Operator Islands, Maraudage, and the Intermediate Step Corollary

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Abstract:
Relativized Minimality and the Minimal Link Condition are conceptually related, and there is a certain amount of empirical overlap. These constraints can account for operator island effects (specifically, wh-island and topic island effects). I argue that both constraints are conceptually problematic from a minimalist point of view; furthermore, they can be shown to be empirically problematic because they cannot predict asymmetries between movement types as they show up both with the island-creating item and the long-distance-moved item.

In contrast, I suggest exploiting a consequence of the PIC-approach to CED islands developed in Müller (2010). A side effect of this approach is that intermediate movement steps of successive-cyclic movement end up in non-outermost specifiers; they precede the final movement operation triggered by regular structure-building features of a head. I call this consequence the Intermediate Step Corollary. The Intermediate Step Corollary makes a new account of operator island effects possible that does not rely on the concept of intervention: It suffices to postulate that certain types of goal features on categories (like wh-features) automatically trigger checking once they enter a suitable configuration (as they do with intermediate movement steps); this is an instantiation of a more general concept of feature maraudage. As a consequence, operator island effects are derived (as is their variable nature).

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1. Introduction

Standardly, operator islands (i.e., A-bar islands, particularly *wh*-islands and topic islands) are accounted for by an intervention-based constraint like Relativized Minimality (RM; Rizzi (1990)) or the Minimal Link Condition (MLC; Fanselow (1991), Ferguson & Groat (1994), Chomsky (2001)). The goal of this paper is to present a new account of the selective nature of operator islands that does not employ the concept of intervention but is based on an independently motivated concept of *feature maraudage* as it is argued for in Georgi, Heck & Müller (2009). Thus, I suggest that *wh*-islands and topic islands do not instantiate an intervention effect; and neither does the operator block an escape hatch (cf. Chomsky (1977; 1986)). Rather, the item that is to be long-distance moved marauds the set of A-bar-related features on C *before* C can attract a *wh*-phrase or topic that would erect the island. The option for such a maraudage arises under an approach in which intermediate steps of successive-cyclic movement do not target the outermost specifier of C. As a matter of fact, it turns out that this follows from the theory of CED effects in Müller (2010). I will refer to it as the *Intermediate Step Corollary*: Intermediate movement steps to specifiers of X must take place before a final specifier is merged in XP.[1]

2. Background

2.1 Wh-Islands: The Problem

A typical *wh*-island effect is illustrated in (1), with (1-b) (adjunct movement) strongly ungrammatical and (1-a) (argument movement) somewhat improved.

(1) a.?*[$_{DP_1}$ Which book] do you wonder [$_{CP}$ [$_{PP_2}$ to whom] John gave t_1 t_2] ?
b. *How$_1$ does she know [$_{CP}$ [$_{DP_2}$ which car] Mary fixed t_2 t_1] ?

According to Relativized Minimality, (1-ab) can be classified as ill formed because movement of XP_1 crosses an intervening XP_2 that occupies a position of the same structural type (A-bar). The MLC can account for *wh*-island effects if it is assumed that the *wh*-item in the embedded SpecC position (i.e., the position that creates the island) still has a feature [wh] that may block attraction of the lower *wh*-phrase by the matrix interrogative C head even though this feature has been checked in the final landing site. Still, there are potential problems with these intervention-based RM/MLC analyses. As has been pointed out by Chomsky (1995), there is no reason to limit the number of specifiers of a head to one. Given the Phase Impenetrability Condition (PIC) (see Chomsky (2001)) according to which only specifiers and the head of a phase are accessible to operations outside the phase, successive-cyclic movement must systematically be able to target specifiers of phase heads, even if there is already another specifier around. Then, under a multiple specifier/PIC approach, there is no obvious reason why an intermediate movement step of a *wh*-phrase to an outer specifier of an interrogative C (with another *wh*-phrase acting as an inner specifier) should be blocked: The former *wh*-phrase that is on its way out of the CP does not want to see a [wh] feature (yet); it just wants to see what all items want to see that leave the clause, viz., an edge feature (see Chomsky (2001)). Thus, given a standard PIC-based approach that recognizes multiple specifiers, there is a priori every reason to assume that intermediate

[1] In Müller (2010, 45), this consequence is considered "somewhat unusual but entirely unproblematic"; but no further evidence is given there. To the extent that the present approach is successful, it can thus be viewed as providing independent evidence for the approach to CED effects developed there.

steps of XP_1 can be established to an outer SpecC position; but this suffices to undermine RM/MLC-type accounts. As a matter of fact, exactly this type of derivation is usually postulated for the vP domain: Given the PIC, simple cases of local successive-cyclic movement will have to proceed via an additional Specv in the presence of some other Specv item (an external argument) as long as the verb is not unaccusative or passivized; the standard analysis of clause-bound *wh*-movement looks as in (2-ab) (for English and German, respectively).

(2) a. (I wonder) $[_{CP}$ what$_1$ C $[_{TP}$ she$_2$ T $[_{vP}$ t$'_1$ $[_{v'}$ t$_2$ said-v $[_{VP}$ t$_V$ t$_1$]]]]]
b. (Ich frage mich) $[_{CP}$ was$_1$ C $[_{TP}$ $[_{vP}$ t$'_1$ $[_{v'}$ Fritz $[_{VP}$ t$_1$ t$_V$] denkt-v]] T]]
I wonder what Fritz thinks

It seems that the only way to permit a second specifier for successive-cyclic movement in (2) and at the same time prohibit a second specifier in (1) would be to resort to an ad hoc solution: One could stipulate that an edge feature (driving an intermediate movement step) can be inserted on v even if v takes another specifier, but cannot be inserted on an interrogative C. This would then make it possible to derive *wh*-island effects under both an MLC and a RM account. Still, there would be conceptual problems with such an approach (see Müller (2009, ch. 2) for more detailed discussion): First, MLC/RM approaches typically require additional concepts like equidistance, which are arguably not compatible with basic minimalist tenets. And second, MLC/RM approaches (at least in their standard formulations) require massive search space in derivations (since both approaches rely on a structural correlation of (i) the attracting head and (ii) at least two competing items among which the minimality condition chooses). However, in a strictly local derivational approach, search space should be minimized (this conception underlies the notion of a phase). From this perspective, something is inherently wrong with the very idea of intervention as a primitive concept of grammar, and there is every reason to look for a structure-based, systematic approach to operator islands that does not rely on this concept. This is what I will do in what follows, on the basis of the approach to CED effects in Müller (2010), whose essentials are laid out in the next section.[2]

3. An Approach to CED Effects

The basic question addressed in Müller (2010) is how the effects of the Condition on Extraction Domain (CED; Huang (1982), Chomsky (1986; 1995; 2008), Manzini (1992)) be made to follow in the minimalist program, and the main claim is that they can be derived from the PIC in (3) (Chomsky (2000; 2001; 2008)).[3]

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[2] There are predecesors to the non-intervention based account to be developed here. The Tree Adjoining Grammar approach to *wh*-islands developed in Kroch (1989) and Frank (2002) is a structural analysis that does not rely on the idea of intervention (also see Unger (2010, 71) for a computational-minimalist approach incorporating similar ideas). The optimality-theoretic approach to *wh*-islands in Legendre, Smolensky & Wilson (1998) is another structural analysis that does not rely on the idea of intervention. Thus, structural accounts of *wh*-island effects that do not rely on intervention are available, but it should be clear without further discussion that they are not compatible with standard minimalist assumptions (most prominently, the Strict Cycle Condition and the absence of transderivational competition), due to the different premisses of the syntactic models employed. Furthermore, there are non-structural semantic/pragmatic analyses of certain islands (incl. operator islands); see Szabolcsi & Zwarts (1993), Szabolcsi & den Dikken (2003) on certain kinds of weak (operator-induced) islands, Beck (1997) and Kim (2002) on intervention effects induced by quantifiers or focussed items, and Truswell (2007) on exceptions to the Adjunct Condition that seem to be semantically conditioned.

[3] The background assumption here is that the CED itself is not compatible with basic minimalist tenets, and that existing minimalist attempts at deriving the CED cannot be viewed as fully successful. See Müller (2009, ch. 2) for extensive discussion.

(3) *Phase Impenetrability Condition* (PIC):
The domain of a head X of a phase XP is not accessible to operations outside XP; only X and its edge are accessible to such operations (where edge of X = specifier(s) of X).

The PIC forces successive-cyclic movement via phase edges; such movement is possible because edge features that drive it can be inserted. Under which circumstances can edge features be inserted on phase heads? There are various possibilities. One is that edge features basically come for free (see, e.g., Chomsky (2008)). This will invariably lead to massive overgeneration in the syntax, which must then be filtered out at the interfaces. An alternative is to assume that edge features can only be inserted when the phase head is not "active" anymore, i.e., the phase is otherwise complete (Chomsky (2000, 109), Chomsky (2001, 34)). A third, contrary possibility is that edge features can only be inserted as long as the phase head is still "active", i.e., the phase is not yet complete. Suppose this last option is correct; it can be spelled out as in (4), which I will refer to as the Edge Feature Condition (EFC).

(4) *Edge Feature Condition* (EFC):
An edge feature [•X•] can be assigned to the head γ of a phase only if (a) and (b) hold:
a. γ has not yet discharged all its structure-building or probe features.
b. [•X•] ends up on top of γ's list of structure-building features.

(4) presupposes that the syntactic operations Merge and Agree are driven by structure-building features ([•F•], which represents both subcategorization features for external Merge and designated "criterial" features for internal Merge, with category-neutral pure edge features – [•X•] – as a special case) and probe features ([∗F∗]) respectively, and that these features are ordered in stacks on lexical items; for concreteness, [•F_1•] $\succ$ [•F_2•] indicates that [•F_1•] is on top of [•F_2•] on a list of structure-building features. This is expressed by an economy condition, viz., the Last Resort requirement in (5). (By assumption, feature discharge deletes the feature that has triggered the operation, so the next-lower feature becomes accessible.)

(5) *Last Resort* (LR):
a. Every syntactic operation must discharge (and delete) either [•F•] or [∗F∗].
b. Only features on the top of a feature list are accessible.

As shown in Müller (2010), these assumptions suffice to derive the version of the CED in (6) from the PIC.

(6) *Condition on Extraction Domain*:
a. Movement must not cross a barrier.
b. α is a barrier if the operation that has merged α in a phase Γ is the final operation in Γ.

A final issue concerns the notion of phase. If only vP and CP are phases, only last-merged specifiers of these vP and CP will be derived as barriers. As argued in Müller (2010), an empirically more adequate approach recognizes last-merged specifiers of other categories as barriers, too. Without further discussion at this point, let me thus adopt the view that *all* phases are phrases; consequently, all last-merged specifiers are barriers.[4]

Let us see how (6) can be derived. Ignoring probe features for Agree for present purposes, the reason why last-merged specifiers act as barriers is, essentially, this: Suppose that some item α has made it to the edge domain of some phase β, and β is now merged as the last operation

[4] However, it should be noted that nothing in what follows is incompatible with the view that only vP and CP are phases; the reason is that I will be exclusively concerned with CP domains.

induced by a phase head γ's structure-building features; suppose further that α eventually needs to undergo movement beyond γ because the phase head that bears the feature [•Z•] which requires successive-cyclic movement of α is not yet part of the tree created so far. The dilemma that arises at this point is that, when β (including α in its edge domain) is merged, γ's stack of structure-building features is empty – the phase head has become inert, and the EFC accordingly precludes edge feature insertion. This means that α cannot move from a β specifier to the next higher γ specifier. Assuming a non-recursive definition of phase edges (such that the specifier of a specifier of γ is not part of the edge of γ), subsequent extraction of α across the phase headed by γ will invariably violate the PIC – α is too deeply embedded in the phase γ (it is still part of an intervening phase β).

The only conceivable way out of this dilemma would be for edge feature insertion on γ to precede Merge of β (including α), so that γ is still active (because it has not yet discharged its final structure-building feature for β). However, this also does not help: Either the newly inserted edge feature lands on top of γ's stack of structure-building features; then, given LR, it is discharged again (attracting something from within the γ phase established so far) *before* β is merged. Alternatively, the edge feature is inserted below the final inherent structure-building feature; however, this violates requirement (4-b) of the EFC. The three failed attempts of establishing an edge feature ([•X•]) on γ to extract α out of a last-merged specifier β are illustrated in (7).

(7) *Last-merged specifiers as barriers*:

a. Edge feature insertion follows specifier feature discharge:

$$\begin{array}{ll} & \boxed{\gamma\text{: } [\bullet\beta\bullet]} \\ \rightarrow & \gamma\text{: } \emptyset \\ \rightarrow & \gamma\text{: } [\bullet\text{X}\bullet] \end{array} \qquad \rightsquigarrow \text{violates (4-a)}$$

b. Edge feature insertion precedes specifier feature discharge, version 1:

$$\begin{array}{ll} & \boxed{\gamma\text{: } [\bullet\beta\bullet]} \\ \rightarrow & \gamma\text{: } [\bullet\beta\bullet] \succ [\bullet\text{X}\bullet] \\ \rightarrow & \gamma\text{: } [\bullet\text{X}\bullet] \end{array} \qquad \rightsquigarrow \text{violates (4-b)}$$

c. Edge feature insertion precedes specifier feature discharge, version 2:

$$\begin{array}{ll} & \boxed{\gamma\text{: } [\bullet\beta\bullet]} \\ \rightarrow & \gamma\text{: } [\bullet\text{X}\bullet] \succ [\bullet\beta\bullet] \\ \rightarrow & \gamma\text{: } [\bullet\beta\bullet] \end{array} \qquad \rightsquigarrow \text{does not help because of (5-b)}$$

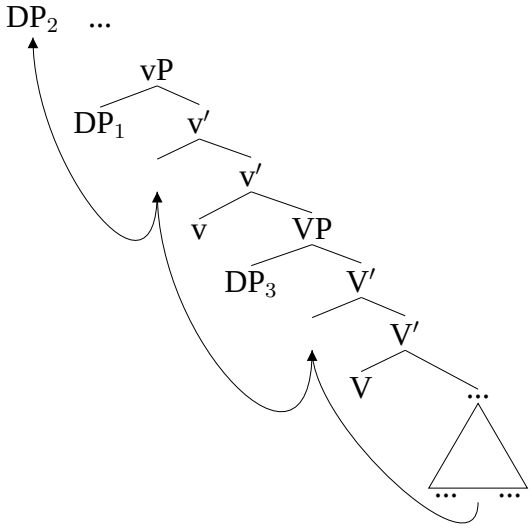
In contrast, complements do not have to be barriers. Suppose that the list of structure-building features is not yet empty when a subcategorization feature for a complement δ (including some item α in its edge domain that needs to undergo further movement) is discharged and δ enters the structure, i.e., the phase head γ still has a structure-building feature for a specifier β left at this point. In this case, an edge feature can be inserted on γ without violating the EFC, and the edge feature can attract α out of δ, to a specifier position in the edge domain of γ. As a result, the PIC will be respected on the next cycle. This is shown schematically in (8).

(8) *Non-last-merged complements as non-barriers*:
Edge feature insertion follows complement feature discharge and precedes specifier feature discharge:

$$\boxed{\begin{array}{l}\gamma\text{: } [\bullet\delta\bullet] \succ [\bullet\beta\bullet] \\ \rightarrow \gamma\text{: } [\bullet\beta\bullet] \\ \rightarrow \gamma\text{: } [\bullet\mathrm{X}\bullet] \succ [\bullet\beta\bullet] \\ \rightarrow \gamma\text{: } [\bullet\beta\bullet] \\ \rightarrow \gamma\text{: } \emptyset\end{array}} \qquad \rightsquigarrow \text{violates nothing}$$

At this point, note that because of the last-in/first-out property of the EFC/LR-based approach to edge feature insertion on phase heads, intermediate movement steps to phase edges must take place *before* a (final) specifier is merged; otherwise the phase head is not active anymore (see below on possible probes left on the phase head), edge feature insertion is blocked, and the derivation will create a PIC violation on the next cycle. This results in structures that look like (inherently acyclic) *tucking in* (see Richards (2001)) has applied; but it has not: All movement steps extend the tree. This systematic effect is illustrated for successive-cyclic movement of some DP_2 across a VP phase and a vP phase (both of which have DP specifiers) in (9).

(9) *Intermediate movement steps*:



I call this systematic effect the *Intermediate Step Corollary*; it will become relevant later.

(10) *Intermediate Step Corollary*:
Intermediate movement steps to specifiers of X (as required by the PIC) must take place before a final specifier is merged in XP.

So far, nothing has been said about non-last merged specifiers (i.e., items that are neither first-merged nor last-merged) and last-merged complements. As for the former, they are predicted not to be barriers, which seems by and large correct. As for the latter, something else needs to be said: As it stands, a last-merged complement is wrongly classified as a strict barrier if the phase head that merges it has no further feature left that might trigger an operation. However, the system identifies two types of operation-inducing features, viz., structure-building and probe features. The conclusion then is that probe features on a phase head can keep it active after Merge of a complement has applied and the stack of structure-building features is empty. This way out exists for (many, but arguably not all) last-merged complements, but it does not exist for last-merged specifiers because a probe feature on a phase head cannot be discharged anymore after a specifier has been merged: Subsequent discharge of a probe feature either violates the c-command condition on Agree (if the probe feature carries out Agree with a specifier or some item within a specifier – note that such a requirement does not hold for structure-building features), or it violates the Strict Cycle Condition (SCC) (if the probe feature

carries out Agree with the complement or some item within the complement), given that the SCC states that "within the current domain α, a syntactic operation may not exclusively apply to positions that are included within another domain β that is dominated by α" (Chomsky (1973)).

With all this as background, let me return to the prediction of the PIC-based account developed in Müller (2010) that is most relevant to our present concerns: The Intermediate Step Corollary states that an intermediate movement step to the edge domain of a phase (from the edge domain of either a complement or a non-last merged specifier of the phase head) must take place before a final specifier is merged with the phase head. If there is no other specifier that would come into existence by virtue of the phase head's structure-building features, an intermediate movement step creating a non-last merged specifier is unproblematic, assuming the existence of a probe feature on the phase head that keeps it active, and thus accessible for edge feature insertion. However, this latter state of affairs does not arise with operator islands, where a C phase head has a structure-building feature generating a designated specifier, via internal Merge. Here, given the Intermediate Step Corollary, the item α that carries out an intermediate step must be merged before the item β that satisfies the structure-building (movement-inducing) inherent feature of the C head; α reaches the C domain first. Given the concept of maraudage introduced in the next section, this may have drastic consequences.

4. Maraudage

Georgi, Heck & Müller (2009) propose the concept of feature maraudage in (11).

(11) *Maraudage*:
Certain goal features of Agree or Merge operations (among them [person] and [animate]) are checked if the structural conditions for checking are met.

The pattern described by (11) is this: When a head H serves two arguments DP_1 and DP_2, it sometimes happens that the first-merged DP_1 exceeds the feature set that H provides for it. In order to satisfy its needs, DP_1 can then access features that H originally provided for DP_2. Thus, DP_1 "marauds" the feature set of DP_2.[5] A relevant phenomenon addressed in Georgi et al. (2009) in terms of maraudage is *ergative displacement* in Basque (see Béjar & Řezáč (2009)): Here, v in principle provides ϕ-features for DP_{int} (an internal argument DP) and DP_{ext} (an external argument DP); however, for DP_{int}, there is only a specification [3. pers.] available on v. DP_{int} is merged first (before DP_{ext} enters the structure) and, if it is local (i.e., 1. or 2.) person, marauds v's feature set for DP_{ext}; consequently, a new person feature must be inserted on v (in minimal violation of the Inclusiveness Condition), which is spelled out by a special suffixal exponent. Another phenomenon that can insightfully be treated by assuming maraudage is that of a *global case split*, as it can be found in languages like Yurok, Umatilla Sahaptin, and Tauya (see Georgi (2010)). In global case splits, whether or not some argument of the verb is (overtly) case-marked depends not only on properties of the verb and of the argument itself, but also on properties of the remaining co-argument (see Silverstein (1976)). In Yurok, DP_{int} is accusative-marked only if it is higher on the person scale than DP_{ext} – i.e., if DP_{int} is 1. or 2. person, and DP_{ext} is 3. person. On Georgi's analysis, this is so because v expects DP_{int} to be third person (the unmarked case for internal arguments); if DP_{int} is 1./2. person, it needs additional features (given an approach to person featues as in Harley & Ritter (2002)), and consequently marauds the ϕ-features reserved for DP_{ext}. This implies that v has fewer features left for DP_{ext}; hence,

[5] Chomsky's (2001) Maximize Matching Effects is arguably similar in nature. Also compare Abels' (2003) account of anti-locality effects, which presupposes that goal features must be checked whenever a configuration that permits checking exists, even if that leads to certain options not being available that would otherwise be.

DP_{ext} can only be 3. person.

By extending the concept of feature maraudage to operator features and combining it with the order of syntactic movement operations dictated by the Intermediate Step Corollary, a new approach to operator islands becomes possible: An item α that is to undergo long-distance movement and needs to use SpecC as an intermedidate escape hatch arrives in the C domain (in virtue of an inserted edge feature) before another item β that is supposed to end up in a SpecC position (in virtue of an intrinsic structure-building feature of C); α then marauds C's operator feature, making subsequent movement of β impossible. Thus, operator island effects follow from the interaction of feature maraudage and the Intermediate Step Corollary, without recourse to a designated constraint blocking intervention (like the MLC or RM). In the next section, I will lay out this basic idea and develop it further, by incorporating a more fine-grained approach to operator features motivated by the variable nature of operator island effects with *wh*-movement and topicalization in German.

5. Wh-Islands and Topic Islands in German

5.1 An Asymmetry

Different operator movement types like *wh*-movement and topicalization have sometimes been grouped together under a single concept (like [WH]-movement, or A-bar movement; see Chomsky (1977)), but in many languages they do not exhibit a completely uniform behaviour. Operator islands in German are a case in point. As noted in Fanselow (1987) and Müller & Sternefeld (1993), *wh-islands* block *wh*-movement but not (argument) topicalization in German, whereas *topic islands* block both *wh*-movement and topicalization in German.[6] The selective nature of *wh*-islands for extraction in German is shown in (12-a) (where *wh*-movement from the *wh*-island leads to ungrammaticality) vs. (12-b) (where topicalization from the *wh*-island only creates weak deviance for many speakers).

(12) a. *Welches Radio$_1$ weißt du nicht [$_{CP}$ wie$_2$ C [$_{TP}$ man t_1 t_2 repariert]] ?
which radio know you not how one fixes
b. ?Radios$_1$ weiß ich nicht [$_{CP}$ wie$_2$ C [$_{TP}$ man t_1 t_2 repariert]]
radios know I not how one fixes

In contrast, (13) shows that topic islands (which go hand in hand with embedded verb-second movement in German) are strict for both *wh*-movement (see (13-a)) and topicalization (see (13-b)).

(13) a. *Welches Radio$_1$ glaubst du [$_{CP}$ der Maria$_2$ [$_C$ hat] [$_{TP}$ er t_2 t_1 gegeben]] ?
which book think you the Mary has he given
b. *Radios$_1$ glaube ich [$_{CP}$ der Maria$_2$ [$_C$ hat] [$_{TP}$ er t_2 t_1 gegeben]]
radios think I the Mary has he given

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[6] Similarly, Rizzi (1982) observes that *wh*-islands are (to some extent) transparent for relativization in Italian (which motivated the well-known parametrization of the Subjacency Condition), whereas they are strict for *wh*-movement; see (i-a) (relativization from *wh*-clause) vs. (i-b) (*wh*-movement from *wh*-clause).

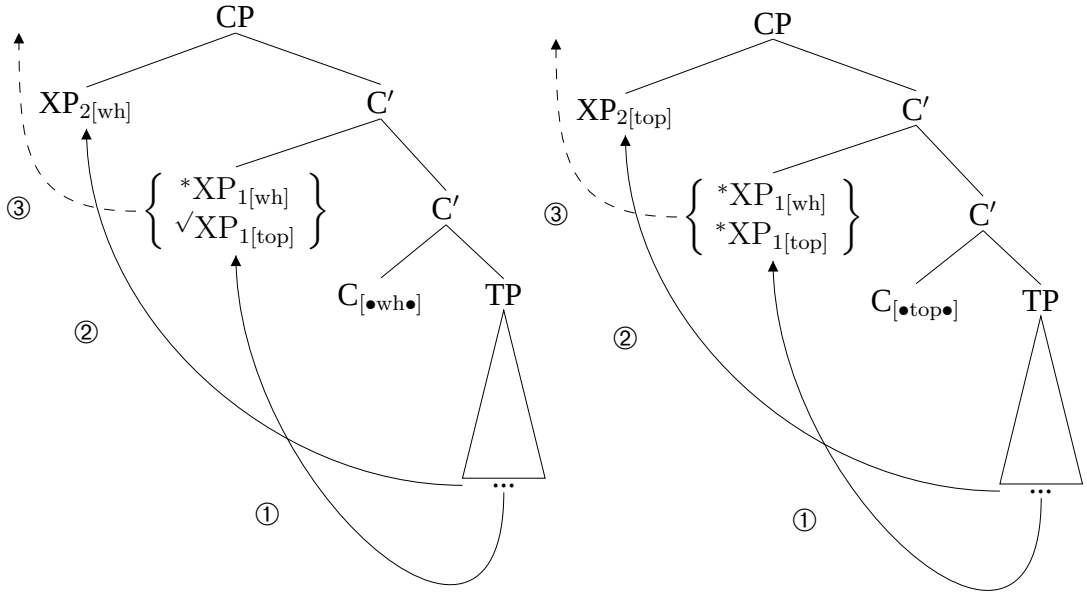
(i) a. Tuo fratello [$_{CP_3}$ [$_{PP_1}$ a cui] mi domando [$_{CP_4}$ [$_{DP_2}$ che storie] abbiano raccontato t_2 t_1]]
your brother to whom myself I ask which stories they have told
era molto preoccupato
was very worried
b. *[$_{DP_1}$ Chi] ti domandi [$_{CP_3}$ [$_{DP_2}$ chi] t_2 ha incontrato t_1] ?
who yourself you ask who has met

The fact that there is an asymmetry between movement types in (12), and no asymmetry in (13), poses problems for standard intervention-based approaches. Let me show this for Relativized Minimality (RM). A classical RM approach (like Rizzi (1990; 2001)) distinguishes three kinds of interveners: Head, A, A-bar. This would uniformly rule out all sentences in (12) and (13), given that the moved items are subject to RM.[7] A more fine-grained RM approach is developed in Rizzi (2004). Here, *argumental* features (person, number, gender, case), *quantificational* features (wh, neg, measure, focus), *modifier* features, and *topic* features are postulated that make it possible to distinguish between different kinds of A-bar intervenes (topic vs. *wh*-item, in the case at hand). On this view, a topic may cross a *wh*-moved item without violating RM because the two movement operations are sufficiently different. However, in the simplest form, this more fine-grained RM approach would wrongly predict that both (12-b) (with topicalization across a *wh*-moved item) and (13-a) (with *wh*-movement across a topicalized item) should be well formed (also see Unger (2010, 22)). Thus, it seems clear that if RM is to account for the three-out-of-four pattern in (12) and (13), further assumptions will be required.[8]

5.2 Analysis: Operator Islands as Maraudage

Given the Intermediate Step Corollary in (10), the order of rule application with extractions from a *wh*-island and from a topic island could only look as in (14-ab), respectively, with the intermediate movement step taking place prior to the one that would create the operator island.

(14) a. *Wh-island* b. *Topic island*



[7] One has to assume this to be able to account for the ill-formed cases. Note in particular that if RM is to exclude fronting of the object topic DP *Radios* ('radios$_{acc}$') in (13-b), a DP of this type (accusative object, topic) will have to be subject to RM in general, and that implies that (12-b) is wrongly predicted to be ungrammatical as well.

[8] See, for instance, Starke (2001), who builds an inherent asymmetry into his version of the RM condition, such that α may cross β if α has more (relevant) features than β, whereas α may not cross β when α has fewer (relevant) features than β. It is not inconceivable that the pattern emerging from (12) and (13) could be accounted for along these lines (given appropriate assumptions about the feature specifications of *wh*-phrases and topics); but the fact remains that a special version of RM would be needed for this, whereas the present approach dispenses in toto with a separate locality constraint blocking intervention. Furthermore, as will become clear momentarily, the present proposal tends to predict the opposite of what Starke's proposal predcits: Intervention effects can be voided if the moved item realizes a subset of the feature set associated with the (putative) intervener.

Given that the item that undergoes the intermediate movement step (step ①) reaches the domain of a C head before the item that is supposed to ultimately check [•F•] of C in this position (step ②), it may maraud C's stack of structure-building features, making regular specifier placement impossible. Thus, on this view, what can pre-theoretically be referred to as a *wh*-island or a topic island effect is ultimately due not to an actual *wh*-island or topic island, but, somewhat paradoxically, to the fact that the *wh*-island/topic island cannot be generated in the first place.

This does not yet account for the asymmetry in (12) and (13). I assume that what underlies the variation in extraction options is a variation in maraudage, which can be accounted for by postulating a more fine-grained system of A-bar related features (see Starke (2001), Rizzi (2004), and Lahne (2007), among others). For concreteness, suppose that topicalization (in German) is bare operator movement, and *wh*-movement is movement of a certain kind of operator (viz., a *wh*-operator).[9] The C heads that trigger *wh*-movement and topicalization may then be assumed to be equipped with the structure-building operator (i.e., A-bar related) features shown in (15-a) and (15-b), respectively. Accordingly, *wh*-phrases and topics are characterized by the features in (15-c) and (15-d), respectively.

(15) *Feature specifications of C, wh-phrase, and topic*:
- a. $C_{[wh]} = C_{[\bullet op, wh \bullet]}$
- b. $C_{[top]} = C_{[\bullet op \bullet]}$
- c. *wh*-phrase $= XP_{[op,wh]}$
- d. topic $= XP_{[op]}$

(16) states that these operator features, as goals on *wh*-phrases or topics, trigger maraudage of structure-building features if the context that permits it is present (i.e., after movement to SpecC, where corresponding structure-building features may be available).

(16) *Maraudage:*
Certain goal features of Agree or Merge operations (among them [op] and [wh]) are checked if the structural conditions for checking are met.

The consequence is this: When an item undergoes intermediate movement to a SpecC position, driven by edge feature insertion, it tries to get as many of its operator features ([op], [wh], ...) checked as possible, given (16). Structure-building operator features thus attach to the newly inserted [•X•], are checked with the moved item, and undergo deletion. Therefore, the situation may arise that after maraudage by the intemediately-moved item, no feature is left to trigger subsequent, regular operator movement. As shown in the next four subsections, this accounts for the very existence of operator island effects, and for their variable nature in German.

5.2.1 Wh-Movement from a Wh-Island

The first case to be considered here involves *wh*-movement from a *wh*-island, as in (12-a), which is repeated here as (17).

(17) *Welches Radio$_1$ weißt du nicht [$_{CP}$ wie$_2$ C [$_{TP}$ man t_1 t_2 repariert]] ?
which radio know you not how one fixes

Wh-phrases have the maximal number of operator features; therefore, they accomplish full maraudage in a Spec$C_{[wh]}$ position that they use as an escape hatch in a CP phase, thereby blocking

[9] The hypothesis that topicalization in German is bare operator movement (i.e., that it is underspecified) is supported by the well-established multi-functionality of this formal movement operation. As noted by Grewendorf (1989), an item that has undergone topicalization (i.e., that has undergone movement to a declarative SpecC position) may then interpreted there as a topic, as a focus, or not at all (i.e., it may be semantically reconstructed).

subsequent regular *wh*-movement. (18) shows how the embeddded C_{wh} changes throughout the derivation. After merging with TP (and thereby discharging [•T•], which drives the operation), C is equipped with the structure-building feature complex [•op, wh•] that triggers *wh*-movement (see (18-i)). At this point, edge feature insertion can apply (the head is still active because of [•op, wh•]), and it must apply so as to avoid a subsequent PIC violation with long-distance movement (see (18-ii)). Next, the *wh*-phrase that is supposed to undergo long-distance movement ($XP_{1[op,wh]}$) moves to SpecC, discharging C's newly acquired edge feature (see (18-iii)). However, since the context for checking of the *wh*-phrase's operator goal features (viz., [op, wh]) is present, maraudage takes place, and the *wh*-phrase in addition discharges [•op, wh•] on C (see (18-iv)). As a consequence, C does not have any structure-building feature whatsoever left (see (18-v)).

(18) *Wh-movement from a wh-island: complete maraudage*

(i)	C: [•op, wh•]			(→ edge feature insertion)
(ii)	C: [•X•]	≻	[•op, wh•]	(→ movement of *wh*-phrase)
(iii)	C: [•X•]	≻	[•op, wh•]	(→ edge feature discharge)
(iv)	C: [•op, wh•]			(→ further discharge: maraudage)
(v)	C: Ø			(no structure-building features left)

This means that there is now no way to get the remaining $XP_{2[op,wh]}$ (the item we would expect to create the *wh*-island) to the edge domain of the embedded CP: C is now inert. This implies two things. First, there is no intrinsic structure-building feature on C left that could attract the second *wh*-phrase. And second, further edge feature insertion is also precluded at this point: C does not have a structure-building feature left, and any probe feature that it might still have could never be discharged anymore, given the conspiracy of the c-command requirement on Agree and the Strict Cycle Condition.[10] Depending on assumptions about criterial freezing (see Rizzi (2006; 2007)), it may or may not be possible now for the *wh*-phrase that has acted as a marauder in SpecC to move on into the matrix clause (to satisfy the demands of another $C_{[wh]}$). But this would still violate a visibility requirement for the embedded *wh*-clause (since this clause is not overtly marked by some *wh*-element); cf. (19).

(19) *Welches Radio$_1$ fragst du dich [$_{CP}$ t$'_1$ (dass) [$_{TP}$ man t$_1$ wie$_2$ repariert]] ?
which radio ask you yourself that one how fixes

In any case, the prediction is that *wh*-islands are characterized by the paradoxical property that the *wh*-island itself cannot be erected. The decisive stage of the derivation is illustrated in (20): Movement step ① triggers full maraudage (②), which makes movement step ③ impossible.

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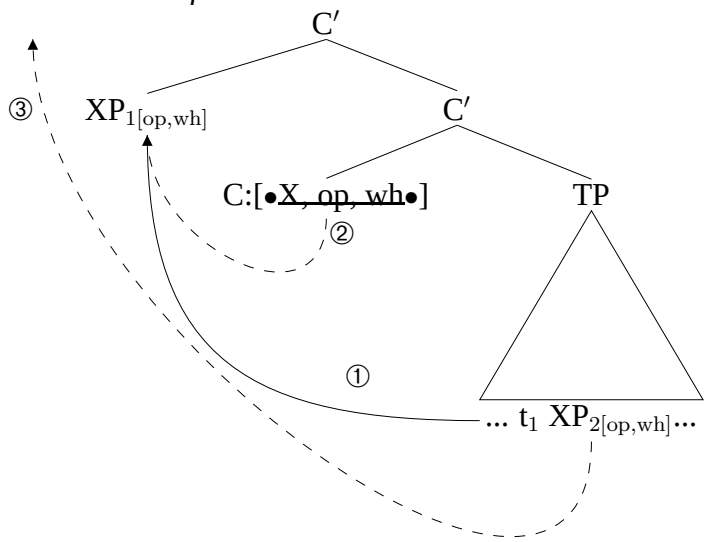
[10] At this point, a clarification may be in order. When I talk about a *wh*-phrase that "is supposed to undergo long-distance movement", or about a *wh*-phrase that "we would expect to create the *wh*-island", this is just a terminological convenience, adopted so as to enhance perspicuity of the derivation involved. There is no place in the derivation that where it would be indicated that some *wh*-phrase will have to take matrix or embedded scope in the case of an initial ambiguity (i.e., with more than one SpecC_{wh} position around). In languages that exhibit superiority effects with clause-bound movements, it may be fixed from the start which *wh*-phrase is the first to reach the embedded SpecC position (and maraud C's features there). German, in contrast, does not have clause-bound superiority effects (at least not in the contexts currently under consideration; see Müller (2004)), so it could be any of the two *wh*-phrases that moves first and triggers maraudage, thereby blocking subsequent long extraction of the remaining *wh*-phrase.

(20) *Wh-extraction from wh-island*:



5.2.2 Topicalization from a Wh-Island

Consider next topicalization from a *wh*-island, as in (12-b), which is repeated here as (21).

(21) ?Radios$_1$ weiß ich nicht [$_{CP}$ wie$_2$ C [$_{TP}$ man t$_1$ t$_2$ repariert]]
radios know I not how one fixes

Topics have fewer operator features than *wh*-phrases (just [op] as opposed to [op, wh]). Therefore, they do not accomplish full maraudage in a Spec$C_{[wh]}$ position that they use as an escape hatch in a CP phase. Consequently, subsequent regular *wh*-movement is not blocked. (22) illustrates what happens to the embedded C head in the relevant part of the derivation. Crucially, steps (22-iii)-(22-v) show that the intermediately-moved topic effects only minimal maraudage on C – [•wh•] is maintained on C and can trigger subsequent embedded *wh*-movement of the *wh*-phrase.

(22) *Topicalization from a wh-island: minor maraudage*

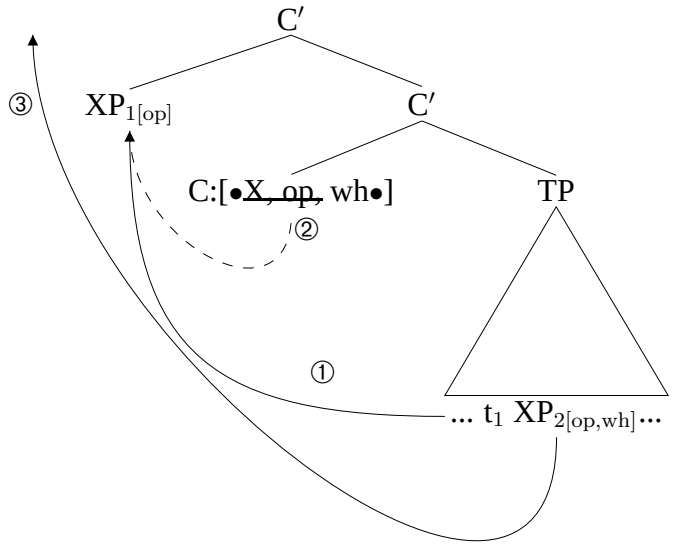
(i)	C: [•op, wh•]			(→ edge feature insertion)
(ii)	C: [•X•]	≻	[•op, wh•]	(→ movement of topic)
(iii)	C: [•X•]	≻	[•op, wh•]	(→ edge feature discharge)
(iv)	C: [•op, wh•]			(→ minimal maraudage)
(v)	C: [•wh•]			(→ movement of *wh*-phrase)
(vi)	C: [•wh•]			(→ discharge)
(vii)	C: Ø			(two items in edge domain)

Note that this reasoning implies that A-bar-related (operator) goal features can ultimately be left unchecked on items (a *wh*-phrase in the case at hand). By and large, this would seem to be an uncontroversial assumption from the perspective of the probe/goal framework devised in Chomsky (2001) and related works. Note also that maraudage by itself does not force goal features to be checked as such – it only requires them to be checked if a configuration for checking is present. Thus, leaving the [op] feature of the embedded *wh*-phrase unchecked throughout the derivation in (21) would seem to be unproblematic.[11]

[11] Still, the issue might emerge as more complex once other kinds of constructions are taken into consideration; see Georgi (2010) on A-related features. Also, one might speculate that the fact that not all operator goal features of the *wh*-phrase are affected by the embedded C head's structure-building features ([wh] is, [op] is not) can eventually be held responsible for the status of (21) as marked, i.e., mildly deviant.

The decisive stage of the derivation is shown in (23): Movement step ① triggers only minimal maraudage (②); therefore, subsequent movement (③) creating the embedded *wh*-clause is possible.

(23) *Topicalization from wh-island*:



5.2.3 Wh-Movement from a Topic Island

The next case to be considered is (13-a): *wh*-movement from a topic island. The relevant example is given again in (24).

(24) *Welches Radio$_1$ glaubst du [$_{CP}$ der Maria$_2$ [$_C$ hat] [$_{TP}$ er t$_2$ t$_1$ gegeben]] ?
which book think you the Mary has he given

Recall that *wh*-phrases are perfect marauders in Spec$C_{[wh]}$ positions. Consequently, it does not come as a surprise that they are just as successful in Spec$C_{[top]}$ positions, where C is characterized by a proper subset of structure-building features (and complete maraudage is thus easier). (25) shows how the embedded C head that is designed (via its inherent structure-building features) to trigger embedded topicalization (i.e., it is equipped with the feature [•op•]) is negatively affected by full maraudage by the *wh*-phrase whose movement is induced by the edge feature assigned to the phase head. As before, the edge feature can only be assigned as long as the C head still has some other structure-building features; thus, a derivation in which the *wh*-phrase moves after the topic will invariably violate the PIC. (25) illustrates complete maraudage of the C head, which makes movement of the topic to the embedded SpecC position impossible.

(25) *Wh-movment from a topic island: complete maraudage*
(i) C: [•op•] (→ edge feature insertion)
(ii) C: [•X•] ≻ [•op•] (→ movement of *wh*-phrase)
(iii) C: [•X•] ≻ [•op•] (→ edge feature discharge)
(iv) C: [•op•] (→ further discharge: maraudage)
(v) C: Ø (no structure-building features left)

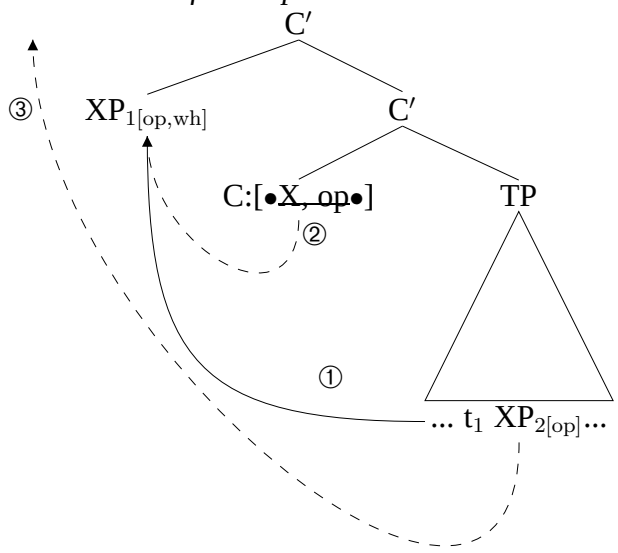
Consequently, it is correctly predicted to be impossible to move the remaining XP$_{2[op]}$ (the item that supposedly creates the topic island) to the edge domain of the embedded CP (C is now inert, which precludes further edge feature insertion). Again, depending on what one assumes about criterial freezing, the *wh*-phrase may or may not undergo further movement now. The resulting sentence would be something like (26).

(26) Welches Radio$_1$ glaubst du [$_{CP}$ t$'_1$ [$_C$ hat] [$_{TP}$ er der Maria t$_1$ gegeben]] ?
which book think you has he the Mary given

At this point, note that the standard analysis of extraction from verb-second clauses in German requires a weakening (or abandonment) of criterial freezing anyway: A declarative verb-second C head triggers topicalization, and the topicalized item may then move on into the matrix clause, satisfying the structure-building feature of the matrix C head there, exactly as in (26). Thus, if we just implement standard assumptions about extraction from verb-second clauses in the present approach to movement, extraction from verb-second clauses looks almost exactly as sketched in (25). There are differences, though: First, in the standard approach to *wh*-extraction from a verb-second clause, an edge feature does not have to be inserted for the *wh*-phrase (as it is done in the failed attempt at long-distance extraction in (25), (26)) because the *wh*-phrase, by assumption, *is* also a topic. Second, in the standard approach to movement from verb-second clauses, there does not have to be some other item around that would act as a topic, so that discharge of the [op] feature by the *wh*-phrase would not technically count as an instance of maraudage. I will leave open the question of whether a maraudage analysis for extraction from verb-second clauses might actually be an (or, in fact, the only) option (given that on standard assumptions, the same string can be generated in a simpler way, without maraudage). However, it may be pointed out that if there are indeed two different legitimate options to produce a sentence like (26) (with and without maraudage, but both times with what looks like a violation of criterial freezing), questions of input optimization will arise (in the sense that there might be a meta-principle favouring the simpler derivation over the more complex one; see Prince & Smolensky (2004) for extensive discussion).

These considerations notwithstanding, the fact remains that the present system straightforwardly excludes sentences with both long-distance *wh*-extraction and embedded topicalization as in (24) as a consequence of operator feature maraudage and the Intermediate Step Corollary. The relevant part of the derivation is shown in (27): The intermediate movement step ① triggered by the edge feature assigned in the previous step of the derivation leads to complete maraudage (②), which in turns makes subsequent embedded topicalization impossible (see ③).

(27) *Wh-extraction from topic island*:



5.2.4 Topicalization from a Topic Island

The example illustrating the impossibility of topicalization from a topic island in (13-b) is repeated here in (28).

(28) *Radios$_1$ glaube ich [$_{CP}$ der Maria$_2$ [$_C$ hat] [$_{TP}$ er t_2 t_1 gegeben]]
radios think I the Mary has he given

The ungrammaticality of (28) follows without further ado, in more or less the same way as that of (24). Topics have only one operator feature: [op]. However, this feature suffices to carry out complete maraudage in the embedded C domain (and thereby block subsequent topicalization) if a topic undergoes movement to an intermediate SpecC position on its way to the left periphery of the matrix clause. The reason is that a C head triggering topicalization has only one structure-building operator feature to begin with (viz., [•op•]), in contrast to a C head triggering *wh*-movement (which has the features [•op, wh•] and therefore evades full maraudage by an intermediately-moved topic). (29) zooms in on the changing feature specification on embedded C as it changes throughout the relevant part of derivation (after C has been merged with TP).

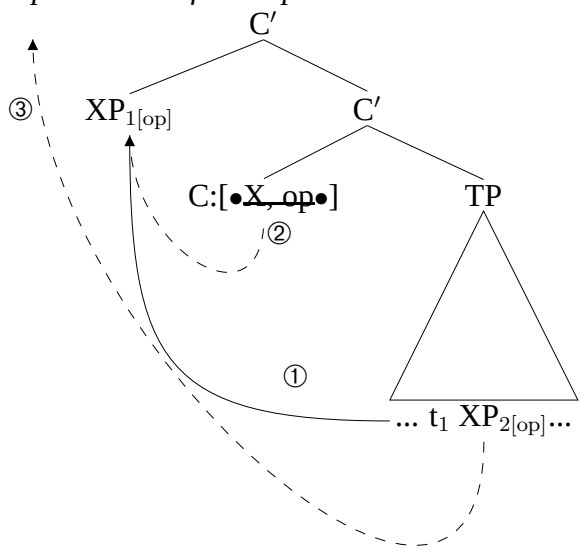
(29) *Topicalization from a topic island: complete maraudage*
(i) C: [•op•] (→ edge feature insertion)
(ii) C: [•X•] ≻ [•op•] (→ movement of *wh*-phrase)
(iii) C: [•X•] ≻ [•op•] (→ edge feature discharge)
(iv) C: [•op•] (→ further discharge: maraudage)
(v) C: Ø (no structure-building features left)

The consequence, as before, is that the problem with topic islands is that a topic island cannot be created. As for the status of (30) with respect to criterial freezing and input optimization, exactly the same issues arise as before: (30) may either be ill formed (because of a violation of criterial freezing), or it may be a legitimate alternative to regular topic extraction from embedded verb-second clauses that proceeds without additional topic and edge features (and, if the second option is chosen, (30) may or may not be filtered out by a secondary input optimization procedure).

(30) Radios$_1$ glaube ich [$_{CP}$ t'_1 [$_C$ hat] [$_{TP}$ er der Maria t_1 gegeben]]
radios think I has he the Mary given

The decisive stage of the derivation is shown in (31). The intermediate movement step ① leads to full maraudage in the C domain (see ②), which makes embedded topicalization impossible (see ③).

(31) *Topicalization from topic island*:



6. Conclusion, Consequences, and Extensions

6.1 Conclusion

To sum up, the present approach to *wh*-islands and topic islands works without invoking the idea that *wh*-elements or topics create islands. More generally, there is no minimality/intervention constraint on movement (like the MLC or RM). Rather, an item undergoing long-distance movement targets the same domain and marauds the inventory of movement-inducing features of C before the items that are supposed to show up in a specifier position of this C node permanently have had a chance to get there. Thus, the crucial factor is *timing*: Which item arrives first in the C domain? I take it to be an interesting result that the answer needed to derive *wh*-island and topic island effects is one that follows automatically, given the approach to CED effects in Müller (2010). The reason is that this approach has as an immediate consequence what I have called the *Intermediate Step Corollary*: Intermediate movement steps to specifiers of X (as required by the PIC) must take place before a final specifier is merged in XP. Needless to say, the analysis of operator islands just sketched has a number of further non-trivial consequences; it also suggests extensions in various domains. In the remaining two subsections, I will briefly address these two issues.

6.2 Consequences

6.2.1 'Whether'-Clauses

A first consequence concerns extraction from *whether* clauses. Chomsky (1986, 50) claims that "*whether* yields a much weaker *wh*-island effect than moved *wh*-phrases." As a matter of fact, the prediction of the present analysis is that there will be no effect at all if *whether* is the lexical realization of an interrogative C. However, this prediction is presumably not correct. I will assume that at least for adjuncts, and arguably also for arguments, a *wh*-island effect can be detected with extraction from *whether* clauses, as in (32).

(32) a. *How$_1$ do you wonder [$_{CP}$ whether Mary fixed the car t$_1$] ?
b.?*What$_1$ do you wonder [$_{CP}$ whether John likes t$_1$] ?

The conclusion I would like to draw from this is that *whether* is not the lexical realization of an interrogative C; more specifically, suppose that *whether* is never base-generated in the position in which it shows up, but undergoes movement to a $C_{[\bullet wh\bullet]}$ head just like other *wh*-items. Principles of semantic interpretation will then ensure that there can be no multiple *wh*-questions involving both *whether* and and a regular *wh*-phrase.[12] There is potential additional evidence for a movement approach to *whether* clauses. In a language like Dutch, *of* ('whether') can co-occur with an uncontroversial complementizer *dat* ('that') following it (see, e.g., Zwart (1993, 265)). Under present assumptions, this might suggest an approach in terms of *whether*-movement from within TP to SpecC. Of course, this analysis raises further questions. For reasons of space and coherence, I will confine myself to pointing out two of them: First, where exactly is *whether* externally merged? And second, why can *whether* not undergo long-distance movement? However, none of these questions strikes me as particularly troublesome, and I take it that answers can be given that are relatively straightforward.

[12] Note in passing that movement of *whether* is in fact proposed in Chomsky (1986), if only for the covert component of LF.

6.2.2 Underspecification and Overspecification

A second issue concerns underspecification and overspecification of *wh*-phrases and topics with respect to operator features, as it is presupposed by the approach developed here. Two clear predictions can be derived from this. First, given that topics are specified as [op], and *wh*-phrases as [op, wh], it follows that a topic can never discharge all the A-bar-related features of an interrogative $C_{[\bullet op, wh \bullet]}$. Therefore, we expect that a moved topic can never eventually satisfy the demands of an interrogative C. In other words: topics should not be able to act as *wh*-phrases. This prediction appears to be borne out (in German, but also cross-linguistically).

Second, the case might be different with *wh*-phrases. A *wh*-phrase bearing the features [op, wh] in the specifier of a topic $C_{[\bullet op \bullet]}$ can discharge all of C's features. This means that it might be possible for a *wh*-phrase to ultimately show up in the specifier domain of a non-interrogative C. If there is no other interrogative C head around in the sentence, such a configuration will most likely lead to semantic uninterpretability. However, suppose that the *wh*-phrase has undergone regular, feature-driven *wh*-movement to a specifier of an interrogative C head first. Then, depending (again) on assumptions about criterial freezing, it might or might not be an option for the *wh*-phrase to move on, and discharge a non-interrogative C head's [•op•] feature in a higher clause. Marked (but still halfway acceptable) examples of *wh*-topicalization in imperative clauses in German (see Reis & Rosengren (1992)) might suggest that this option does exist; compare (33-a) (with regular *wh*-movement to a SpecC_{wh} position in an indirect question clause) with (33-b) (with further fronting to the specifier position of the matrix – imperative – C head).

(33) a. [$_{CP}$ – Sag mal [$_{CP}$ wen$_1$ (dass) du t$_1$ getroffen hast]] !
tell me whom that you met have

b.??[$_{CP}$ Wen$_1$ [$_{C_{imp}}$ sag] mal [$_{CP}$ t$'_1$ dass du t$_1$ getroffen hast]] !
whom tell me that you met have
(both: 'Tell me who you met!')

Again, further questions will eventually have to be answered if the analysis is to prove viable. For instance, something needs to be said about the illformedness of examples like (34-b) (based on (34-a)), which differs from (33-b) only in that topicalization of the *wh*-phrase ends up in a declarative (rather than imperative) root clause. ((34-b) does not seem to become acceptable even if the topicalized is interpreted as heavily focussed, even though some improvement can arguably be detected in this case.)

(34) a. [$_{CP}$ – Maria fragt [$_{CP}$ wen$_1$ (dass) Fritz t$_1$ getroffen hat]]
Maria asks whom that Fritz met has

b. *[$_{CP}$ Wen$_1$ [$_{C_{decl}}$ fragt] Maria [$_{CP}$ t$'_1$ dass Fritz t$_1$ getroffen hat]]
whom asks Maria that Fritz met has
(both: 'Maria asks whom Fritz met.')

6.3 Extensions

There are two general correlations that can be derived from the analysis of operator islands via maraudage and the Intermediate Step Corollary. They are given in (35).

(35) a. The more A-bar-related (goal) features a moved item is equipped with, the more likely it is that it cannot cross an operator island (i.e., the "operator island" cannot be created in the first place).

b. The fewer A-bar-related (structure-building) features a C head is equipped with, the more likely it is that it creates an operator island that cannot be crossed.

Combining (35-a) and (35-b), the prediction is that an operator island effect can best be circumvented if the item that is to undergo long-distance movement has few operator features, and the C head that triggers embedded operator movement has many operator features – this is why movement of a topic (with few operator features) across a C_{wh} head (with many operator features) is the only combination leading to wellformedness in German. Both (35-a) and (35-b) suggest interesting extensions.

Turning to (35-a) first, it offers a new outlook on argument/adjunct (-type) asymmetries with extraction from islands (*weak islands*; see, e.g., Koopman & Sportiche (1986) on Vata). The general logic underlying an account of an argument/adjunct asymmetry with extraction from *wh*-islands might look as follows. Suppose that moved adjuncts are inherently characterized by more A-bar-related features than moved arguments. This implies that, as operators, adjuncts maraud the feature structure of a C head whose domain they enter in the course of successive-cyclic (edge feature-driven) movement more drastically than arguments. Consequently, an intermediately-moved argument may leave further structure-building features on a C head, whereas an intermediately-moved adjunct "eats up" all structure-building features, and thus makes the regular movement operation to be carried out for this head impossible. I take this general logic to be by and large on the right track. However, as is well known, drawing the line between arguments and adjuncts with respect to extractability from weak islands (like *wh*-islands) is an oversimplification. For many languages, there is a split between referential and non-referential adjuncts (*when, where* vs. *how, why*; see Aoun (1986, 125); also see Harbert & Pet (1988) on *alon* 'where' vs. *halika* 'how' in Arawak), such that referential adjuncts can leave weak islands whereas non-referential adjuncts cannot. Similarly, in some languages, there is a split between referential (D-linked, etc.) arguments and non-referential arguments, such that only the former can escape weak islands.

A (still somewhat simplified) description of the situation in German in the case of *wh*-islands may look as follows. First, topic islands are strict throughout. Second, *wh*-islands are transparent if the moved item is a topic which is not a non-referential adjunct or a non-referential argument (see Cinque (1990), Rizzi (1990)). Thus, (36-a) (with topicalization of a non-referential adjunct from a *wh*-clause) is ungrammatical, and (36-b) (with topicalization of a non-referential argument) also seems to be fully ungrammatical. In contrast, (36-c) (with topicalization of a referential adjunct from a *wh*-clause) is halfway acceptable (see footnote 11 on the possible source of degradedness in (36-c)).

(36) a. *Deshalb$_1$ weiß ich nicht mehr [$_{CP}$ wer$_2$ C t$_2$ t$_1$ gekommen ist]]
therefore know I not anymore who came

b. *90 Kilo$_1$ weiß ich nicht [$_{CP}$ wer$_2$ C [$_{TP}$ t$_2$ t$_1$ wiegt]]
ninety kilos know I not who weighs

c. ??In Hannover$_1$ weiß ich nicht [$_{CP}$ wie$_2$ C [$_{TP}$ man t$_2$ t$_1$ das sagt]]
in Hannover know I not how one that says

This state of affairs can be accounted for if it is assumed that all *wh*-phrases and non-referential topics bear the feature [wh] in addition to [op] in German, so there is full maraudage of the embedded C's structure-building features in (36-ab) (but not in (36-c)). To this one might object that non-referential topics do not morphologically look like *wh*-phrases, and behave differently syntactically. However, such an objection would be based on a misunderstanding of the nature of feature decomposition. The primitive feature [wh] is not the same as the standard *wh*-feature; rather, it defines a part of the standard *wh*-feature; *wh*, on this view, is composed of primitive features like [op] and [wh], and it is just the combination of primitive features that makes a *wh*-phrase a *wh*-phrase, not any single part of it. (Accordingly, one might just as well replace the feature [wh] with a feature like [nonref], which would capture exactly the same natural class

– *wh*-phrases are inherently non-referential.) Given that, say, topics can behave "*wh*-like" in at least certain respects (see Chomsky (1977)), this is straightforwardly captured by postulating features that are common to both but not other categories – i.e., by postulating a natural class via shared features (Bierwisch (1967)). Clearly, though, there are differences between non-referential topics and *wh*-phrases, and by assuming that they are both characterized as [op, wh], these differences are not yet captured. This can be done by assuming one or more additional features that distinguish between the two types of categories; again, this is a standard procedure in feature-based approaches that rely on decomposition and underspecification.[13]

Consider next the situation in English. A simple characterization of the state of affairs here might maintain that topic islands are strict throughout (but cf. Culicover (1991) for a systematic class of exceptions), whereas *wh*-islands are transparent if the moved item is an argument. (This is a simplification: Notions like D-linking, referentiality, and case may also enter the picture.) This can be analyzed by assuming that interrogative C has two A-bar-related structure-building features (e.g., [•op, wh•]), whereas topic C has only one A-bar-related structure-building feature (e.g., [•op•]). All adjuncts (topics and *wh*-phrases) have the complete set of A-bar-related features (e.g., [op, wh]); all arguments (but see the qualification just made) have only one (e.g., either [op] or [wh]).

More generally, the present approach may shed new light on the classical question of why certain classes of items may escape certain types of weak islands in some language whereas other classes of items cannot do so, and on how the variation in this domain can be accounted for. The next step in this research programme would be to look at other instances of weak islands, and investigate whether a maraudage analysis would also be tenable, or, indeed, directly supported by the empirical evidence; but this is beyond the scope of the present paper.[14]

Turning next to (35-b), I would like to contend that this correlation offers a new outlook on the variable effects incurred by different types of intervening C heads. Heads with few movement-inducing features generate stricter islands (because they are easier to maraud fully). I have argued that this is the case with topic vs. *wh*-islands in German: An interrogative C is equipped with more features than a declarative C that triggers topicalization. From this perspective, one may profitably look at other asymmetries between movement types; see, for instance, Bayer & Salzmann (2009) on the different behaviour of relativization in comparison to other movement types, and Müller & Sternefeld (1993) on asymmetries between topicalization, *wh*-movement, and scrambling. A further extension that suggests itself concerns finite/non-finite asymmetries in extraction (see Frampton (1990)).

To end this paper, let me point out that the approach to operator islands advanced here leaves sufficient room for parametrization, such that variation between languages (even micro-variation, possibly within a single language) can be captured. On the one hand, particular types of moved items (arguments, adjuncts, referential items, *wh*-phrases, topics, etc.) may not be characterized by exactly the same kinds of A-bar-related features in different languages. And on the other hand, particular movement operations (topicalization, *wh*-movement, relativization,

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[13] Note that, on this view, issues of over- and underspecification become relevant again: For instance, one has to ensure that non-referential topics, even though they can carry out complete maraudage of an interrogative C head's set of structure-building features, cannot act as *wh*-phrases themselves, saturating an interrogative C head's demands.

[14] In this context, it is worth pointing out that Manzini (2009) develops an approach to the blocking of mesoclisis and enclisis by negation in varieties of Italian that does not employ the Head Movement Constraint or another intervention-based constraint, and that is similar to the one developed here. In her analysis, negation blocks verb movement not because it intervenes between the base position and the landing site, but because it consumes features that would be needed by the verb in the fronted position.

scrambling, etc.) may also not be cross-linguistically homogeneous as far as the A-bar-related features that are involved in them are concerned.

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