by the operator in overt syntax, as shown by the well-formedness of (69):

(69) Ee potə, Ranjit [[[kohee giyə] lamaya] **də** t_i kieuwe kiyəla] dannəwa.

that book Ranjit where went boy Q read that know

‘That book, Ranjit knows [the boy that went where] read t_i.’

Example (69) has a complex DP (comprising a *wh* word), to which a *Q* element is attached, just like (67), and the embedded interrogative clause is transparent to the overt extraction of *ee potə* ‘that book’ by scrambling.²⁹ The absence of *wh* island effect in (69) shows that when the *Q* element is attached to an island, the null operator is raised into its scopal position in LF.

In light of this fact, it is clear that when a *Q* element is attached to an island containing a *wh* word, as in (64), the null operator is base-generated by adjunction to the island. In (64), the LF movement of the null operator does not involve the crossing of the island, so that island effects do not obtain. However, when it is further embedded in another island, island violations occur, as in (67).

The present analysis differs from Gair’s (1983) analysis, which draws on the assumption that LF *Wh* movement is free from Subjacency. Under Gair’s account, both *Q* marker and *wh* phrase are subject to invisible movement, and to ensure the Subjacency effects, he posits two ‘invisible levels of representation, one in which movement is subject to island conditions and the other which movement is free from them. It goes without saying that this view is less desirable than our model.

It should be noted that the same type of ‘voiding’ effect as found in (64) is also observed in *wh* questions in which overt movement of empty operator is invoked, as shown by the representative examples in (70):

(70) a. Chitra [[kiidenek aawa kiənə] kaʔəkataawə] əhuwa **də**?

Chitra how.many came that rumor heard Q

‘Chitra heard the rumor that how many people came?’

b. Ranjit [Chitra kiidenek potə kieuwa də-næddə kiyəla] dannəwa **də**?

Ranjit Chitra how.many book read whether that know Q

‘Ranjit know whether Chitra read how many books?’

In (70), the Q element appears clause-finally, and particle-predicate concord does not obtain. The null operator is overtly moved to the front of the matrix clause here, but its movement does not induce a Subjacency effect.

In (70), the position where the null operator is originated is not overtly marked. But since Subjacency pertains to overt syntactic movement, the null operator must be generated outside the island. The example in (70) involves overt movement rather than LF movement, but still the same strategy for evading Subjacency effects is available. (Obviously, this strategy is not available in a language like English, where *wh* words are necessarily moved in the overt component.)

The fact clearly indicates that the difference in the island effects between ‘*wh-in-situ*’ languages (like Sinhala) and ‘overt *Wh* movement’ languages (like English) is not related to the LF-syntax dichotomy. Instead, the problem is simply reduced into the question of whether or not a null operator can be associated with a *wh* phrase. The option of using a null operator is available in Sinhala, but not in English. This would be a difference related to a matter of internal morphology of *wh* words.

The conclusions to be drawn from our discussion are fairly obvious. In Sinhala, an empty operator is, in unmarked cases, originated from a position next to a *wh* word, as (71):

(71) [_{CP2} [..... **OP** *WH*]]

If a *wh* word is embedded in an island, the empty operator can be adjoined to the island (by base-generation):

(72) [_{CP2} [..... [_{YP} **OP** [_{YP} ... *WH*]]...]]

(Suppose that *YP* represents an island for movement on whatever version of bounding theory, and no other barriers exist between *YP* and *CP*₂.) In both cases, the later movement of the null operator into scopal position does not involve extraction out of the island:

(73) a. [_{CP2} **OP**_i [.... t_i *WH*]]
 b. [_{CP2} **OP**_i [..... [_{YP} t_i [_{YP} ... *WH*]]...]]

Note that in (73), the *wh* word serves as a variable bound by the null operator, and since it is not an operator, it does not undergo movement throughout the derivation. The null operator may be moved either in overt syntax (to check a strong feature) or in LF (for scope determination). In either case, the movement of the null operator turns out to be licit (with no extraction out of an island).

If, on the other hand, the empty operator is base-generated inside an island, its subsequent movement involves extraction out of the island:

(74) [_{CP2} **OP**_i [..... [_{YP} ...t_i WH]...]]

Since LF movement obeys Subjacency in the same manner as overt syntactic movement, the extraction of the null operator from within an island is always illicit irrespective of whether it occurs in overt syntax or in LF (although unselective binding may be successful here). Therefore, the island effects comparable to those in (52) are incurred in wh questions in (53).

Sinhala allows the null operator to be base-generated inside or outside an island, but this does not mean that it can be base-generated next to wherever the Q particle *də* appears at Spell-Out. As argued earlier, the null operator can only be generated in a position where the Q particle (potentially) marks focus. Thus, for the null operator to appear in scope position, its movement is implemented. This entails that the Q element merely specifies the location of a null operator at Spell-Out, which is not necessarily the place where it is base-generated.

In essence, what is demonstrated by Sinhala wh questions is that the Subjacency effects must be observed for LF movement of a null operator. Since Huang (1982), it has been widely assumed that the bounding conditions on overt movement are relaxed in the LF component, and that LF movement is not subject to the Subjacency constraint. The examples in (53) clearly show, on the contrary, that XP movement in LF is constrained by Subjacency. The voiding effect, however, can be obtained if a null operator can be generated in a position where later movement does not violate island conditions.

5.3. Cross-linguistic Variation

In Sinhala, a wh word can be embedded virtually any type of island without a Subjacency effect. Essentially the same fact obtains in Japanese:

- (75) a. Anata-wa [[Mary-ga dare-ni ageta] hon-o] yonda **no**?
 you-TOP Mary-NOM who-DAT gave book-ACC read Q
 ‘You read the book that Mary gave to who?’
 b. Mary-wa [[John-ga nani-o katta] toyuu] uwasa-o kiita **no**?
 Mary-TOP John-NOM what-ACC bought that rumor-ACC heard Q
 ‘Mary heard the rumor that John bought what?’
 c. [Mary-ga nani-o tabeta toki] John-wa odoroiita **no**?
 Mary-NOM what-ACC ate when John-TOP surprised Q
 ‘John was surprised when Mary ate what?’
 d. Mary-wa [John-ga donna hon-o katta to] sasayaita **no**?
 Mary-TOP John-NOM what book-ACC bought that whispered Q
 ‘Mary whispered that John bought what book?’

The Japanese examples in (75) are counterpart to the examples in (64a)-(64d) in the foregoing subsection. In Japanese, no morphologically overt effect is present, but the fact suggests that movement of a null operator is implemented in Japanese. (Nishigauchi (1990) and Watanabe (1991, 1992a) discuss only a ‘relative clause’ island, but the voiding effect is not limited to the relative clause island.)

There is, however, one crucial difference in the voiding effect of the islandhood between Sinhala and Japanese. In Japanese, as reported by Nishigauchi (1990) and Watanabe (1991, 1992a), a *wh* word cannot be embedded in a ‘whether’ clause:

- (76) ?*John-wa [Mary-ga nani-o yonda ka-doo-ka] sitteiru **no**?
 John-TOP Mary-NOM what-ACC read whether know Q
 ‘What does Mary know whether Mary read?’

By contrast, Sinhala allows a *wh* word to be embedded in a ‘whether’ clause, as in (77) (=64e):

- (77) Ranjit [Chitra monəwa kieuwa də-næddə kiyəla] **də danne**?
 Ranjit Chitra what read whether that Q know
 ‘Ranjit know whether Chitra read what?’

If both Sinhala and Japanese freely utilized the strategy to avoid an island effect, the ungrammaticality of (76) would come as a surprise.

The typological difference is, however, offered a principled explanation if it is assumed that adjunction of a null operator to the CP projection headed by ‘whether’ is forbidden cross-linguistically. This assumption would be reasonable enough in view of the fact that the lexical item ‘whether’ is generally incompatible with a [+*wh*] item.

Recall here the assumption on the clause structure of Japanese and Sinhala. Sinhala permits CP recursion, but Japanese allows only one projection of CP. In Japanese, adjunction of a null operator to the embedded CP is disallowed in (76), because the single CP projection is headed by ‘whether’:

- (78) *[_{CP} **OP** [_{CP} ka-doo-ka]]

The only option available for null operator adjunction is, then, to base-generate it in a position contiguous to the *wh* word. The movement of a null operator from this position involves the extraction out of the *wh* island.

By contrast, Sinhala has two layers of CP. In particular, the topmost CP₁, which constitutes an island for extraction, is not headed by də-næddə but by the ordinary complementizer kiyəla ‘that’:

- (79) [_{CP1} **OP** [_{CP1} .. [_{CP2} də-næddə] kiyəla]]

CP₁ is a projection distinct from CP₂. Thus, a null operator can be adjoined to CP₁, so that its subsequent movement is legitimate with no extraction from the island.

It might be argued that Korean constitutes a counter-example to this proposal. In Korean, the *wh* island effect holds, but the fact that an invariant complementizer can be followed by a Q type mood marker suggests the presence of CP recursion, as in (80):

- (80) a. Bill-un [John-i wa-ss-**ta** **ko**] sayngkak-ha-n-ta.
 Bill-TOP John-NOM come-PAST-DECL that think-PRES-DECL
 ‘Bill thinks that John came.’
 b. Bill-un [John-i wa-ss-**nya** **ko**] mwul-ess-ta.
 Bill-TOP John-NOM come-PAST-INTR that ask-PAST-DECL
 ‘Bill asked if John came.’
 c. Bill-un [nwu-ka wa-ss-**nya** **ko**] mwul-ess-ta
 Bill-TOP who-NOM come-PAST-INTR that ask-PAST-DECL
 ‘Bill asked who came.’

(The suggestion for a type of CP recursion for Korean is made by Bhatt and Yoon (1992).) Does this fact constitute a problem for my claim? The answer is no, because the ‘whether’ complementizer occupies the position of ko. This can be clearly envisioned by the fact that the ordinary complementizer ko ‘that’ cannot co-occur with the ‘whether’ complementizers:

- (81) Bill-un [John-i wa-ss-**nun** **ci-etten-ci (*ko)**] mwul-ess-ta.
 Bill-TOP John-NOM come-PAST-MOOD whether that ask-PAST-DECL
 ‘Bill asked whether John came.’

Notice that in Sinhala the ordinary complementizer kiyala ‘that’ is allowed to occur even in the presence of a ‘whether’ complementizer. Moreover, observe that in Korean, if ‘mood’ is not marked for interrogation, ‘genuine’ Q complementizers turn up:

- (82) Bill-un [nwu-ka wa-ss-**nun** **ci (*ko)**] mwul-ess-ta
 Bill-TOP who-NOM come-PAST-MOOD Q that ask-PAST-DECL
 ‘Bill asked who came.’

The fact shows that the ‘genuine’ complementizers including the ‘whether’ complementizer do not appear in a lower ‘mood marking’ position in Korean. This means that the mood marker forms part of IP, rather than CP (as argued by S. Kim 1989 and also by N. Kim 1984). If this is correct, the Korean mood marker can be best seen as a close analogue of the Sinhala e/a-ending, associated with Agr_s, and Korean does not have the type of CP recursion that I am envisaging.

Since the co-occurrence of two ‘genuine’ complementizers is proscribed in Korean, just as in Japanese, Korean must allow for only the single layer of CP. Then, the presence of a wh island effect is naturally expected in a ‘whether’ clause:

- (83) ??Bill-un [John-i encey ka-**nun** **ci-etten-ci**] mwul-ess-ni?
 Bill-TOP John-NOM when go-MOOD whether ask-PAST-INTR
 ‘When did Bill ask whether John would go?’

In (83), the CP is has a ‘whether’ complementizer, and there is no extra CP on the top. A null operator therefore cannot be generated legitimately by adjunction to CP, and consequently, the wh island effect is yielded in (83).

In light of this consideration, it is clear that the account of the wh island variation in terms of CP layers can be generalized to Korean as well.³⁰ Korean patterns with Japanese in that it does not allow for CP recursion, and manifests a wh island effect in a ‘whether’ clause.

7. Conclusion

In this article, I have argued that Sinhala implements movement of a null operator to form a wh interrogation. A detailed look at Sinhala wh questions shows that the ‘null operator’ belongs to an XP category, and that its movement may be induced in overt syntax (for feature checking) or in LF (for scope determination). The device of null operator, which makes it possible to evade island effects, is generally available in ‘wh-in-situ’ languages (as well as in Sinhala), so that island effects are often made undetectable. But the Sinhala data show that there is no difference between overt and LF movements in regard to island conditions such as Subjacency.

Indeed, the very fact that movement of a null operator finds no difference in susceptibility to Subjacency irrespective of whether it is overt or covert shows that XP movement may be induced even in LF and, further, that Subjacency is a constraint that must apply in every step of derivation. It can be concluded from this that the locality condition imposed on movement does not refer to the notion of S-structure at all. This is clearly a welcome result in the perspective of the Minimalist approach, which posits only two levels of representation, i.e. PF and LF.

Notes

This is a slightly revised version of my unpublished paper on Sinhala null operator movement. A large portion of this paper was written in 1996, and circulated informally as Kishimoto (1996/1997). The present paper contains virtually the same materials as Kishimoto (1996/1997) except for the omission of a section on wh adjuncts. Part of this paper was presented at a workshop of the Kansai Linguistic Society, 1994, and at the 112th meeting of the Linguistic Society of Japan, 1996. I am grateful to Masayoshi Shibatani, Hiroshi Mitoo, James Gair, John Whitman, Yoshiki Ogawa, Akira Otani, Yoshihisa Fujii, Shuichi Yatabe, Masaki Sano, Yoshie Yamamori, Chung Sun Yeo for comments and suggestions. I am deeply indebted to Dileep Chandralal for acting as a primary informant.

¹ Gair and Sumangala (1992) state, basing their discussion on examples like (i), that Sinhala could be a ‘move-wh’ language:

- (i) a. [Siri t_i kieuwa kiyəla] amma kalpənaa-keruwe mokak də?
 Siri read that mother thought what Q
 ‘What was it that mother thought that Siri read?’
 b. mokak də amma [Siri t_i kieuwa kiyəla] kalpənaa-keruwe?
 what Q mother Siri read that thought
 ‘What did mother think that Siri read?’

Strictly speaking, the underlined words are not displaced by wh movement but by other syntactic operations (i.e. clefting in (ia) and scrambling in (ib)), since constituents other than wh words can be moved:

- (ii) a. [Siri t_i kieuwa kiyəla] amma kalpənaa-keruwe potə?
 Siri read that mother thought book
 ‘It was the book that mother thought that Siri read.’

² The following Japanese sentence has a Q element co-occurring with a complementizer:

- (i) Masao-wa [dare-ga kita **ka** to] kiita.
 Masao-TOP who-NOM came Q that asked
 ‘Masao asked, ‘Who came?’’

This type of clause can appear with communicative verbs like kiku, ‘ask’, yuu ‘say’ and the like, but this cannot be taken as evidence for CP recursion in Japanese, since the Q marker no, which is not permitted in an embedded clause, is allowed here:

- (ii) Masao-wa [dare-ga kita **no** to] kiita.
 Masao-TOP who-NOM came Q that asked
 ‘Masao asked, ‘Who came?’’

This shows that the relevant clause in (i) is a direct quote, rather than an ordinary subordinate clause.

³ The upper complementizer C_1 is neutral with respect to clause typing. I assume that clause typing can be made without movement of a complementizer to the upper C_1 .

⁴ The mechanism for the placement of a Q element in C will be discussed in Section 4.

⁵ The verb-final affixes can be attached to verbal predicates such as verbs and auxiliaries originated from verbs, while non-verbal predicates (e.g. adjectives) cannot. As a general rule, forms do not change in non-verbal predicates except for a deletion of an assertion marker, if any. (cf. Gair and Paolillo 1988). The quasi-verbs such æti ‘might’ and nææ ‘not’ constitute a class of exception in that they are not verbal predicates but have the forms ætte and nætte, which can form particle-predicate concord with a Q particle. See Gair (1970).

⁶ The ‘feature’ labels here are given in a fairly arbitrary manner, but the crucial point is that the features are checked against the verb. In this discussion, I disregard the features that might appear on the Agr_o head.

⁷ Sentential negation is expressed by the negative expression nææ ‘not’, and as shown by (i), the negative element takes scope over the entire sentence:

- (i) Kauru-wat Columbo-tə yanne nææ.
 anyone Columbo-to go NEG
 ‘No one goes to Columbo.’

⁸ The availability of multiple foci may be derived from the fact that wh operators can participate in ‘Absorption’, by virtue of which a plural number of wh operators are interpreted as a unitary operator. See Higginbotham and May (1981).

⁹ The ambiguity of the sentence in (23b) is due to the fact that there are a number of different sources that end up in the same representation. I assume that when the verb is focused, the null operator is originated from a VP-adjoined position. See Gair and Sumangala (1982).

¹⁰ In a wh question, since a verb cannot be wh-questioned, the focus is always outside the verbal constituent. This fact shows that Gair’s (1983) observation on focus applies only to the focus construction, but not to the wh construction.

¹¹ It is possible that a single Q element is associated with more than one wh phrase, as evidenced by the embedded multiple wh question in (i):

- (i) Ranjit [kauru monəwa gatta də kiyoɭa] dannəwa.
 Ranjit who what bought Q that know
 ‘Ranjit knows who bought what.’

¹² Cross-linguistically, head movements from V to I, from I to C, and the like are often observed, but head movement from C to a higher verb (that governs it) is never found. Prohibition against head movement beyond C may be explained in a number of ways, but if we follow Li (1990) (cf. Chomsky and Lasnik 1991, Roberts 1993, among others), the fact can be explained by the notion of inconsistent chain: C is a non-L-related position, while others are L-related positions. Movement of a head element beyond C thus results in an inconsistent head chain, which includes a non-L-related position between two L-related positions. Whatever the correct explanation may be, head movement beyond C must be precluded.

¹³ Clause-internal scrambling can be A-movement. For arguments along the same line, see Saito (1992).

¹⁴ It is immaterial for our purposes how the movement proceeds in other places. Here, it is crucial to see that the scrambled item moves through the embedded Spec’s of CP₁ and CP₂.

¹⁵ To be precise, də-næddə might be glossed ‘whether or not’. The ‘whether’ clause in Sinhala can appear in the matrix clause, as in (i):

- (i) Chitra yanəwa də-næddə?
 Chitra go whether
 ‘Is Chitra going or not?’

¹⁶ Another phenomenon which is relevant to wh extraction is the subject-verb inversion which has been discussed for French by Kayne and Pollock (1978), and for Spanish by Torrego (1984).

¹⁷ Note that the formal feature [+C] does not specify clause type, and it may appear in declarative and interrogative clauses.

¹⁸ In a case like (47b), it is assumed that the strong feature of the target attracts the null operator (cf. Chomsky 1995). But Sinhala examples like (i), in which the Q element is allowed to appear even in the matrix clause, seem to suggest the presence of another option:

- (i) a. Kiidenek də potə kieuwe?
 how.many Q book read
 ‘How many people read the book?’
 b. Kiidenek potə kieuwa də?
 how.many book read Q
 ‘How many people read the book?’

Since the type of movement attested in (ib) is generally not possible in wh questions, the fact suggests that the feature [+OP], instead of [+C], is strong, which means that overt movement of a null operator may sometimes be induced to cancel the strong feature of its own, namely, by Greed.

¹⁹ If the overt movement starts out from the position where the particle appears in (51a), (51b) is understood to have the same focus interpretation as (51a).

²⁰ To be strict, this is an operation independent of focusing, for rightward movement across the verb is possible without

a focus particle:

- (i) Ranjit t_i kieuwe ee potə.
 Ranjit read that book
 ‘What Ranjit read was that book.’

This means that (51b) is an instance of pseudo-clefting to which focusing applies. In any case, the rightward movement is triggered by a strong feature, and the relevant features are checked when the movement occurs. But the deletion of the feature [+E] is delayed until LF. On the other hand, the g-marking in (51a) is the result of no overt operator movement taking place.

²¹ Not all islands are testable due to some language specific restrictions. For instance, in English, it is known that a factive complement forms a weak island. But in Sinhala, it is not possible to test the islandhood of a factive complement, because factive verbs do not take a clause, but a complex DP, as their complement, as in (i):

- (i) Chitra [Ram tuwaalə una kiəṇə] eka gəṇa kanagaatu wenəwa.
 Chitra Ram hurt become that fact about regret become
 ‘Chitra regrets that Ram was hurt.’

Needless to say, the complex DP constitutes an island, independently of the context in which it appears.

²² Sinhala allows ‘that-trace’ violations. Thus the following example is acceptable even if the subject of the complement clause is extracted:

- (i) Chitra [t_i aawa kiyəla] kiiwe Ranjit.
 Chitra came that said Ranjit
 ‘It was Ranjit_i that Chitra said that t_i came.’

In Sinhala, there is no asymmetry between ‘subject’ and ‘object’ extraction.

²³ To show the wh island effect, topicalization, rather than scrambling, is used here, since island effects caused by a scrambled phrase are notably weak in Japanese:

- (i) ?Kuukoo-e, Taroo-ga [Hanako-ga dare-o okutta ka] sitteiru.
 airport-to Taroo-NOM Hanako-NOM who-ACC took Q know
 ‘To the airport, Taroo knows who Hanako took.’

The reason seems to be that a scrambled phrase can be reconstructed into its original position in LF (see Saito 1989). This LF reconstruction effect does not obtain with topicalization.

²⁴ Assuming that [+OP] is a weak formal feature, which needs to be checked in LF, does not suffice, since, in this case, only the feature [+OP] should be moved for LF convergence.

²⁵ Feature checking also occurs by virtue of its LF movement for LF convergence.

²⁶ In (64e), the empty operator is base generated by adjunction to CP_i, and the Q element appears to the ‘right’ of the complementizer. In (64e), the matrix verb has a scope marking, and the Q element serves as a focus marker, rather than a scope marker. By contrast, when the null operator is moved in the embedded clause, the Q element appears on the opposite side (i.e. to the left of the complementizer):

- (i) Chitra [Ranjit monə potə gatta də kiyəla] dannəwa.

Chitra Ranjit what book bought Q that know
 'Chitra knows what book Ranjit bought.'

In (i), the null operator is moved before Spell-Out and appears in Spec of CP₂. Feature checking occurs overtly, and the embedded verb does not mark scope, thereby taking the *g*-form.

²⁷ The same holds true, trivially, for focus constructions.

²⁸ In Watanabe's (1991, 1992a) analysis a null operator is generated in Spec of DP of a complex DP. But, in my analysis, the null operator is adjoined to the complex NP.

²⁹ The example in (69) contrast with the example in (i), where the wh island effect is present:

(i) ?*Ee potə, Ranjit [[[kohee giyə] lamaya] t_i kieuwa də kiyəla] dannəwa.
 that book Ranjit where went boy read Q that know
 'That book_i, Ranjit knows [the boy that went where] read t_i.'

In (i), the null operator is overtly moved, as indicated by the position of the Q element.

³⁰ In Chinese, wh-in-situ inside the wh island are allowed, which suggests that Chinese should have recursive CPs like Sinhala (cf. Huang 1982).

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