

CHAPTER NUMBER

ON SUCCESSIVE CYCLIC MOVEMENT AND THE FREEZING EFFECT OF FEATURE CHECKING*

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The goal of this paper is to examine the nature of successive cyclic movement and the creation of intermediate empty categories that arise as a result of such movement. I will show that these elements are not involved in feature checking, which holds even for languages that are traditionally assumed to have overt reflexes of intermediate wh-agreement. The test cases will be Selayarese and Kinande. I will also argue that X can undergo feature checking under movement only once. Undergoing feature checking has a freezing effect in that it prevents X from undergoing further movement. The freezing effect will be deduced from independent mechanisms. I will start by summarizing three approaches to successive cyclic movement. Then, in section 2 I will discuss languages with overt reflexes of agreement with intermediate heads under wh-movement, showing that such languages do not provide evidence for feature checking in intermediate positions of successive cyclic movement (see also Boeckx 2004). In section 3 I will address the issue of why there can be no feature checking (i.e. agreement) in intermediate positions of successive cyclic movement and provide an explanation for the freezing effect of feature checking on movement. This will lead me to propose a completely new way of treating traditional A-movement feeding A'-movement derivations, which are now blocked due to the freezing effect of feature checking. Finally, I offer a brief conclusion in section 4.

1. APPROACHES TO SUCCESSIVE CYCLIC MOVEMENT

It is standardly assumed that wh-movement in (1) proceeds successive cyclically.¹ (There are

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¹Reconstruction examples like (i) and floating quantifier examples like West Ulster English (ii) (under

other intermediate landing sites in (1), which I am ignoring here.)

- (1) What_i does he think [_{CP} t_i [_{C'} that Mary bought t_i]]?

There is, however, disagreement regarding the motivation for successive cyclic movement; more precisely, regarding the question of whether intermediate heads like *that* in (1) undergo agreement, i.e. feature-checking, with the phrase that passes through their Spec. In early Minimalism it was standardly assumed that *what* and *that* in (1) do not undergo feature-checking, movement of *what* through the Spec of *that* being driven by a property of the movement itself rather than feature checking. Consider Takahashi's (1994) approach, which is based on Chomsky and Lasnik's (1993) Minimize Chain Links Principle (MCLP). (The approach has been revived in Bošković, 2002a; Boeckx, 2003; Chomsky, in press.) For Takahashi, successive cyclic movement is not a result of feature checking, but the requirement that chain links be as short as possible. The requirement forces X undergoing movement of type Y to stop at every position of type Y on the way to its final landing site independently of feature checking. The MCLP thus forces *what* in (1) to pass through the embedded SpecCP (an A'-position) on its way to the matrix SpecCP (also an A'-position).

Under this analysis, the intermediate SpecCP in (1) is filled as a result of a property of the movement involved; embedded C does not drive movement to this position. Note also that since no feature checking is posited between a wh-phrase and declarative C, both (2), where nothing moves to the Spec of *that*, and (3), where a wh-phrase moves and stays in the Spec of *that*, are easily accounted for. In particular, (3) violates Last Resort.

- (2) You think [that Mary bought a car].

- (3) *Who thinks what that Mary bought?

The MCLP analysis crucially relies on the Form Chain operation. Under this approach, all relevant syntactic conditions, including Last Resort and the Cycle, are stated with respect to the formation of chains, not links of chains. In other words, formation of a chain (not chain links) must have a feature-checking motivation and extend the tree. Thus, under this analysis, *what* in (1) does not even start moving until the final target of movement, the wh-C, which provides motivation for the movement, enters the structure. At this point, *what* starts moving. The MCLP forces formation of intermediate chain links. Last Resort is satisfied since the formation of the whole chain, whose head is located in the matrix SpecCP, has a feature-checking motivation. Since the whole chain extends the tree (the final landing site is at the top of the tree), the Extension Condition (i.e. the Cycle) is also met.

Chomsky (1995) dispenses with Form Chain, which has led to the abandonment of the above analysis of successive cyclic movement. The reason for this is that, with the elimination of the Form Chain mechanism, formation of each chain link must satisfy Last Resort and the

Sportiche's 1988 stranding analysis of quantifier float) provide evidence for successive cyclic movement.

- (i) Which picture of himself_i does John_i believe that Mary will never sell?

- (ii) What_i did he say [_{CP} [all t_i] that he wanted]?

(McCloskey 2000)

Cycle. This means that movement of *what* to the intermediate SpecCP in (1) has to involve feature checking, otherwise, Last Resort would be violated. It also has to extend the tree, which means it has to happen before the higher structure is built, i.e. *what* must move to the Spec of *that* before the matrix C enters the structure. Ever since Chomsky (1995), due to the abandonment of Form Chain it has in fact been assumed that *what* in (1) undergoes feature checking with *that*, moving to its Spec before the higher structure is built. Consider, e.g., Chomsky's (2000) phase analysis. The basic idea here is that XP can move out of a phase only if it first moves to the Spec of the phase due to the Phase-Impenetrability Condition (PIC), which says only the head and the Spec of a phase are accessible for movement to a position outside of the phase. This movement is implemented by giving the head of the phase the EPP property, which is satisfied by filling the Spec position. The EPP then drives movement to the Spec of the phase. After the movement, the element located in the Spec of the phase is accessible for movement outside of the phase. Regarding complementizer *that*, Chomsky assumes that CPs are phases and that *that* optionally has the EPP property. (2) instantiates the no EPP option, and (1) the EPP property option. (In what follows I ignore *vP* as a phase for ease of exposition.) Since CP is a phase it is necessary to move *what* in (1) to the embedded SpecCP so that *what* can later be moved outside of the CP. This is accomplished by giving *that* the EPP property. If *that* is not given the EPP property, *what* would not move to the embedded SpecCP, as a result of which it could not move outside of the embedded CP due to the PIC. Note also that Chomsky (1999; 2000) assumes Agree is a component of the operation Move driven by the EPP property. More precisely, movement of X to SpecYP is preceded by the establishment of an Agree (i.e. feature-checking) relation between Y and X. This means that in Chomsky's (2000) system, all movement, including movement to the Spec of intermediate heads like *that* in (1), has to involve feature checking.

(3) raises a problem for the phase analysis. Since, in contrast to the MCLP analysis, the phase analysis ties successive cyclic movement to a property of intermediate heads, it is difficult in this system to rule out (3) in a principled way given the derivation on which we have taken the EPP option for *that*, which results in movement of *what* to the embedded SpecCP, just as in (1). Recall that (3) is easily ruled out under the MCLP analysis, which does not tie successive cyclic movement to a property of intermediate heads. (3) can in fact be interpreted as providing evidence that movement through intermediate Specs should not be tied to a property of intermediate heads.

Chomsky (1999; 2000) makes a suggestion that has the effect of making movement to the Spec of a phase head that does not obligatorily have the EPP property essentially independent in terms of the driving force from the phase head itself even in the phase system. He suggests to make the assignment of an EPP property to heads that do not always require a Spec conditioned on it being required to permit successive cyclic movement. The embedded C in (1) can then be assigned the EPP property, since this is necessary to allow successive cyclic movement. On the other hand, the embedded C in (2) and (3) cannot be assigned the EPP property since the assignment is not necessary to permit successive cyclic movement. Under this analysis, movement through the Spec of *that* is a reflex of successive cyclic movement, just as in the MCLP analysis. *That* cannot induce movement to its Spec by itself, hence the unacceptability of (3). The obvious problem for this analysis is look-ahead. Both (1) and (3) at one point have the structure in (4).

4 Book Title

(4) [CP what_i [C' that Mary bought t_i]]

To drive movement to SpecCP, *that* has to be given the EPP property at the point when the embedded clause is built. But at that point we do not know whether the assignment of the EPP property will be needed to make successive cyclic movement possible. We will know this only after further structure building. If the structure is expanded as in (3), it will not be needed, hence disallowed, and if it is expanded as in (1), it will be needed, hence allowed. In other words, at the point that structure building has reached in (4) we need to know what is going to happen in the matrix clause. The look-ahead raises a serious problem for the analysis.

Putting aside the look-ahead problem, recall that an important distinction between the Chomsky (1995)/Chomsky (2000) analyses and the MCLP analysis is that the former, but not the latter, requires feature checking in intermediate positions. Thus, under the former analyses, but not under the latter analysis, *what* and *that* in (1) have to undergo feature checking. Bošković (2002a, in press a) and Boeckx (2003) provide a number of arguments against feature checking in intermediate positions. Both Bošković (2002a; in press a) and Boeckx (2003) provide evidence to this effect regarding successive cyclic A'-movement, and Bošković also provides such evidence regarding successive cyclic A-movement. I refer the reader to these works for more detailed discussion and additional arguments against feature checking in intermediate positions; here I will briefly summarize only one argument from Bošković (2002a) concerning ellipsis (see section 4 (i.e. the discussion of (34-35)), for another argument to this effect).

Lobeck (1990) and Saito and Murasugi (1990) note that functional heads can license ellipsis of their complement only when they undergo Spec-Head agreement (SHA), i.e. feature checking. Thus, (5) shows that tensed INFL, 's, and +*wh*-C, which according to Fukui and Speas (1986) undergo SHA, license ellipsis, while the non-agreeing functional categories *the* and *that* do not.

- (5) a. John liked Mary and [IP Peter_i [I' did ~~*t_i like Mary*~~] too.
b. John's talk about history was interesting but [DP Bill [D' s ~~*talk about history*~~] was boring
c. *A single student came to the class because [DP [D' the ~~*student*~~] thought that it was important.
d. John met someone but I don't know [CP who_i [C' C ~~*John met t_i*~~]].
e. *John believes that Peter met someone but I don't think [CP [C' that ~~*Peter met someone*~~]].

Significantly, Bošković (1997a) notes that intermediate C cannot license ellipsis of its IP complement.

- (6) a. *John met someone but I don't know who_i Peter said [CP t_i [C' C/that ~~*John met t_i*~~]].
b. *I know who Jill said C/that Jim met, but I don't know who_i Bill said [CP t_i[C' C/that ~~*Jim met t_i*~~]]

This can be easily accounted for if passing through an intermediate SpecCP does not imply feature checking (SHA) with the C. (6) should then be taken as evidence against the feature-checking view of successive cyclic movement, on which *C/that* would undergo SHA in (6). Under this view, (6a-b) are incorrectly expected to pattern with (5d) rather than (5e).²

Notice that in Chomsky's (2000) system, the SHA requirement on ellipsis would be restated as an EPP requirement. (6a-b) thus also provide evidence against Chomsky's (2000) system (the relevant *C/that* takes a Spec).

To sum up, the phase analysis, in fact feature-checking analyses in general (i.e. analyses that assume feature checking between *what* and *that*), faces a look-ahead problem with respect to (3). The assumption that successive cyclic movement involves feature checking with intermediate heads also turns out to be problematic. The alternative MCLP analysis, which doesn't posit feature checking between *what* and *that*, can handle (3). The problem with this analysis is that it crucially relies on the Form Chain operation, which represents a theoretical complication (see Epstein and Seely (2006)). However, in Bošković (in press a) I show that abandoning Form Chain does not force us to posit feature checking between wh-phrases and intermediate Cs (or early successive cyclic movement). I propose a system that reconciles the early and the current minimalist approach to successive cyclic movement. As in the early approach, there is no feature checking in intermediate positions of successive cyclic movement. However, as in the current approach and in contrast to early Minimalism, successive cyclic movement starts before the final target of movement enters the structure, and Form Chain is eliminated. At first sight, it seems that accomplishing the above is impossible since the analysis would be based on mutually incompatible assumptions: if there is no feature checking in intermediate positions of successive cyclic movement, we seem to be forced to adopt Form Chain and late successive cyclic movement; otherwise, each step of successive cyclic movement would count as a separate operation that would violate Last Resort: given that there is no feature checking in intermediate positions and that look-ahead is disallowed, intermediate steps simply wouldn't do anything. However, in Bošković (in press a) I show that it is possible to combine the assumptions in question, given Chomsky's (2000) Activation Condition (AC), which states X has to have an uninterpretable feature to be visible for movement.³ However, while Chomsky uses the AC to implement movement in general, I use it only to implement successive cyclic movement, which, as discussed below, resolves the important conceptual question of why the AC holds and in fact enables us to turn the AC into a theorem, eliminating it as an independent principle of the grammar.

Consider (7), where Y must undergo successive cyclic movement to W via SpecXP. In accordance with the AC, Y has an uninterpretable feature K. (8) represents the same scenario, but before W enters the structure. (K can be checked either as a reflex of F-feature checking between W and Y or W would have a K feature that can check the K feature of Y. I represent the latter option.)⁴

²Appealing to the copy theory of movement will not help here. In fact, the relevant C in all the examples under consideration would undergo SHA with the head of the wh-phrase chain since the SHA would take place before the higher structure is built.

³See Bošković (in press a) regarding empirical validity (i.e. necessity) of the AC.

⁴The latter option is simpler, since the former option has a bit of a miraculous flavor: why would F-feature checking have anything to do with uK?

(7) W [_{XP} ...X...Y] XP=phase
 uF iF
 K uK
 EPP

(8) [_{XP} ...X.....Y] XP=phase
 iF
 uK

Why would Y need an uninterpretable feature to make it active for movement? Given the PIC, if Y is to move outside of XP it must first move to SpecXP. Chomsky implements this by giving X the EPP property, with the proviso that X can be given the EPP property only if this is needed to make successive cyclic movement possible, i.e. if Y does not remain in SpecXP. This means that at point (8) we need to know that W will enter the structure later, as in (7), which raises a look-ahead problem.

Consider now what we need to accomplish in (8). We need to know that Y will eventually need to move outside of XP, so that we move it to SpecXP in (8), but we do not want any look-ahead involved. Do we know that Y will have to move outside of XP at point (8)? In fact, we do. The uK of Y, which cannot be checked within XP, is what tells us Y will need to move. If Y does not move to SpecXP, its uK feature will not get checked.⁵ So, uK of Y is what tells us Y will have to move, and we know that without look-ahead at point (8). All of this would be repeated on any higher phase level. At this point in the discussion, we can assume that Y moves in search for a checker since its uK feature cannot be checked within XP, which means that leaving Y in situ in (8) will inevitably lead to a crash, and we know this at point (8).⁶ The underlying assumption here is that Last Resort should be formulated as follows: X undergoes movement iff without the movement, the structure will crash. Movement of Y to SpecXP in (8) then conforms with Last Resort. Notice also that under the above analysis there is no need to mark the intermediate head X in (7) with the EPP feature to drive movement to its Spec since the movement is independently required. In other words, EPP effects involved in intermediate, successive cyclic movement are deduced from the independently required uninterpretable feature of the moving element.

Under the above analysis, the AC is used to implement successive cyclic movement. However, it is no longer a principle, but a theorem, which resolves the conceptual problem of

⁵In Chomsky (1995), uK would be a fully specified feature in need of checking, while in Chomsky (1999, 2000) it would not be fully specified—checking would involve valuation of K. Under the assumption that the complement of a phase head is sent to Spell-out, if Y does not move to SpecXP, the structure would crash because an unvalued feature, which can be considered an illegitimate PF object, is sent to PF. In other words, under this analysis, Y with uK would move to SpecXP in order to avoid being sent to Spell-out, given that uK is an illegitimate PF object. (Note, however, that the last assumption will be modified in section 3, PF illegitimacy finding a slightly different source.)

⁶I will return to the issue below. Note that a similar proposal is made independently in Surányi (2004) and Franks and Lavine (2004).

why it holds.⁷ The role of the uninterpretable feature of Y is to identify Y as an element that needs to move at the point when no structure above XP is present. However, there is no need to have the AC as an independent principle. Y in (7) will either have uK or not. If it doesn't, Y will never move outside of XP (since it won't move to SpecXP), as a result of which the uF of W will remain unchecked and its EPP property will not be satisfied. If Y has uK, it will move to SpecXP, as discussed above. It will eventually move to SpecWP, satisfying the EPP property of W and checking the F-feature of W as well as its own K feature. The movement of Y to SpecXP in (7) is thus greedy, in the sense that Y moves to SpecXP to help itself; if it doesn't move its K feature will remain unchecked. Crucially, Y undergoes no feature checking with X. In fact, X has really nothing to do with the movement of Y to its Spec. Recall that under Chomsky's approach, movement of Y to SpecXP is driven by an inadequacy of the intermediate head X. This is not the case under Bošković's (in press a) approach, where the movement is driven by a property of Y. We thus don't need to posit a feature-checking relation between X and Y or an EPP feature on X. When it comes to movement of Y to SpecXP, the intermediate head X is an innocent by-stander, it has nothing to do with it. Notice, however, that although the above analysis implements successive cyclic movement without feature checking with intermediate heads (and adopts early successive cyclic movement) it does not rely on Form Chain. This means that abandonment of Form Chain does not force us to posit feature checking in intermediate positions of successive cyclic movement.

There is, however, an unresolved glitch in the above analysis. In Bošković (in press b) (see also Lee, 2003; Stjepanović and Takahashi, 2001) I provide a number of arguments that, in contrast to Move, Agree is not subject to the PIC, a difference which is argued to follow from the way Spell-out works. One of the arguments to this effect involves the example (9) from Chukchee, where the matrix *v* agrees with the embedded clause object, an Agree relation that clearly violates the PIC. (Irrelevant details are omitted from the glosses.)

- (9) ənan qəlyiɭu ləŋərkə-nin-et [iŋqun Ø-rətəməŋəv-nen-at qora-t].
 he regrets-3-pl that 3sg-lost-3-pl reindeer-pl
 'He regrets that he lost the reindeers.' (Mel'čuk 1988)

Agree not being subject to the PIC has serious consequences for the above analysis. Consider again (7)-(8). Recall that Y moves to SpecXP so that the uK feature of Y can be eventually checked, the underlying assumption being that if Y does not move, its uK feature will never get checked causing the derivation to crash, with the crash determined locally (at point (8)). However, if the PIC is irrelevant to Agree, uK can in principle be checked even if Y remains buried within a phase. But then there is no need to move Y to check uK in (8), which means the need to check uK cannot drive movement of Y. Now, Y will eventually have to move for feature-checking purposes because of W, which has an EPP feature. This means there is a need to move Y to SpecXP. However, we don't know this at the point structure building has reached in (8), we will know this only once W enters the structure, as in (7). The insensitivity

⁷Note that I will continue to use the term AC for ease of exposition. It is also worth noting here that in Bošković (in press a) I argue (contra Chomsky 2000) that the AC does not hold for Agree.

of Agree to the PIC has thus brought us back to Chomsky's look-ahead problem. Let us see how the look-ahead problem can be resolved. The problem with (7) is that the EPP diacritic indicating that Y will have to move to SpecWP is placed on W, given that we need to know that Y will be moving before W enters the structure. The problem is quite general under the EPP-driven movement approach. The gist of the look-ahead problem that arises under this approach is that the EPP diacritic indicating that Y moves is placed on an element (W) other than the one that is undergoing the movement in question, but Y often needs to move (i.e. start moving) before W enters the structure. The conclusion to be drawn from this state of affairs is obvious: we have been wrong in placing the diacritic indicating the need for overt movement on the target (W)—the diacritic should be placed on the moving element (Y). Let us see how this can be done.

It is standardly assumed that a probe must c-command the goal (i.e. the former probes only its c-command domain), and that the probe must have an uninterpretable feature; otherwise, there would be no need for it to function as a probe. Following an important insight of Epstein and Seely (2006) (see also Bošković, 2002a; Abels, 2003; Boeckx, 2004), in Bošković (in press a) I assume that the correlation between functioning as a probe and having an uninterpretable feature is a two-way correlation: just like a probe must have an uninterpretable feature, an uninterpretable feature (i.e. an element with an uninterpretable feature) must function as a probe.⁸ In other words, checking of an uninterpretable feature K on X requires X to function as a probe; i.e., uK of X can be checked off *if and only if* X c-commands the checker. This means that Y in (7)-(8) will need to undergo overt movement outside of XP in order to license its uK feature. In fact, pure Agree will not suffice for that even if Y is located in SpecXP, with no other phases intervening between Y and W.⁹ Most importantly, we now know that Y will need to undergo overt movement outside of XP before W enters the structure: already at point (8) we know that the structure will crash unless Y moves outside of XP (uK on Y essentially says: I am moving!). In other words, Y will have to move to a position c-commanding the uK licenser in order to check the feature, and since the uK licenser is not present within XP, this means that Y will have to move overtly outside of XP, hence has to move to SpecXP.¹⁰ Notice that the movement to SpecXP conforms with Last Resort (cf. the above formulation of Last Resort) although it does not involve any feature checking between Y and X. Eventually, Y will have to move to a position c-commanding W. Given the Shortest Move requirement, it will in fact move to the closest position c-

⁸The assumption has a number of empirical consequences. E.g., it requires overt object shift in ECM examples (after which the accusative NP and (a projection of) the traditional Case assigner c-command, hence can probe, each other; for arguments for overt object shift, see Boeckx and Hornstein, 2005; Bošković, 1997a; 2002a; 2004a; in press a; Epstein and Seely, 2006; Koizumi, 1995; Lasnik, 1999; McCloskey, 2000, among many others). I refer the reader to Epstein and Seely (2006) and Bošković (in press a) for relevant discussion. (Notice that direct object accusative could be an inherent Case, which could be treated differently; see Bošković (in press a) and fn. 31 below.)

⁹We are then ruling out the possibility of Y moving to and staying in the Spec of a cyclic head, i.e. in what would normally be the highest intermediate position of successive cyclic movement, where it would undergo Agree with a higher probe. This is desirable since, as noted in Bošković (in press a), this possibility does not seem to be realized.

¹⁰Recall that, in contrast to Agree, Move is subject to the PIC, which means that we cannot wait for W to enter the structure and then move Y to W from the complement domain of the phase head X.

commanding W, which means SpecWP.¹¹

The analysis also deduces generalized EPP effects. (By *Generalized EPP* I don't mean just the traditional EPP, which holds of the Spec of IP, but the more general requirement that certain heads have a Spec.) We have already seen that there is no need to mark intermediate heads, such as X in (7)-(8), with the EPP property to drive movement to their Specs. Now, the generalized EPP effect is being deduced in its entirety. Thus, Y in (7), repeated here, now has to move to SpecWP even if W does not have the EPP property, which is then dispensable.¹²

(10) W [_{XP} ...X...Y]
 uF iF
 K uK
 EPP

The above approach to successive cyclic movement combines the MCLP and Chomsky's later approaches to successive cyclic movement: as in the former, there is no feature checking in intermediate positions of successive cyclic movement, which is driven by the moving element itself. However, as in the latter, successive cyclic movement starts before the final target of movement enters the structure and Form Chain is eliminated. Although the AC plays a crucial role in the analysis it is eliminable as a condition of the grammar, holding empirically as a theorem. What is important for our purposes is that although Bošković (in press a) dispenses with Form Chain, in this system there is no feature checking with intermediate heads on the path of successive cyclic movement, intermediate movement to a phase edge being driven by a property (an uninterpretable feature) of the moving phrase, not by an EPP feature of/feature checking with the intermediate head.¹³

¹¹Head movement would also be an option, if it exists in syntax (see Chomsky, 2001; Boeckx and Stjepanović, 2001 for claims that it does not). If it does exist, there is the question, independent of the current analysis, of whether a feature to be checked will be checked in a Spec-head or a head-head configuration (see Bošković (2001)).

¹²See Epstein and Seely (2006) for discussion of the traditional EPP in this context, which is generalized in Bošković (in press a), with an exploration of a number of additional consequences and an extension to successive cyclic and *wh*-movement. (In fact, even the analysis of the traditional EPP effect adopted in Bošković (in press a) (see also section 4 below) is quite different from Epstein and Seely's analysis, since it does not rely on the Inverse Case Filter, in contrast to Epstein and Seely's analysis.) I refer the reader to Bošković (in press a) for a detailed discussion of the Generalized EPP. Regarding (3), in Bošković (in press a) I assume following Chomsky (2000) that English *wh*-phrases optionally have the uK feature that is checked by interrogative C under *wh*-movement. (3) is then ruled out either because the uK feature of *what* remains unchecked since it doesn't c-command an interrogative C (if *what* has the uK feature in question) or because there is no reason to move *what* to SpecCP in the first place (if *what* does not have it). As for **He read what*, I suggested two analyses: If interrogative C in English always has the uK feature in question, the example is ruled out because the uK of the C cannot be checked if *what* doesn't have the uK feature. Alternatively, the example can be ruled out by appealing to Cheng's (1997) clausal typing hypothesis. I refer the reader to Bošković (in press a) for discussion of how the crosslinguistic typology with respect to multiple questions (i.e. the Bulgarian pattern, the Chinese pattern, and the English pattern) can be captured in the EPP-less framework discussed above.

¹³It is worth noting here that in Bošković (in press a) I argue that successive cyclic A- and A'-movement should be treated in exactly the same way. More precisely, I argue that raising infinitives (the same holds for ECM infinitives, which I argue involve overt object shift) are CPs (see also Ormazabal, 1995; Epstein and Seely, 2006;

To sum up, given that there is no feature checking in intermediate positions of successive cyclic movement, we cannot accept Chomsky's (1995, 2000) approaches to successive cyclic movement, which rely on intermediate feature checking (recall that these approaches also face a serious look-ahead problem regarding (3)). In contrast to them, Takahashi's MCLP approach does not need intermediate feature checking. However, this approach relies on the operation Form Chain, which represents a theoretical complication that should be eliminated if possible. In contrast to these approaches, the system developed in Bošković (in press a) requires neither feature checking in intermediate positions of successive cyclic movement nor positing Form Chain, which favors this approach over the feature checking and the MCLP analysis of successive cyclic movement.

2. MORPHOLOGICALLY REALIZED INTERMEDIATE AGREEMENT UNDER WH-MOVEMENT

A question arises how to handle languages that have overt reflexes of agreement with intermediate heads under wh-movement. As pointed out in Boeckx (2003, 2004), it is actually not clear that there are any languages that have true intermediate wh-agreement, i.e. overt reflexes of agreement between intermediate heads and wh-phrases. As noted by Boeckx (see also Georgopoulos, 1991; Chung, 1998), in many languages that are traditionally considered to have such agreement, wh-agreement is only indirect. Thus, in a number of languages wh-movement triggers a morphological change on intermediate Vs and/or intermediate Cs. However, the change does not reflect any direct relation between a wh-phrase and the Vs/Cs. Rather, it reflects a distinct agreement relation holding between the verbs and the intermediate complementizers. In other words, instead of a wh-phrase directly agreeing with an intermediate head, what we find is a situation where wh-movement induces special agreement between intermediate verbs and intermediate complementizers. Consider, e.g., Selayarese

among others) and that the intermediate clause-edge landing site of such infinitives is SpecCP rather than SpecIP, which means that the intermediate trace in (ib) is located in SpecCP, just as in (ia)). (I also demonstrate that A-movement out of CPs is in principle possible and that in the current framework, where, e.g., the status of a SpecvP with respect to the A/A' distinction depends on the nature of the movement that stops by SpecvP, nothing prevents us from treating SpecCP as an A-position when it serves as an intermediate landing site of successive cyclic A-movement.)

- (i) a. What_i do you think [_{CP} t_i [_{C'} that John bought t_i]]?
 b. Someone_i is likely [_{CP} t_i [_{C'} to be t_i in the garden]].

We then have a complete parallelism between successive cyclic wh- and successive cyclic NP-movement. Bošković's (in press a) analysis can be applied to these movements in exactly the same way: both *what* in (ia) and *someone* in (ib) move to the Spec of the CP phase so that the derivation does not crash (with crash evaluated locally) due to the presence of an uninterpretable feature in these elements that cannot be licensed within the CP phase (see fn. 12 regarding wh-movement). Crucially, neither *what* nor *someone* undergo feature checking with the C and the filled Spec requirement holds for neither embedded declaratives nor raising infinitives: the edge position of these clauses is filled only when they intervene on the path of successive cyclic movement for reasons independent of any property of their heads, which are never subject to a feature-checking/EPP requirement.

(11)-(13), which were also discussed in this context by Boeckx (2003; 2004).

- (11) a. La-ʔalle-i doeʔ-iñjo i Basoʔ
 3-take-3 money-the hum. Baso
 ‘Baso took the money.’
 b. Ku-keoʔ-ko
 1-call-2FAM
 ‘I called you.’
- (12) Ku-isseʔ-*(i) *(kuko) la-ʔalle-i doeʔ-iñjo i Basoʔ
 1s-know-3 C 3-take-3 money-the hum. Baso
 ‘I know that Baso took the money.’
- (13) Apa mu-isseʔ la-ʔalle _i Basoʔ
 what 2FAM-know 3-take hum. Baso
 ‘What do you know that Baso took?’ (Finer 1997)

Selayarese is a VOS language. In (11), we see that the verb displays both subject (the prefix) and object (the suffix) agreement. (12) illustrates object agreement between the verb and a clausal object (note that the complementizer is obligatory). As shown in (13), object agreement (and the C) must be absent in the case of wh-movement.¹⁴ The agreement with the wh-phrase is thus only indirect: wh-movement has the effect of disrupting agreement between the verb and the C. (In many languages that are traditionally assumed to have overt intermediate C-reflexes of wh-movement, the paradigm in question cannot be repeated in its entirety due to the lack of overt verbal object agreement; however, it is certainly possible that such languages actually behave like Selayarese in the relevant respect, the only difference being that the verb does not show overt object agreement. The reader is also referred to Noonan (1999) for a reanalysis of traditional wh-C agreement in Irish, which according to Noonan does not involve such agreement at all. More precisely, Noonan argues that what is traditionally considered to be a special wh-agreeing C in Irish is not a C at all. See fn. 19 and McCloskey (2002:201) for another perspective on Irish.) I conclude therefore with Boeckx (2003, 2004) that it is not clear that there are any languages with true intermediate wh-agreement.¹⁵ I would also like to adopt the following analysis for (11)-(13), roughly following Finer (1997): let us assume overt object agreement is a direct reflex of object shift, i.e. overt movement to SpecAgroP/SpecvP. This means both the agreeing direct object NP in (11) and

¹⁴According to Finer (1997), the absence of the complementizer and object agreement is obligatory in this case. (In the case of further embedding of the lowest clause in (13), all intermediate Vs/Cs pattern with the matrix V/embedded C in (13) in this respect, which is accounted for under the analysis suggested below.) Object agreement is also missing on the lower verb in (13) for independent reasons discussed in Boeckx (2003). Note that I ignore the resumptive pronoun construction, where a complementizer appears in the embedded clause (but clausal object agreement is missing, which Finer interprets as indicating that some movement is taking place even in the context of resumption).

¹⁵Boeckx (2004) gives Kinande as the only plausible candidate for true (i.e. direct) intermediate wh-agreement. Kinande will be discussed later in this section.

the agreeing direct object clause in (12) move overtly to SpecAgroP. Now, Takahashi (1994) (see also Ormazabal *et al.*, 1994; Boeckx, 2003) shows wh-movement out of heads of non-trivial chains (i.e. wh-movement out of moved elements) is crosslinguistically impossible.¹⁶ The wh-phrase then cannot move out of an object-shifted clause. This means wh-movement out of an agreeing clausal object is impossible. This explains why a clause from which a wh-phrase has been extracted cannot agree with the verb. I also make the natural assumption that the lack of overt object agreement means the lack of overt movement to SpecAgroP. The reason why wh-movement is possible only when the clause fails to agree with the verb is then straightforward: only in that case, the clause does not move overtly to SpecAgroP, allowing wh-movement to proceed without a locality violation.¹⁷ We now have an account of the lack of agreement between the verb and the clause in (13), which contrasts with (12) in this respect. What about the absence of the overt C in (13), which again contrasts with (12) in this respect? There are three possibilities here: (i) We can assume that the overt complementizer obligatorily agrees with the higher verb,¹⁸ while the null complementizer does not; hence the null complementizer must co-occur with wh-movement (recall that C cannot agree with the verb in the case of wh-extraction, since agreement requires movement of the CP); (ii) C must always agree with the verb, which means a CP must move to SpecAgroP; what we are dealing with in (13) is an IP, which, in contrast to CP, does not move to SpecAgroP and does not agree with the verb; (iii) We are dealing here with something similar to the French *que-qui* alternation, with one modification: the null C is the counterpart of *qui*, and the overt C of *que*, with the modification that the extraction-problematic overt C creates a problem not only for subject extraction (like French *que*), but for all extraction, just like the indicative C in Russian does (the null C is then used to rescue all extraction). I conclude therefore that (11)-(13) can be analyzed without positing intermediate wh-agreement.¹⁹

¹⁶This is, e.g., responsible for the Subject Condition effect, i.e. the ban on movement out of subjects in SpecIP, which have moved to SpecIP from a lower position. Takahashi also demonstrates that wh-movement out of an element in SpecCP, which is standardly assumed to be possible, actually leads to a locality violation.

¹⁷This means that a clause can exceptionally remain in situ to make wh-movement possible. I leave for future research explaining this state of affairs. (This kind of exceptional placement has been noted with respect to other phenomena as well; see, e.g., the discussion of ellipsis and affix hopping in Bošković (2001, 2004b).)

¹⁸As discussed by Finer (1997), there are in fact certain obligatory changes in the morphological form of the overt complementizer that depend on the material in the higher clause.

¹⁹The above analysis of Selayarese might actually be extendable to Irish. It is standardly assumed (but see Noonan 1999 for an opposing view) that *a* is a wh-agreeing C (reflecting agreement between a wh-phrase and the C), while *gur* is a non-wh-agreeing C. (I assume that the matrix clause in (ia) does not have a C.)

(i) a. Creideann Seán [gur imreodh na páistí anseo]

believes Seán C play-COND the children here

‘Seán believes that the children would play here’

b. Cén páistí a chreideann Seán [a d’imreodh anseo]

which children C believes Seán C play-COND here

‘Which children does Seán believe would play here?’

(Noonan 1999)

Suppose, however, that on a par with Selayarese, we do not consider *gur/a* alternation as a reflex of agreement with the wh-phrase, but with the verb. *Gur* would be a C that agrees with the verb, which means that the CP headed by *gur* moves to SpecAgroP. In other words, it is a counterpart of Selayarese *kuku*. *A*, on the other hand,

I now turn to Kinande, which seems to be the most plausible candidate for true intermediate wh-agreement (cf. fn. 15). The reason for this is that in Kinande the featural specification of the C covaries with the featural specification of the wh-phrase in its Spec (the numbers in (14) refer to morphological classes).

- (14) a. IyondI y0 Kambale alangIra
 who.1 that.1 Kambale saw
 ‘Who did Kambale see?’
 b. ABahI Bo Kambale alangIra
 who.2 that.2 Kambale saw
 c. EkIhI ky0 Kambale alangIra
 what.7 that.7 Kambale saw
 ‘What did Kambale see?’
 d. EBhIhI By0 Kambale alangIra
 what.8 that.8 Kambale saw (Rizzi 1990)

This type of agreement occurs with displaced wh and focus phrases and can be found in every clause on the path of wh-/focus-movement, as shown by Schneider-Zioga’s (2005) (15) for wh-movement.²⁰

- (15) [ekihI kyo Kambale a.si [nga.kyo Yosefu a.kalengekanaya
 what wh-agr(eement) Kambale agr.know C.wh-agr Joseph agr.thinks
 [nga.kyo Mary’ a.kahuka __]]
 C.wh-agr Mary agr.cooks
 ‘What did Kambale know that Joseph thinks that Mary is cooking (for dinner)?’

However, Boeckx (2004:fn.13) suggests an analysis on which Kinande doesn’t involve intermediate feature checking, i.e. on which *what* in (15) doesn’t undergo agreement with the intermediate Cs during successive cyclic movement. Following Davies’s (2003) analysis of Madurese, he suggests that cases involving apparent long-distance wh-movement in Kinande should be analyzed as involving iterative prolepsis. Under this suggestion, a traditional long-distance wh-movement structure like (16a) is analyzed as in (16b), where the apparent argument of the lower V is generated as a matrix clause dependent that undergoes local wh-movement and binds a null element that also undergoes local wh-movement. In other words, under Boeckx’s suggestion, instead of a single, successive cyclic long-distance wh-movement, where the wh-phrase agrees with two Cs, including an intermediate C, we have two local wh-movements, with different elements agreeing with the two Cs. Most importantly, in each case the C agrees with the head of a chain; (16b) doesn’t involve true intermediate feature-

would be a counterpart of the Selayereese null C, which does not agree with the verb, which means that a clause headed by it doesn’t move to SpecAgroP. Irish could then be treated on a par with Selayereese, which means that what appears to be intermediate wh-agreement does not involve wh-agreement (see Noonan (1999) for an alternative analysis that also does not consider *a* to be a wh-agreeing C).

²⁰I will confine the discussion below to agreeing clauses. Note that *nga* occurs in the embedded clause because monosyllabic Cs are second position clitics.

14 *Book Title*

checking, where a wh-phrase moves to and undergoes agreement with a C and then proceeds to move to and undergo agreement with another C. (Note that Kinande does have null Op.)

- (16) a. [_{CP} Op_i [_{CP} t_i [_{CP} t_i
 b. [_{CP} Op_i t_i [_{CP} Op_i t_i [_{CP} Op_i t_i

A similar analysis is proposed by Schneider-Zioga (2005), who also convincingly argues against the traditional structure in (16a); i.e. she shows that Kinande does not have true long-distance wh/focus movement. Her argument is based on reconstruction effects. Consider (17), with relevant NPs given in bold.

- (17) a. **ekitabu kiwe**_{j/k} ky’ **obuli mukolo**_j a.kasoma _ kangikangi.
 book his wh-agr each student agr.reads regularly
 ‘(It is) His_j book that [every student_{j/k}] reads regularly.’
 b. **ekitabu kiwe**_{k/*j} kyo ngalengekanaya [_{CP} nga.kyo [**obuli mukolo**]_j akasoma _
 book his wh-agr I.think C.wh-agr every student read
 kangikangi.
 regularly
 ‘(It is) His_{k/*j} book that I think [every student]_j reads regularly.’
 c. **ekitabu kiwe**_{k/*j} kyo [**obuli mukolo**]_j alengekanaya [_{CP} nga.kyo nganasoma _
 book his wh-agr every student agr.think C.wh-agr I.read
 kangikangi]
 regularly
 ‘(It is) His_{k/*j} book that [every student]_j thinks I read regularly.’

(17a) shows local A’-extraction (i.e. focus movement) allows reconstructed interpretation. However, reconstruction is impossible with a long-distance dependency. Under the standard view of reconstruction that ties reconstruction to movement, we are led to conclude that the focused element undergoes movement from its θ -position to SpecCP in (17a), but not in (17b)-(17c). In other words, (17b-c) indicate Kinande doesn’t have true long-distance A’-movement.

Schneider-Zioga’s (2005) example (18) is also relevant here.

- (18) *omukali ndi yo wasiga [_{island} embere __ wabuga]
 woman who wh-agr you.left before spoke
 ‘Which woman did you leave before (she) spoke?’

(18) is unacceptable because it involves extraction out of an adjunct. Significantly, Schneider-Zioga (2005) observes that if the extraction site of the subject is embedded one clause deeper within a clause headed by an agreeing complementizer, the example improves.

- (19) omukali ndi yo wasiga [_{island} embere Kambale anasi [_{CP} ko.yo __ wabuga]]
 woman who wh-agr you.left before Kambale knew C.wh-agr spoke
 ‘Which woman did you leave before Kambale knew that (she) spoke?’

An obvious interpretation of the above facts is that in contrast to (18), the wh-phrase in (19) does not undergo wh-movement to the matrix clause from the subject position of the verb *wabuga*. The above data then also show that there is no wh/focus movement out of clauses headed by agreeing Cs.

Also relevant is the following example.

- (20) Ekij kyo Mary'a.kabula [_{whCP} nga.kyo [_{IP} Yosefu a.kalangira _]]
 what wh-agr Mary wonders C.wh-agr Joseph agr.sees
 'What does Mary wonder if Joseph sees?' (Schneider-Zioga 1995)

Under the traditional movement analysis of intermediate wh-agreement, the wh-phrase in (20) would pass through an interrogative SpecCP, agreeing with the embedded interrogative C. The problem with this analysis is that this kind of situation where a wh-phrase voids the wh-island effect by passing through an interrogative SpecCP does not seem to be attested in other languages. This kind of derivation actually has been argued to be available in Bulgarian, a multiple wh-fronting language (MWF).

Rudin (1988) argues that there are two types of MWF languages, the Bulgarian type, where all fronted wh-phrases are located in SpecCP, and the Serbo-Croatian (SC) type, where no more than one fronted wh-phrase can be located in SpecCP. One of Rudin's arguments to this effect concerns penetrability of fronted wh-phrases.

- (21) a. ?*Koj, *spored tebe*, kakvo e kazal?
 who according to you what is said
 'Who, according to you, said what?'
 b. Koj kakvo e kazal? (Bulgarian)
 c. Ko, *po tebi*, šta reče?
 who according to you what said
 'Who, according to you, said what?'
 d. Ko šta reče? (SC)

(21) shows that, in contrast to SC, fronted wh-phrases in Bulgarian cannot be split by a parenthetical. Rudin interprets this as indicating that all fronted wh-phrases in Bulgarian are located in interrogative SpecCP, forming an impenetrable cluster in this position. According to Rudin, in contrast to Bulgarian, SC places only the first fronted wh-phrase in SpecCP, hence its fronted wh-phrases can be split. Rudin observes that Bulgarian allows extraction out of wh-islands, and argues that this provides further evidence for her analysis.

- (22) Vidjah edna kniga, kojato_i se čudja koj znae koj prodava t_i. (Bulgarian)
 saw-1s a book which wonder-1s who knows who sells
 'I saw a book which I wonder who knows who sells.'

Since Bulgarian is a MWF language that allows multiply filled interrogative SpecCPs, *kojato* can pass through the filled intervening interrogative SpecCPs, voiding the wh-island effect.

It is actually not true that Bulgarian is not sensitive to wh-islands. (22) involves

relativization out of wh-islands. With questioning out of wh-islands, we do get wh-island effects if the extracted wh-phrase is not D-linked. If it is D-linked, then no wh-island effect arises. As noted in Bošković (2003), with adjunct wh-extraction we always get wh-island effects, regardless of the nature of movement to SpecCP (relativization or questioning) or the wh-phrase (D-linked or non-D-linked).

- (23) a. *Kakvo_i se čudiš koj znae koj prodava t_i?
 what wonder-2s who knows who sells
 ‘What do you wonder who knows who sells?’
 b. ?Koja ot tezi knigi_i se čudiš koj znae koj prodava t_i?
 which of these books wonder-2s who knows who sells
 ‘Which of these books do you wonder who knows who sells?’
- (24) a. *pričinata, poradi kojato_i [Ivan znae dali Boris e zaminal t_i]
 the-reason for which Ivan knows whether Boris is left
 ‘the reason for which Ivan knows whether Boris left’
 b. *Zašto/poradi kakva pričina znae [dali Boris e zaminal t_i?]
 why for which reason knows-3s whether Boris is left
 ‘Why/for which reason does he know whether Boris left?’
 c. cf. Zašto/poradi kakva pričina misliš [če Boris e zaminal t_i?]
 why for which reason think-2s that Boris is left
 ‘Why/for which reason do you think that Boris left?’

Significantly, in Bošković (2003) I observe that exactly the same pattern is found in Swedish, a non-MWF language.

- (25) a. *Vad frågade Jan vem som skrev?
 ‘What did John ask who wrote?’ (Maling 1978)
 b. Det är melodin, som Jan frågade vem som skrev.
 ‘This is the song that John asked who wrote.’ (Maling 1978)
 c. Vilken film var det gu gärna ville veta vem som hade regisserat?
 ‘Which film did you want to know who had directed?’ (Engdahl 1986)
 d. *Varför/av vilket skäl undrar han [vem som lagade bilen t]?
 ‘Why/for which reason does he wonder who fixed the car?’
 e. *orsaken varför han undrar [vem som lagade bilen t]
 ‘the reason why he wonders who fixed the car’ (Bošković 2003)

The above data lead to two conclusions. First, Bulgarian doesn’t allow a wh-phrase to freely pass through a filled interrogative SpecCP. If this were the correct account of the cases where Bulgarian doesn’t show wh-island effects we would expect the wh-island effect to always be voided in Bulgarian, which is not true. In fact, whatever is responsible for the selectivity of wh-effects in Bulgarian should have nothing to do with the possibility of MWF in the language, since exactly the same selective wh-island effect is found in Swedish, a language that doesn’t allow MWF. That the ability of a language to place more than one wh-phrase in

an interrogative SpecCP does not make available the derivation on which a wh-phrase passes through a filled interrogative SpecCP, voiding the wh-island effect, is in fact confirmed by SC. As noted in Bošković (2003), in contrast to matrix questions like (21c-d), in embedded questions SC patterns with Bulgarian in that it places all fronted wh-phrases in SpecCP. This is confirmed by Rudin's parenthetical split test.²¹

- (26) a. **Ima ko, po tebi, šta da mu proda.*
 has who according you what part him sells
 ‘There is someone who, according to you, can sell him something.’
 b. ?*Ima ko šta, po tebi, da mu proda.*

In spite of this, SC always shows wh-island effects. ((27) is acceptable in Bulgarian.)

- (27) **Koje knjige_i ima ko da ti proda t_i?* (SC)
 which books has who part you sells
 ‘Which books is there someone who can sell to you?’

These data show a wh-phrase cannot pass through an interrogative SpecCP even in a language that otherwise allows multiply-filled interrogative SpecCPs. It seems safe to conclude that this kind of derivation should then be disallowed in other languages too. But this then rules out the intermediate wh-agreement derivation for (20), on which the wh-phrase would pass through an interrogative SpecCP. Note that a Boeckx-style analysis can easily accommodate (20) since on this analysis there is no movement from the lower SpecCP to the higher SpecCP. Rather, a null operator licensed by the matrix wh-word is present in the embedded SpecCP. (Assuming that yes-no questions quite generally have a null Op in SpecCP we would then be dealing with a multiply-filled SpecCP in the embedded clause of (20).)

The data discussed above indicate that there is no wh/focus movement out of clauses headed by agreeing Cs in Kinande. That is, the standard intermediate wh-agreement analysis, on which a wh-phrase moves to and agrees with an intermediate C, and then moves to and agrees with another C, cannot be correct for Kinande. While the language has local wh/focus movement, as indicated by (17a), it does not have long-distance wh-movement out of agreeing CPs. An analysis along the lines of Boeckx (2004) seems to be the most appropriate: apparent agreeing long-distance A'-movement in Kinande should be broken into a series of local A'-movements, with an agreeing C undergoing agreement with the head of an A'-chain in each case. A slight modification of the analysis suggested by Boeckx is necessary in order to account for (17c): the focused NP in (17c) should not even undergo local wh-movement, or the reconstruction would be possible. Rather, the focused NP should be base-generated in SpecCP. The contrast in (17a)-(17c) indicates local A'-movement is possible only from the true θ -position, i.e. we are not dealing here with a proleptic object undergoing A'-movement. If null elements in lower clauses of long-distance A'-dependencies are also treated in this way, then (15) should have a structure like (28), where only the lowest null element undergoes

²¹I am using an embedded wh-existential (see Izvorski (1998) for arguments that it contains an embedded question) rather than a regular indirect question since the latter involves an interfering factor; see Bošković (2003)).

movement (see also McCloskey (2002) regarding Op-insertion in “intermediate” SpecCPs).

(28) [_{CP} Op_i [_{CP} Op_i [_{CP} Op_i t_i

Given the above discussion, I conclude that Kinande agreeing long-distance A'-movement constructions do not involve a wh/focus element moving clause-to-clause, with a single wh/focus phrase undergoing agreement with more than one C.

3. WHY IS INTERMEDIATE FEATURE CHECKING DISALLOWED?

We have seen above that a wh-phrase undergoing successive cyclic movement does not undergo feature checking with intermediate heads, although it moves via their Specs. Apparently, there is a ban on this type of intermediate feature checking. In this section I will address the question of what is responsible for it. Kinande gives us a clue in this respect. What Kinande shows is that it is not the case that intermediate Cs cannot undergo agreement. In other words, we do find cases where intermediate Cs undergo agreement. (Partial wh-movement may also be relevant here.) What we do not seem to find is a case where after undergoing agreement with an intermediate C, a wh-phrase moves and establishes an agreement relation with another C. In other words, those intermediate Cs in Kinande are really final Cs, since the element in their Spec does not move to another SpecCP. Apparently, once a wh-phrase moves to SpecCP undergoing agreement with the C it is frozen in this position. In other words, undergoing agreement with a C has a freezing effect on the wh-phrase. Another way of looking at this from the perspective of Bošković's (in press a) system is given in (29):

(29) A wh-phrase can undergo agreement with a C (as a probe) only once.

(29) should be generalized so that it does not hold only for wh-movement and C (in this respect, see Bošković in press a, who shows that A-movement also does not involve feature checking with intermediate heads). We then have (30). (Recall that in Bošković's (in press a) system a wh-phrase probes C after wh-movement. This in fact holds for any X undergoing a feature-checking movement to a Spec.)²²

(30) X probes for uK only once.

(30) can actually be easily deduced through a simplification of (i.e. a removal of a stipulation from) Chomsky's (1999, 2000) feature-checking system, which functions as follows: (Recall that the EPP property is unnecessary. The discussion below simply summarizes Chomsky's system as it is.)

²² (30) and other “probing” generalizations below (cf. (42) and (43)) may need to be restricted to probing under movement. For the purposes of this paper I tentatively restrict them to probing under movement (i.e. probing after internal merge), leaving for future research possible extension to a combination of probing after external+probing under internal merge. The reader should bear this in mind during the discussion below.

- (31) X (probe) Y(goal)
 uF iF
 EPP uK

Recall that Chomsky adopts the Activation Condition (AC), according to which an element Y must have an uninterpretable feature to be visible for movement. (As discussed above, the AC is deducible in Bošković's (in press a) system.) X and Y in (31) are involved in an F feature-checking relation, and as a reflex of that feature-checking relation, the uninterpretable feature K of Y is checked off, which happens after movement of Y to SpecXP. This is shown in (32).

- (32) [_{XP}Y_i X t_i
 iF ~~uF~~
 ~~uK~~ ~~EPP~~

The existence of successive cyclic movement has forced Chomsky to complicate the feature-checking system by adopting the concept of defective heads, which are defective with respect to feature checking in that they are unable to check off the feature of the goal that has made the goal visible for agreement and movement to the head in question. (33) illustrates what happens when Y moves to a defective head: its uK feature does not get deleted.

- (33) [_{XP}Y_i X t_i
 iF ~~uF~~
 uK ~~EPP~~

Actual illustrations of this with respect to wh-movement are given below: on Chomsky's account, the embedded C in both (34) and (35) undergoes feature checking with *what*, which moves to its Spec. The difference is that the embedded C in (34) isn't, and the embedded C in (35) is, a defective head. Consequently, only the C in (34) checks off the uninterpretable feature of *what*, freezing it for further wh-movement. Since the embedded C in (35) is defective, it cannot check off the uninterpretable feature of *what*, which can then move to another SpecCP.²³

- (34) I wonder what_i C Mary bought t_i.
 iwh ~~uwh~~
 ~~uOp~~ ~~EPP~~

- (35) a. What_i do you think [_{CP} t_i that Mary bought t_i]
 b. You think [_{CP} what_i that Mary bought t_i]
 iwh ~~uwh~~
 uOp ~~EPP~~

²³I am slightly modifying the actual features (the modification is from Bošković (2005)), anticipating the discussion below, where I discuss these feature specifications (C/*that* may also have the Op feature).

As noted in Bošković (in press a), who uses this point to argue against the feature-checking analysis of successive cyclic movement, under non-feature checking approaches to successive cyclic movement, such as that of Bošković (in press a), it is not necessary to stipulate the defectiveness of intermediate heads with respect to feature checking since such heads are not involved in feature-checking relations in the first place. In other words, if there is no feature checking with intermediate heads during successive cyclic movement, we do not need to assume that some heads are defective in that they are unable to check off the uninterpretable feature that has made their goal visible for agreement with, and movement to, the head in question. We can then make the process of feature checking completely uniform in that all probes delete the uninterpretable feature of the goal that has made the goal active for entering into a relation with the probe; the concept of heads that are defective with respect to feature checking in the relevant sense being eliminable.

If there are no defective heads, we can explain why there are no cases where after moving to SpecCP and undergoing agreement with the C, a wh-phrase moves to another SpecCP. That is, we explain the freezing effect agreement with a C has on wh-phrases. If a wh-phrase moves to SpecCP and undergoes agreement even with an intermediate C like *that*, its uK feature that makes it active for wh-movement will be erased, freezing it in SpecCP. (More generally, if there are no defective heads, any probing for a uK will delete the uK, which deduces (30).) In other words, a wh-phrase can never move out of the Spec of a C like *that* if it undergoes agreement with it. There are then two options to get a legitimate long-distance wh-structure: (a) reanalyzing long-distance wh-dependencies as a series of local wh-dependencies, where the declarative C undergoes agreement with the element in its Spec, freezing it in place; (b) a wh-phrase moves to the Spec of *that* without undergoing agreement with *that*, the movement being driven by the considerations from section 1. Kinande takes option (a) in the examples discussed in the previous section and English option (b). I leave open the precise mechanism behind this crosslinguistic variation. It is, however, worth noting that a combination of these options may explain the existence of languages like Russian, which disallows long-distance wh-dependencies. Apparently, declarative C in the Kinande examples discussed in the previous section agrees with the element in its Spec. Suppose this also holds quite generally for Russian declarative C. However, suppose that, as in English, the option of reanalyzing long-distance wh-dependencies as a series of local wh-dependencies is unavailable in Russian. The result of this is that Russian would disallow long-distance wh-dependencies, which is indeed a characteristic of Russian.

The above account should be generalized. It is not only that a wh-movement (i.e. feature-checking movement to SpecCP) cannot feed another wh-movement. As shown in Bošković (2005) (see also Bošković, 1997b; Epstein, 1992; Müller and Sternefeld, 1993; Rizzi, 2004), no instance of A'-movement can feed another instance of A'-movement. I examine potential interaction between wh-movement, topicalization, focalization, quantifier raising, NPI-licensing movement, and show that these movements cannot feed each other. I will summarize here a few arguments to this effect.

Lasnik and Uriagereka (1988) (see also Epstein (1992)) observe that although it is standardly assumed QR is clause bounded, many speakers allow *every problem* to have wide scope in (36a). Significantly, even for them, *every problem* cannot have wide scope in (36b).

- (36) a. Someone thinks that Mary solved every problem.
 b. Someone thinks that every problem, Mary solved.

Assuming QR, *every problem* would scope over *someone* in (36a) as a result of QR into the matrix clause. Given this, (36b) indicates that topicalization cannot feed QR.

Consider now (37a-b), noted by Lasnik and Uriagereka (1988) (see also Epstein (1992)).

- (37) a. I don't think that Mary solved any problems.
 b. *I don't think that any problems, Mary solved.

It is often assumed that negative polarity items (NPIs) like *any* must move to the licensing negation. Given this, the contrast in (37) can be accounted for in the same way as the contrast in (36): since topicalization cannot feed the NPI licensing movement the NPI in (37b) is not allowed to undergo covert movement to the matrix negation. The problem does not arise in (37a).

Another relevant case involves the well-known ban on topicalizing wh-phrases.²⁴

- (38) *Who thinks that which problem, Mary hates.

Assuming English has covert wh-movement, (38) shows that topicalization cannot feed wh-movement.

Grohmann (2003) provides another relevant case. He argues that wh-movement cannot feed topicalization based on (39), where *who* undergoes topicalization after wh-movement to SpecCP, with the comma intonation indicating a pause typically associated with topicalization.²⁵

- (39) *Who, does Mary detest?

Bošković (2005) provides evidence that focus movement cannot feed wh-movement based on multiple wh-fronting (MWF). It is well-known that MWF languages differ with respect to whether they show Superiority effects (fixed ordering of wh-phrases). Bošković (2002b) shows that whether or not a MWF language shows Superiority effects depends on whether or not it has wh-movement (movement to SpecCP motivated by checking a +wh-feature). Thus,

²⁴I am intentionally using a D-linked wh-phrase here. It is possible that non-D-linked wh-phrases are banned from undergoing topicalization due to an information conflict: they stand for purely new information, while topicalization typically affects elements denoting old information. The problem should not arise with D-linked wh-phrases, given that with D-linked wh-phrases, the range of felicitous answers is limited by a set of objects familiar to the speaker and the hearer as a result of it being referred to in the discourse or salient in the context. The range of reference of D-linked wh-phrases is thus discourse given. Bošković (2002b) in fact shows that due to their "discourse givenness", D-linked wh-phrases are banned from undergoing focus movement in languages that have focus movement of wh-phrases.

²⁵The reader should assume a D-linked reading for *who* (see fn. 24). Note that examples like *To Peter, what should Mary give* indicate that the landing site of topicalization precedes SpecCP in matrix clauses.

Bulgarian has *wh*-movement, hence it shows Superiority effects, but Russian does not have it, hence it doesn't show Superiority effects. Serbo-Croatian (SC) is more complicated: it shows Superiority effects only in the contexts where French must have *wh*-movement. I argue this indicates SC has *wh*-movement when French has it, hence it shows Superiority effects in those contexts. Why do all *wh*-phrases have to front in MWF languages? I argue the reason for this is focalization, i.e. movement in question involves focalization. One of my arguments to this effect is that D-linked *wh*-phrases do not undergo this movement. This is expected—given the semantics of D-linked *wh*-phrases, they should not undergo focus movement (see fn. 24). I also show in Bošković (1999) that due to its formal properties, focus movement does not show Superiority effects. Consider now the landing site of focus movement in SC. It is rather easy to show (see Bošković' 2002b; Rudin, 1988) that fronted *wh*-phrases in SC can stay below CP—in fact, this has to be the case for all fronted *wh*-phrases in the contexts where SC does not have *wh*-movement. In other words, SC *wh*-phrases can be licensed for focus in a position below C. I show C can also license SC *wh*-phrases for focus. This happens in the context where *wh*-movement takes place: It turns out that in such examples all fronted *wh*-phrases move to SpecCP (SC behaves like Bulgarian in this context; compare in this respect (26), a context which involves *wh*-movement, with (21c-d), which doesn't): one of them undergoes *wh*-movement and the rest of them undergo focus movement, getting licensed for focus by C. Here's the interesting thing: Although in principle SC *wh*-phrases can get licensed for focus in a position below C, this option is unavailable in the contexts where SC must have *wh*-movement. (If it were, SC would not show Superiority effects in these contexts [and it does show them]. Since focus movement is not sensitive to Superiority, *wh*-phrases could be freely ordered in the lower focus position, which means that any *wh*-phrase could then undergo *wh*-movement.) Why is this so? Since the contexts in question involve *wh*-movement, if the *wh*-phrases were to move to get licensed for focus in a position lower than C, then one of them would have to undergo *wh*-movement from this position. In other words, we would have here focus movement feeding *wh*-movement, which is apparently disallowed.

I refer the reader to Bošković (2005) (and references therein) for additional arguments that A'-movements like *wh*-movement, focus movement, topicalization, QR and the NPI movement cannot feed each other. I also show that this state of affairs follows from the AC (which, recall, is itself a theorem), given a modification of Chomsky's (2000) feature-checking system for A'-movement.

Chomsky suggests an account on which *wh*-movement conforms to the general schema in (31). In particular, he instantiates it for *wh*-movement as shown in (40).

- (40) a. I wonder what John bought.
 b. C John bought what
 u.Q i.Q
 EPP u.Wh

In Bošković (2005) I propose a modification of this account.²⁶ The *wh*-feature was standardly

²⁶The following discussion is couched within Chomsky's (2000) feature-checking system since I adopt this system in Bošković (2005). However, it can be easily extended to Bošković's (in press a) system, as we will see below.

taken before Chomsky (2000) to be the specific feature involved in the wh-C/wh-phrase checking relation, with both of these elements bearing the feature. Let us keep this assumption. What could Q then be? I take Q to be a more general, operator-type feature, shared by elements undergoing operator-style (A'-) movements. Accordingly, I refer to it as Op. In Chomsky's (2000) system, one feature should be shared by both elements involved in a checking relation, the feature in question being uninterpretable on the target and interpretable on the lower element. In accordance with the AC, the lower element also has a different uninterpretable feature, which makes it visible for movement and which is checked off as a reflex of the primary checking relation between the target and the lower element.²⁷ Focusing now on the wh-C/wh-phrase checking relation, it seems natural to assume that it is the more specific wh-feature that is involved in the primary checking relation rather than the more general Op-feature. Recall that in Chomsky's system, the target is specified only for the feature involved in the primary checking relation. The way to specify the target as a wh-head is then to assume that the wh-feature is involved in the primary checking feature. (Taking the Op-feature to be involved in the primary feature checking would imply treating the target of wh-movement as a general operator head rather than a more specific wh-head.) The more general Op-feature will then be what makes the wh-phrase visible for movement. The feature is checked off as a reflex of the wh-checking relation between the C and the wh-phrase. (41) then shows the relevant properties of a wh-C and a wh-phrase involved in C/wh-phrase feature-checking/wh-movement in English.

- (41) C wh-phrase
 u.Wh i.Wh
 EPP u.Op

The wh-feature checking relation in (41) is preserved from Chomsky (1995). The more general Op-feature is the innovation of the AC-based Chomsky's (2000) system.²⁸ When the wh-phrase in (41) undergoes wh-movement its Op-feature is checked off by the C. Given the AC, the wh-phrase then cannot undergo another wh-movement. As discussed above, this means the possibility of a wh-phrase undergoing wh-movement from a feature-checking SpecCP is blocked. The blocking effect can now be easily made more general. In the system under consideration, it is natural to assume that it is the Op-feature that makes a phrase visible for an operator-style (i.e. A'-) movement. This means that once a phrase undergoes A'-movement, its Op-feature will be deleted, as a result of which the phrase will not be able to undergo another A'-movement, given the AC. The possibility of A'-movement feeding another A'-movement is then blocked.

Where are we then? We have seen that X can probe for feature K only once. This, e.g., means that a phrase can only undergo one instance of feature checking wh-movement, and the same holds for other instances of movement. We have seen that the situation is more general when it comes to A'-movement. It's not only the case that an instance of wh-movement (i.e. feature checking movement to SpecCP) cannot feed another instance of wh-movement, in fact

²⁷The uninterpretable feature in question does not disappear before the relevant movement takes place; see Chomsky (1999, 2000) for details of the analysis.

²⁸If there is no "reflex" feature checking (see fn.4), C would also have the Op feature.

no instance of A'-movement can feed another instance of A'-movement. We then have (42) in Bošković's (in press a) system (more theory neutral, X undergoes A/A' feature checking movement only once).

(42) X undergoes A/A' feature checking as a probe only once.

We have seen that, like the original generalization, the broader generalization in (42) also follows from the AC. Given the current state of affairs, we have come pretty close to saying that no instance of feature-checking movement can feed another instance of feature-checking movement. The only feeding relation still allowed involves an instance of feature checking A-movement feeding an instance of feature checking A'-movement. There are in fact reasons to believe that even this possibility should be blocked, in which case we can broaden (42) as follows within Bošković's (in press a) system (more theory neutral, X undergoes feature-checking movement only once).²⁹

(43) X probes only once (i.e. X undergoes feature checking as a probe only once).

Consider (44)-(45) from West Ulster English (WUE), which allows Q-float under wh-movement.

(44) Who_i was arrested all t_i in Duke Street?

(45) *They_i were arrested all t_i last night. (McCloskey 2000)

Although WUE allows (44) it behaves like Standard English in that it disallows (45). McCloskey argues *who* in (44) must move to SpecCP without moving to SpecIP, the reasoning behind the claim being that if *who* were to move to SpecIP in (44), it would be impossible to account for the contrast between (44) and (45). In other words, whatever rules out movement to SpecIP from the position adjacent to *all* in (45) should also rule it out in (44). McCloskey's reasoning seems sound. What (44)-(45) show is that what is standardly assumed to happen in subject wh-questions, the subject moves to SpecIP and then it moves to SpecCP, actually does not happen: the subject moves directly to SpecCP, without ever moving to SpecIP. Why don't we get the 'standard' derivation? Notice that on the standard derivation (44) would involve a feature-checking A-movement feeding a feature-checking A'-

²⁹A similar claim is made in Rizzi (2004). However, his treatment of the claim is quite different from the one developed below. For another approach that bans A-A' feeding in a system quite different from the one adopted here, see Chomsky's (in press), who argues for the existence of parallel movement, which is not adopted here. (Note that Chomsky does not ban A'-A' feeding. It is also worth noting that not all instances of illegitimate A-A' feeding discussed below can be captured by assuming parallel movement (regarding parallel movement, see also Bošković, 2006; Hiraiwa, 2005). This, e.g., holds for the Italian and the Kinande agreement data discussed below (see (48) regarding Kinande). Under the parallel movement analysis, on which traditional A-A' feeding structures are reanalyzed as involving two parallel movements, one to an A-, and one to an A'-position, the agreeing element would still be located in SpecIP/SpecvP in the Kinande constructions and SpecIP in the Italian constructions discussed below, leaving the impossibility of the regular SpecIP/SpecvP agreement pattern in the constructions in question unaccounted for.)

movement. In other words, it would violate (43). (In Bošković's (in press a) system, *who* would be a probe in both cases, probing C and I from SpecCP/SpecIP respectively.) I then take the WUE data under consideration to provide evidence for the generalization in (43).

Consider now Icelandic (46), taken from Holmberg and Hróarsdóttir (2003).

- (46) a. Það virðist/*virðast einhverjum manni [hestarnir vera seinir]
 EXPL seems/seem some man.DAT the-horses.NOM be slow
 'It seems to some man that the horses are slow.'
- b. Mér virðast t_{NP} [hestarnir vera seinir]
 me.DAT seem.PL the-horses.NOM be slow
- c. Hvaða manni veist þú að virðist/*virðast t_{wh} [hestarnir vera seinir]
 which man.DAT know you that seems/seem the-horses be slow
 'To which man do you know that the horses seem to be slow?'

(46a) shows lexical experiencers block agreement with a lower nominative NP (the verb must have the default 3sg. form). An NP-trace does not induce a blocking effect, as (46b) shows. Holmberg and Hróarsdóttir (2003) interpret (46c) as indicating that a wh-trace does induce a blocking effect. Notice, however, that if the experiencer in (46c) were to move to SpecIP before undergoing wh-movement, the intervening element would be an NP-trace. (46c) should then pattern with (46b). To account for (46c), Holmberg and Hróarsdóttir (2003) suggests the wh-phrase does not, in fact, cannot undergo movement to SpecIP in (46c). Rather, it *must* move directly to SpecCP, hence the blocking effect. (The intervening trace is then a wh-trace.) The Icelandic data thus also provide evidence for the ban on A-A' movement feeding (see Bošković 2006 for more evidence to this effect), i.e. the generalization in (43).

The well-known fact (see Rizzi (1990) and references therein) that subject wh-extraction in Italian proceeds from the postverbal subject position rather than SpecIP, as indicated, e.g., by the fact that wh-moved subjects are incompatible with the inflectional clitic and the agreement pattern employed by subjects in SpecIP in some dialects of Italian (they pattern in the relevant respects with postverbal subjects), provides additional evidence for the ban on A-A' movement feeding and the generalization in (43).

There are two questions to answer now. There is the narrower question of how the usual requirement that the SpecIP position be filled in English is satisfied in (44), given that the wh-phrase never moves to SpecIP (and English does not have null expletives). Then, there is the more general question: does (43) follow from anything?

Let us consider the first question within Bošković's (in press a) system (for alternatives, see Bošković, 2004a; McCloskey, 2000). Recall that Bošković (in press a) dispenses with the EPP: there is no requirement that SpecIP be filled in English or any language. Rather, EPP effects follow from Case considerations. Thus, *John* in (47) has an uninterpretable Case feature to be checked.

- (47) [_{VP} John left]

Since uK must be a probe, i.e. it can be checked only if the element bearing it c-commands the checker, *John* must move to a position c-commanding the Case-checker (I). Given Shortest

Move, *John* moves to the closest position c-commanding I, namely SpecIP.³⁰ In principle, *John* could move to SpecCP instead of SpecIP. Both movements would result in the checking of all relevant features. That is, they are both in principle possible. Given Shortest Move, which favors the shortest movement possible, the movement to SpecIP derivation is preferred. Consider now (44). If *who* moves to SpecIP, its uCase will be checked. However, given (43), its uOp-feature (see fn. 12) will never get checked since *who* will be prevented from moving to a position c-commanding C. This derivation therefore crashes. The derivation is then irrelevant for economy comparison, including Shortest Move, which compares only possible derivations. Notice now that if, instead of SpecIP, *who* moves to SpecCP, from this position *who* can probe both C and I, checking both its Case and Op-feature. The movement to SpecCP derivation is then the only possibility (the Italian and Icelandic data discussed above can be handled in the same way).

In this respect, it is worth noting here that a language like Kinande, where the canonical subject and object agreement are impossible when the subject and object undergo wh-movement (see Schneider-Zioga 1995; I illustrate the pattern, which holds for both short-distance and long-distance agreeing C questions (which is what we are concerned with here), with respect to object extraction in (48)), can be straightforwardly captured in the current system if we make the natural assumption that the canonical subject and object agreement are triggered in Kinande when the subject and object probe I and v from SpecIP and SpecvP respectively. (Note that the object precedes the agreement marker in (48a), suggesting overt movement to SpecvP; see Schneider-Zioga (1995).³¹)

³⁰One argument Bošković (in press a) gives for this system concerns examples like (i).

(i) *I know what John conjectured.

As discussed in Bošković (1997a), *conjecture* is not a Case assigner (cf. **John conjectured something/it*). A question, however, arises why *know* cannot Case-license *what*, given that *know* clearly has the ability to do that. (i) presents a rather serious problem for Chomsky's (1999; 2000) system. It appears that nothing prevents establishment of a probe-goal relation between the matrix v and *what*, which should result in the Case-licensing of *what*. From the current perspective, (i) is straightforward: the derivation in question is blocked because *what* with its uCase feature must function as a probe, i.e. it must c-command the matrix v. The only way this can be accomplished is if *what* moves to the matrix SpecvP. However, this derivation is ruled out because *who* is located outside of its scope (embedded CP), which is disallowed (see Saito 1992). Examples like (i) thus provide evidence that Case cannot be licensed in situ without movement to the Case licenser. As discussed above, if this were allowed, it does not seem to be possible to account for (i) (see Bošković (in press a) for discussion of cases (including those involving postverbal nominatives) where Case movement was previously assumed not to take place).

³¹Interestingly, the object agreement marker does not occur in simple transitives. This difference between simple transitive and double object constructions may be capturable in the systems developed in Bošković (2002a; in press a), both of which require object shift for structural accusative, but not for inherent accusative (due to its correlation with θ -marking, the latter would not be a uK). Since the accusative NP in simple transitive but not ECM constructions bears a θ -relation to the Case-marking verb, the accusative Case in ECM constructions must be structural while the accusative in simple transitives can be inherent, in which case it would be licensed in situ under θ -role assignment. Given this, if we assume that transitive accusative is an inherent Case in Kinande and adopt Kayne's (1984) small clause analysis of double object constructions, on which the first object must be ECM-ed (see Bošković (1997a:209) and references therein), we can account for the different behavior of double object and simple transitive constructions regarding the occurrence of the object agreement marker under the

- (48) a. [IP Yosefu [I' a-ka-ha EBIkEnE_j Byo_j Marya]]
 Joseph agr-tense-give yams(cl.8) agr(cl.8) Mary(cl.1)
 'Joseph is giving the yams to Mary'
- b. [CP EBIh_j [C' Byo_j [IP Yosefu akaha t_j Marya]]
 what(cl.8) wh-agr(cl.8) Joseph gives Mary
 'What is Joseph giving to Mary?'
- c. *[CP EBIh_j [C' Byo_j [IP Yosefu akaha t_j Byo_j Marya]]
 what(cl.8) wh-agr(cl.8) Joseph gives agr(cl.8) Mary
 'What is Joseph giving to Mary?'

Since under the current analysis a subject and object undergoing wh-movement in examples like *who left* or (48b) probe both C and I/v from SpecCP, it follows that the canonical subject and object agreement cannot co-occur with wh-movement of the elements in question.³²

The above analysis has many consequences I can only briefly touch upon here. E.g., under the current analysis in long-distance examples like (49) *who* would probe both the matrix C (for the Op-feature) and the embedded I (for the Case feature) from its final position.

- (49) Who do you think likes Mary?

It follows then that intervening Case checkers whose Case feature has already been checked, like the matrix I, do not cause an intervention effect for probe-goal relations. (For another approach, see Rizzi (2004), who suggests that the embedded clause CP/IP system (i.e. the relevant part of the IP system) is truncated in this example.)³³

Another interesting case is (50), with only the relevant trace shown.

- (50)[CP Who_i do you think [CP t_i [IP seems to himself to be handsome]]

In a slight modification of the discussion of A/A'-positions from fn. 13, I assume that whether a position is to be treated as an A- or an A'-position depends on the nature of the features to be checked (that is the uninterpretable features) which the element that moves to the position in question has. Given this, both the matrix and the embedded SpecCP in (50) count as mixed A/A'-positions (sort of the way SpecDP is often treated) since *who* has a uCase and a uOp, so that Condition A can be satisfied in (50). (The fact that *who* does not check any features in the embedded SpecCP, where it moves due to considerations from section 1, does not prevent it from serving as a binder for the anaphor from this position.)

natural assumption that the marker indicates feature checking in SpecvP. (Schneider-Zioga (1995) mentions several other cases where the object agreement marker occurs, all of which seem to be amenable to an ECM analysis.)

³²The object would pass through SpecvP in (48b) due to considerations from section 1, but it would not probe v from there because of (43).

³³Regarding examples like **Who seems that it was told t that Mary could leave today*, I adopt Vukić's (2003) last resort expletive insertion, which bans expletive insertion in the context *it was told NP*. (I discuss such (and similar examples without the expletive) in more detail in work in preparation.)

The current analysis may also enable us to capture the otherwise puzzling behavior of verbs like *wager*, which, as noted in Postal (1974), can ECM a wh-trace, but not lexical NPs.

- (51) a. *John wagered Mary to be smart.
 b. Who did John wager to be smart?

In Bošković (1997a) I argued (51a) involves a locality violation. Assuming the overt object shift analysis, I argued that due to the presence of an additional VP shell with a filled Spec that occurs with this class of verbs, *Mary* cannot reach matrix SpecvP without a locality violation. As for (51b), a number of authors have tried to account for this construction by assuming that *who* somehow gets Case-licensed during successive cyclic wh-movement, an assumption that has turned out to be rather difficult to implement (see, e.g. Bošković (1997a) and Ura (1993) for relatively recent attempts to do that). From the current perspective, accounting for (51b) becomes rather straightforward: *who* probes *wager* (i.e. its v) from the matrix SpecCP. Since there is no A feature-checking movement to the matrix SpecvP in (51b), Bošković's (1997a) locality problem that arose in (51a) does not arise in (51b).³⁴

Let us finally consider the more general question of whether the broader generalization in (43) can be deduced. Recall the narrower generalizations in (30) and (42) turned out to be deducible from the AC. I will now demonstrate the same holds for the generalization in (43).

Consider the line of reasoning employed in the deduction of (30). Suppose that X must have a uK to make it visible for undergoing an instance of movement Y. Once X undergoes feature-checking movement to a Y, its uK feature will get checked off so that X can no longer undergo another Y-movement. We have been able to generalize (30) to (42) by generalizing the uK feature that is involved in A'-movement checking. Since it is the same feature of the moving element that is checked under all instances of A'-movement, once X undergoes any instance of feature-checking A'-movement, the relevant feature will get checked off, so that X will not be able to undergo another instance of A'-movement. (43) then suggests a further generalization: It is the same feature of the moving element that is checked off in all instances of movement, regardless of whether it is A- or A'-movement. This means that once X undergoes a feature-checking movement it will no longer be able to undergo another feature-checking movement: whether the movement in question is A or A' is irrelevant. The generalization in (43) is then deducible from the AC, just like the narrower generalizations in (30) and (42). However, the deduction requires changing the way we have been treating movement. We can no longer consider the specific features like uCase or uOp to be the driving force of movement since the driving force needs to be generalized. Here's what we need regarding the driving force of movement: We need a general property X which can be given to any element when it enters the structure. This general property is tied to probing: it indicates a need to function as a probe and is satisfied/deleted under successful probing.³⁵ An element A marked with X (which cannot probe in situ) would move to the edge of a phase to

³⁴An analysis along these lines may also be extendable to French *croire*-class verbs, which can also ECM a wh-trace, but not lexical NPs. Kayne's (1984) examples like *the man whom I believe has left* could also be treated this way, with *whom* probing matrix v for Case licensing.

³⁵Giving X to an element Y without uninterpretable features, which would not function as a probe, would lead to a crash. But there is always the derivation on which Y does not get X.

attempt a probing operation: if A successfully undergoes probing, its X property is deleted, freezing A in place. If A fails to probe due to the lack of a goal (which means it still has X), it will move to the Spec of a higher phase to attempt probing again. The X property is then used to drive successive cyclic movement (*instead of* uK, as in Bošković (in press a)). Another way of looking at this is as follows: Suppose that X is PF uninterpretable (after all, the property ‘I need to function as a probe’ is not a PF-related property). This means that sending an element with the X property to Spell-out would cause a PF crash. If we take Chomsky’s assumption that what is sent to Spell-out is the complement of a phase head, then in a configuration like (52), A, with X, will have to move to the Spec of the phase head B in order to avoid being sent to Spell-out, which would cause the derivation to crash.

(52) W [BP B A
 K uK
 X

Either way, successive cyclic movement works as before: crucially, as before, it does not involve feature checking with intermediate heads. When A moves to SpecWP it successfully probes W, checking off its uK feature and deleting X, which is tied to feature checking under probing.

(53) A W [BP
 ~~uK~~ K
 ~~X~~

The result of this system is that A can move to probe only once. Once A undergoes feature-checking movement, its X property will be deleted, freezing A in place. We have therefore deduced (43).

Before concluding, let me note that Natasha Fitzgibbons (p.c.) suggests an interesting alternative to the above deduction of (43). She suggests maximizing feature checking under probing to the effect that if X probes, X must check all of its uninterpretable features under probing. The A-A’ feeding relations, where X would first move to probe for uCase and then move to SpecCP to probe for uOp, are also ruled out under this approach, which means (43) is deduced. The deduction is fully consistent with the derivations discussed above. Thus, under this analysis, *who* in (44) would also move directly to SpecCP, probing for both its uCase and uOp feature from this position.

4. CONCLUSION

I have examined successive cyclic movement, arguing that Bošković’s (in press a) approach to such movement, which was modified here, is superior to the MCLP and the feature-checking approach because it doesn’t require adopting Form Chain (like the former) or feature checking in intermediate positions of successive cyclic movement (like the latter). I have also argued that there can be no feature checking in intermediate positions of successive cyclic

movement (this also holds for wh-agreement languages) because undergoing feature checking has a freezing effect: it prevents X from undergoing further movement. In other words, X can undergo feature checking under movement only once. The freezing effect has been shown to be deducible from independently needed mechanisms. The freezing effect has also led me to propose a new way of analyzing traditional A-movement feeding A'-movement derivations, which are now blocked due to the freezing effect of feature checking on movement.

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