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Doreen Georgi, Fabian Heck, and Gereon Müller Universität Leipzig

Maraudage

1. Introduction

Aim of the talk:
We identify a pattern that lends itself to an analysis in terms of repair and thus to an optimality theoretic analysis in terms of ranked and violable constraints (Grimshaw (1997), Prince and Smolensky (2004)). In what follows, we call this repair pattern "maraudage".

The pattern:
(i) When a head H serves two arguments DP_1 and DP_2, it sometimes happens that DP_1 exceeds the feature set that H provides for it.
(ii) In order to satisfy its needs, DP_1 can then, exceptionally, access features that H originally provided for DP_2. Thus, DP_1 "marauds" the feature set of DP_2.

Maraudage can lead to ...
(i) ... (unusual) restrictions on DP_2 (section 3.);
(ii) ... secondary repair that restores the feature set for DP_2 (section 2.);
(iii) ... crash of the derivation (section 4.).

Empirical and theoretical issues:
(i) Maraudage can be observed in three core domains: (a) agreement (ergative displacement in Basque, section 2.), (b) case (global case splits, section 3.), and (c) movement (the derivation of weak islands 4.).
(ii) It thus calls for a principled account and should not be treated as a surface phenomenon.
(iii) In two out of the three domains (agreement and movement), one can argue that repair must be extremely local, that is, it applies instantaneously at each elementary step of the derivation (see Heck and Müller (2006)).

General assumptions:
(i) We assume a feature based syntax of the type proposed within the minimalist program (Chomsky (1995), Chomsky (2000), Chomsky (2001)). In particular, we adopt the probe-goal framework involving Agree.
(ii) The derivation unfolds bottom up in accordance with the STRICT CYCLE CONDITION of Chomsky (1973), with alternating applications of Merge, Move, and Agree.

2. Agreement

Proposal:
Ergative displacement in Basque involves an absolutive internal argument (DP_{int}) marauding the ϕ-set that v provides for the ergative external argument (DP_{ext}).

2.1. Ergative Displacement in Basque

Background:
(i) Basque auxiliaries register person and number values of up to three arguments (ergative, dative, absolutive) on an auxiliary. In what follows, we confine ourselves to person agreement triggered by the ergative and the absolutive.
(ii) Common assumption: ergative is assigned by Agree with T, absolutive is assigned by Agree involving v (Levin and Massam (1985), Laka (1993*b*), Bobaljik (1993)).

*Canonical agreement (see Laka (1993*a*)):*
(i) A local (1st, 2nd) person DP_{int} controls person agreement, spelled out as a prefix (*z-* and *n-* in (1)) on the auxiliary (*intu-/indu-* in (1)).
(ii) A local person DP_{ext} also controls person agreement, which is realized as a suffix (*-da* and *-zu* in (1-a,c)) on the auxiliary.
(iii) A 3rd person DP_{ext} does not show any overt person agreement (see (1-b)) and a 3rd person DP_{int} triggers default agreement (if the tense is present; not shown in (1)).

(1) *Canonical agreement in Basque*
   a. ikusi z-intu-da-n
      seen 2-AUX-1-PAST
      'I saw you(pl)'
   b. ikusi n-indu-en
      seen 1-AUX-PAST
      'He saw me'
   c. ikusi n-indu-zu-n
      seen 1-AUX-2-PAST
      'You saw me'

Caveat:
Lately, some people (Řezáč (2006), Arregi and Nevins (2008), Preminger (2008), Keine (2009)) assume that the suffixed person marker is a clitic rather than the result of syntactic agreement. Here, we follow Řezáč (2003) in assuming that they *are* the result of agreement.

*Ergative displacement (ED, Laka (1993*a*), Řezáč (2003)):*
(i) If tense is non-present, a 3rd person DP_{int} loses control over the prefix: DP_{ext} takes control over person on the prefix, using absolutive agreement morphology (see (2-a,b) and compare with (1-b,c)).
(ii) At the same time, DP_{ext} loses control over the suffix (cf. (2-b), (2-c), and (1-a)).

(2) *Eccentric agreement (ergative displacement) in Basque*
   a. Guk haiek g-enitu-en
      we.ERG them.ABS 1-AUX-PAST
      'We had them'
   b. ikusi n-u-en
      seen 1-AUX-PAST
      'I saw him'
   c. *ikusi n-u-da-en
      seen 1-AUX-1-PAST
      'I saw him'

Řezáč's (2003) analysis:
(i) If DP_{int} is local person, it values person and number on v, receiving absolutive. DP_{ext} values person and number on T, receiving ergative.
(ii) 3rd person nouns in Basque are underspecified for person (Laka (1993*a*)). Thus, a 3rd person DP_{int} cannot value the person probe on v (but it still receives absolutive via number agreement with v).
(iii) The person probe extends its search space (the c-command domain) and finds DP_{ext} in Specv. If DP_{ext} is local person, it can and will value v's person probe.
(iv) Thus, DP_{ext} instead of DP_{int} controls person agreement. Since the person feature is still part of v, the form and position of its spell-out looks as if controlled by DP_{int}.

2.2. Analysis: Ergative Displacement as Maraudage

Claim:
There is an alternative analysis of ED that fits the pattern of maraudage.

Note:
Such an alternative has already been proposed by Béjar and Řezáč (2009) (for Basque and other languages); we depart from this analysis only with respect to some details.

Proposal:
(i) The "unusual" situation is not one where DP_{int} is 3rd person (as opposed to what was the case in Řezáč (2003)). Rather, it involves a DP_{int} with local person features.
(ii) In such a case, DP_{int} – on the search for a person feature not contained in the ϕ-set that v provides for DP_{int} – marauds the ϕ-set that v provides for DP_{ext}.

Conventions:
(i) We distinguish between structure building features (which trigger Merge) and probe features (which trigger Agree), see Adger (2003), Sternefeld (2006). They are written as [•F•] and [∗F∗], respectively (see Heck and Müller (2006)).
(ii) A yet unvalued probe [∗F∗] is written as [∗F:□∗] (again Heck and Müller (2006)).

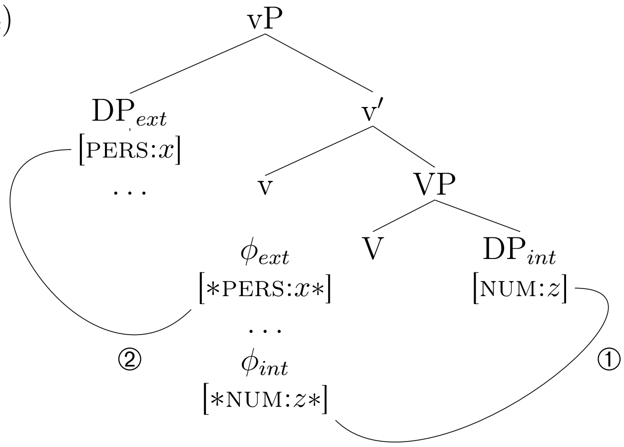
Assumptions (cf. Béjar and Řezáč (2009)):
(i) Both ergative and absolutive case are the result of Agree with v in Basque (cf. Sigurðsson (2000), Baker (2008) for other languages). v provides separate ϕ-sets for DP_{int} and DP_{ext}.
(ii) The regular morphological reflex of person agreement in Basque appears as a prefix.
(iii) v in Basque always "expects" a 3rd person DP_{int}. As before, 3rd person is the absence of person; therefore, v's ϕ-set for DP_{int} lacks person.
(iv) Certain goal features (such as person, operator features) must be checked. This is ensured by (3).

(3) FEATURE CHECKING:
The features [PERS], [ANIM], [OP], and [WH] are checked if the structural conditions for checking are met.

Note:
We presuppose that all probes have to be checked as well, which is to be achieved by another constraint. We ignore this issue here.

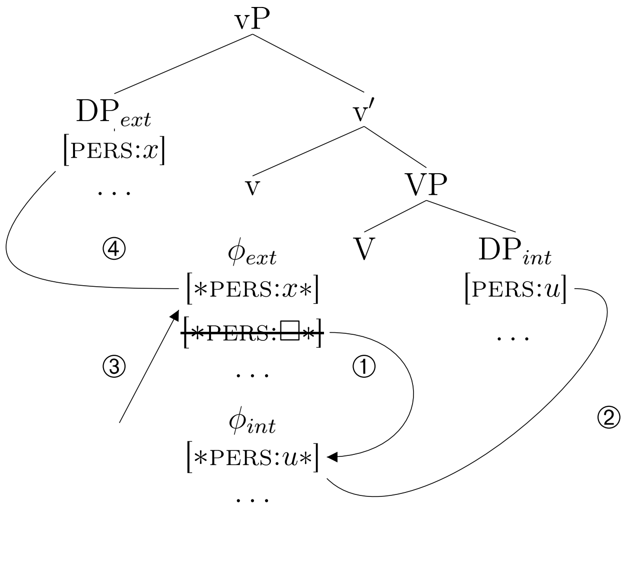
Scenario 1: DP_{int} is 3rd person:
(i) By assumption, DP_{int} lacks person. v is prepared for a 3rd person DP_{int}; thus, v also lacks person for DP_{int}. As a result, no person agreement is controlled by DP_{int} (DP_{int} only controls number, see ① in (4)).
(ii) However, v provides person for DP_{ext}. Therefore, DP_{ext} controls person (see ② in (4)), realized as a prefix (the ED scenario).

(4)



Scenario 2: DP_{int} is local person:
(i) DP_{int} bears a person feature, which must be checked. Since, by default, v does not provide person for DP_{int}, it has to make available to DP_{int} the person feature originally provided for DP_{ext}. To this end, v displaces the person feature from ϕ_{ext} into ϕ_{int}: maraudage applies as (primary) repair, saving DP_{int} (see ① in (5)).
(ii) After the person feature has been transferred from ϕ_{ext} to ϕ_{int}, DP_{int} can check its person feature (see ② in (5)) .
(iii) There is no person feature left on v for DP_{ext}. In this context, we propose, Basque can invoke a secondary repair: it inserts a new person feature for DP_{ext} on v, thereby violating the INCLUSIVENESS CONDITION (Chomsky (1995)), see ③ in (5).
(iv) The special status of this feature is signaled by the form and the position of its spell-out: it is an allomorph of the regular person agreement and it emerges as a suffix.
(v) DP_{ext} gets its person feature checked by the inserted feature on v (see ④ in (5)).

(5)



Note:
(i) Maraudage is costly, thus avoided if not forced. For instance, it is not possible for DP_{int} to consume the number probe provided for DP_{ext} (with the result that DP_{ext} would then have to Agree with the number probe intended provided for DP_{int}): one and the same number marker cannot freely cross-reference DP_{ext} in one case and DP_{int} in another.
(ii) This suggests a constraint that bans maraudage, only allowing it if it is forced by another constraint (such as FEATURE CHECKING in (3)). We thus propose the constraint in (6-a) along with the ranking in (6-b).

(6) a. NOMARAUDAGE:
The integrity of feature structures is preserved.
b. FEATURE CHECKING $\gg$ NOMARAUDAGE

Note:
(i) A violation of INCLUSIVENESS is only possible after a violation of NOMARAUDAGE has already been incurred: DP_{ext} does not control the person suffix if DP_{int} is 3rd person (see (2-c)). Thus, the ranking must be INCLUSIVENESS $\gg$ NOMARAUDAGE.
(ii) The repair must be extremely local (see Heck and Müller (2006)): From a global point of view, it would pay off to violate INCLUSIVENESS at the first step in order to satisfy DP_{int}, thereby sparing a violation of NOMARAUDAGE. However, if each step of the derivation is subject to optimization, then no such look-ahead is available.

Caveat:
We are ignoring those dialects of Basque where the ergative controls person on both the prefix and the suffix (see Řezáč (2006)).

3. Case

Claim:
Global Case Splits (GCS) are the result of an atypical internal argument (DP_{int}) marauding the features v needs to check against the external argument (DP_{ext}).

3.1. Local vs. Global Case Splits

Background:
In languages with case splits, an argument in a certain syntactic position may have case X or Y depending on its location on a Silverstein hierarchy. Arguments low on the scale are marked differently from those higher on the scale (= differential argument encoding).

(7) *Silverstein hierarchies (Silverstein; 1976)*
a. person scale: 1st $\succ$ 2nd $\succ$ 3rd
b. animacy scale: human $\succ$ animate $\succ$ inanimate
c. definiteness scale: pronoun $\succ$ proper name PN $\succ$ definite $\succ$ indefinite specific $\succ$ non-specific

Silverstein (1976):
Distinguishes between Local and Global Case Splits.

Local Case Splits (LCS):
Case marking depends on the arguments own properties. For instance, in Hebrew, the accusative marker *ʔet* is used when DP_{int} is a pronoun, a name or definite.

(8) *LCS in Hebrew Aissen (2003, 448)*

a. Ha-seret her?a ʔet-ha-milxama
the-movie showed acc-the-war
The movie showed the war.

b. Ha-seret her?a (*ʔet-)milxama
the-movie showed (acc-)war
The movie showed a war.

Global Case Splits (GCS):
Case marking of an argument does not only depend on its own properties but also on those of its coargument. If DP_{int} is higher on a Silverstein hierarchy than DP_{ext}, one of both arguments bears an overt case marker.

(9) *GCS in Yurok (Robins (1958, 21))*

a. keʔl nek ki
2s.NOM 1s.NOM FUT
newoh-paʔ
see-2>1s
You will see me.

b. yoʔ nek-ac ki
3s.NOM 1s.OBJ FUT
newoh-peʔn
see-3s>1s
He will see me.

- Hierarchy: $1/2 \succ 3$
- Split on DP_{int}: DP_{int} bears an object marker (Acc) if it is higher on the person hierarchy than DP_{ext}.

(10) *GCS in Tauya (MacDonald (1990, 120, 122))*

a. ʔw fenaʔa*(-ni) fanu
DEM woman-ERG man
yau-e-ʔa
[3s.O-]see-1s.A–IND
I saw the man.

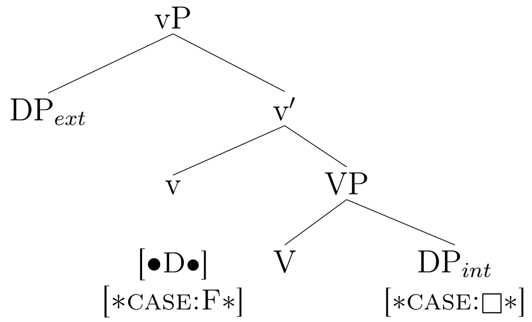
b. ʔw fenaʔa/*-ni pai
dem woman.abs/erg pig
yau-e-ʔa
[3s.O-]see-1s.A–IND
I saw the pig.

- Hierarchy: anim $\succ$ inanim
- Split on DP_{ext}: DP_{ext} has an ergative marker if DP_{int} is higher on the animacy hierarchy than DP_{ext}.

3.2. Global Case Splits and Locality

Background (Chomsky (2000; 2001); Adger (2003)):
(i) Syntactic structure is built from bottom to top.
(ii) DPs need to be assigned a case value in the course of the derivation.
(iii) Case is assigned by a c-commanding functional head.

(11) *Structure of vP in transitive contexts*



Challenge:
(i) The case assigned to DP$_{int}$ depends on DP$_{ext}$'s properties, but DP$_{ext}$ is not yet merged when v assigns case DP$_{int}$. This requires look-ahead.
(ii) DP$_{ext}$ could be merged before DP$_{int}$ gets its case feature valued. But then case assignment violates the STRICT CYCLE CONDITION (Chomsky (1973)).
(iii) If the case split emerges on DP$_{ext}$, how can the head that assigns case to DP$_{ext}$ know about the features of DP$_{int}$?

Previous analyses of GCS:
Aissen (1999), De Hoop and Malchukov (2008), Béjar and Řezáč (2009), Keine (2009).

3.3. Analysis: Global Case Splits as Maraudage

Proposal:
(i) It is not case marking that depends on the coarguments' features. Rather, the person or animacy features of DP$_{int}$ restrict the features of DP$_{ext}$ by marauding the feature set that v provides for DP$_{ext}$.
(ii) Differential argument marking is a reflex of the marauded feature(s).

(12) *Encoding animacy and person*
  a. [B] encodes 3rd person or inanimacy,
  b. [A,B] encodes 1/2nd person or animacy.

Comments:
(i) We confine ourselves to the notations in (12), where [B] encodes prototypical features of DP$_{int}$ and [A,B] encodes prototypical features of DP$_{ext}$.
(ii) In the case of person features, one may think of [B] as the feature [π] (for person) of and of [A] as [PARTICIPANT] (see Béjar (2003) for such a decomposition of person features). Together, [A,B] are then interpreted as local (1st and 2nd) person.
(iii) A similar interpretation of [A] and [A,B] can be motivated for animacy.

Assumptions:
(i) v agrees with DP$_{int}$ and DP$_{ext}$ in person or animacy (depending on the hierarchy).
(ii) v expects DP$_{int}$ to be lower on the person or animacy hierarchy than DP$_{ext}$. Consequently, it provides [∗B∗] for DP$_{int}$ and [•A,B•] for DP$_{ext}$: v $\{$[•A,B•]$_{ext}$, [∗B∗]$_{int}\}$
(iii) Person or animacy features of the DPs are subject to FEATURE CHECKING.
(iv) When DP$_{int}$ is atypical, it cannot check all of its person/animacy features. It thus marauds the feature set that v provides for DP$_{ext}$, thereby violating NOMARAUDAGE.

(13) *Constraints:*

a. NoMaraudage:
The integrity of feature structures is preserved.

b. Feature Checking:
The features [pers], [anim], [op], and [wh] are checked if the structural conditions for checking are met.

(14) *Person and case combinations in Yurok:*

	Person DP_{ext}	Case DP_{ext}	Person DP_{int}	Case DP_{int}
Pattern 1:	1st/2nd	Nom	1st/2nd	Nom
Pattern 2:	3rd person	Nom	1st/2nd	Acc
Pattern 3:	1st/2nd	Nom	3rd	Nom
Pattern 4:	3rd	Nom	3rd	Nom

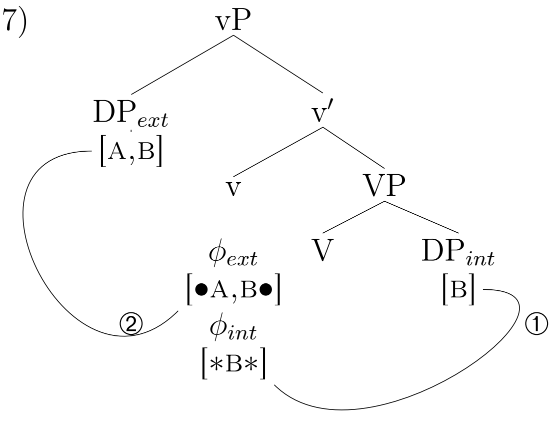
(15) *Constraint ranking:*
Feature Checking ∘ NoMaraudage

Note:
We assume that the constraint tie in (15) is global in the sense of Prince and Smolensky (2004) (see Müller (1999) for an overview of different concepts of tie).

Scenario 1: DP_{int} is 3rd person, [b]
(i) DP_{int} checks [∗b∗] on v. All person features of DP_{int} are checked. Maraudage is unnecessary and therefore blocked (see ① in (17) and (18)).
(ii) If DP_{ext} is 1st or 2nd person (that is, it bears [a,b]), then v's probes [•a,b•] can be checked completely. Feature Checking is satisfied (see ② in (17)). This derives Pattern 3 in (14).
(iii) If DP_{ext} is 3rd person, bearing [b], it only checks [•b•], leaving [•a•] on v unchecked (marked as [A] in (18)). By standard assumptions, an unchecked structure building probe causes the derivation to crash. To avoid this conclusion (thus deriving Pattern 4), we stipulate the language specific rule in (16).

(16) *A-deletion in Yurok:*
An [•a•] that has not been checked off by Merge can be deleted as a last resort.

(17)



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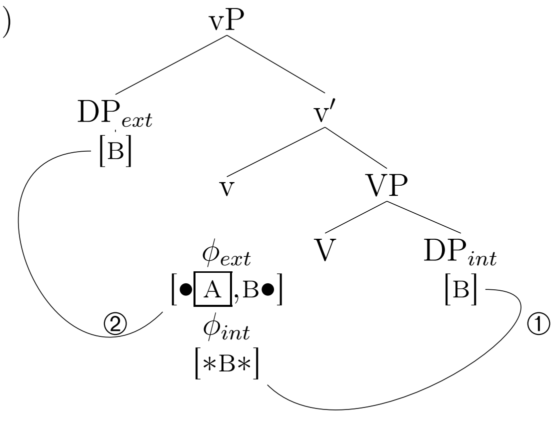


Scenario 2: DP$_{int}$ is 1st or 2nd person, [A,B]
(i) DP$_{int}$ cannot check all of its person features with [∗B∗] on v. Due to the tie in (15), there are two possible ways the derivation can continue.
(ii) Under the first ranking NoMaraudage ≫ Feature Checking, [A] on DP$_{int}$ simply remains unchecked. As there is no better alternative available, this violation of Feature Checking is not fatal (see ① in (19) and (20))
(iii) Under the second ranking (Feature Checking ≫ NoMaraudage), v displaces [•A•] from the set provided for DP$_{ext}$ into the set provided for DP$_{int}$. As a consequence, DP$_{int}$ can now get all of its features checked, under a non-fatal violation of NoMaraudage, see ①, ② in (22) and (23).

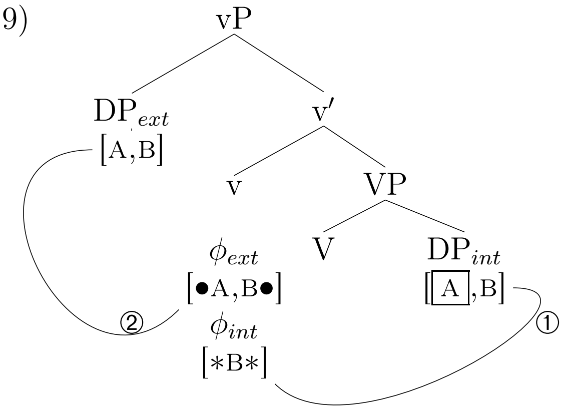
Scenario 2a: Maraudage has not applied (first ranking)
(i) If DP$_{ext}$ is 1st or 2nd person, bearing [A,B], then all probes on v are checked (see ② in (19)).
(ii) If DP$_{ext}$ is 3rd person (bearing [B]), [•A•] on v remains unchecked (see ② in (20)). In contrast to the second continuation of scenario 1 above (derivation of pattern 4), this must lead to a crash (because a pattern with DP$_{ext}$ as 3rd person and DP$_{int}$ as 1st or 2nd person nominative does not exist).

Consequence:
There must be a reason why the deletion operation stipulated in (16) cannot apply in this case (which would save the derivation, contrary to fact).

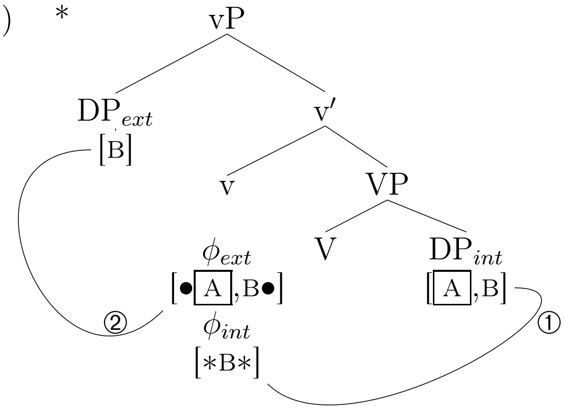
Note:
There is also an unchecked [[A]] on DP$_{int}$ in (20). But as the tie at this point resolves into the ranking NoMaraudage ≫ Feature Checking, a violation of Feature Checking is not fatal at this point and thus does not block the derivation from converging.

Hypothesis:
(i) (16) cannot apply if [•A•] could have been checked at some point of the derivation.
(ii) Note that this is the case in the above scenario: if the derivation *had* chosen the other ranking, [•A•] would have been checked off.
(iii) In contrast, no such alternative is available in the second continuation of scenario 1: there, no [A] whatsoever is present in the structure that could have checked [•A•]; therefore, (16) can apply.

(19)



(20) *

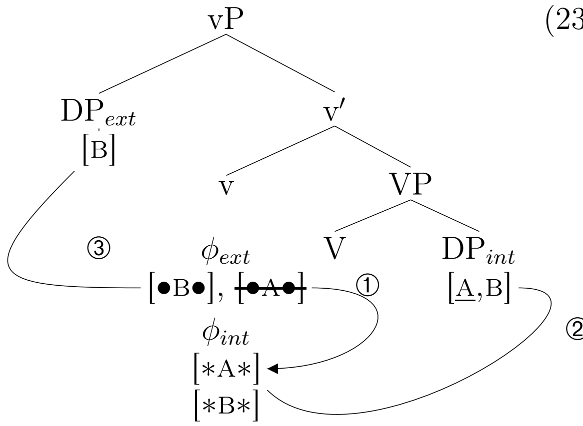


Additional conventions:
(i) A feature [F] checked by a marauded feature is represented as $\underline{[\text{F}]}$.
(ii) A DP that bears $\underline{[\text{F}]}$ is realized as accusative.

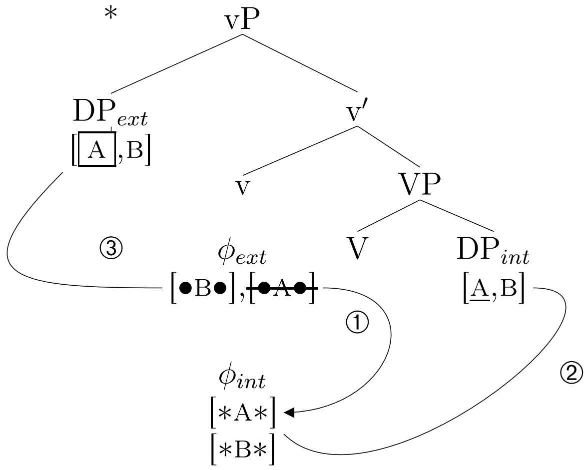
Scenario 2b: Maraudage has applied (second ranking)
(i) Recall: After maraudage, only [•B•] is left on v for DP_{ext}.
(ii) Now, if DP_{ext} is 3rd person (bearing [B]), all of v's probe features and all of its own person features are checked (see ③ in (22); this derives pattern 2).
(iii) Note: $[\underline{\text{A}}]$ on DP_{int} is underlined because it has been checked by a marauded feature. By assumption, this causes accusative marking of DP_{int}.
(iv) If DP_{ext} is 1st or 2nd person (thus bearing [A,B]), then [A] on DP_{ext} cannot be checked (see ③ in (23)). Note that in this scenario, the tie resolves into the ranking FEATURE CHECKING ≫ NOMARAUDAGE. This opens up the possibility that FEATURE CHECKING is ranked above the EMPTY OUTPUT CONDITION in (21-a) (Prince and Smolensky (2004)), which, in a nutshell, militates against the crash of the derivation. Under the ranking in (21-b), a crash is thus prefered over a violation of FEATURE CHECKING. This blocks the unattested pattern with both DP_{ext} and DP_{int} being 1st/2nd and DP_{int} being accusative.

(21) a. EMPTY OUTPUT CONDITION
Avoid the empty output Ø.
b. FEATURE CHECKING ≫ EMPTY OUTPUT CONDITION ≫ NOMARAUDAGE

(22)



(23) *



(24) *Animacy and case combinations in Tauya:*

	Animacy DP_{ext}	Case DP_{ext}	Animacy DP_{int}	Case DP_{int}
Pattern 1:	anim	Abs	anim	Abs
Pattern 2:	inanim	Erg	anim	Abs
Pattern 3:	anim	Abs	inanim	Abs
Pattern 4:	inanim	Abs	inanim	Abs

Outlook:
The patterns of Tauya are basically the same, except that the unusual case emerges on DP_{ext}. An analysis of Tauya thus requires that the reflex of maraudage, which has been encoded on DP_{int} in Yurok according to the analysis above, is encoded on DP_{ext} (presumably via v).

4. Movement

Claim:
Maraudage derives the selective nature of certain operator islands (*wh*-islands, topic islands) without recourse to a constraint like RELATIVIZED MINIMALITY (Rizzi (1990)) or the MINIMAL LINK CONDITION (Chomsky (2001)).

Proposal:
Wh-islands and topic islands do not instantiate an intervention effect; neither does the operator block an escape hatch (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; this follows from the theory of locality in Müller (2008) (the *Intermediate Step Corollary*).

Distant relative:
The optimality-theoretic approach to *wh*-islands in Legendre et al. (1998) is the only other *structural* analysis that does not rely on the idea of intervention (that we are aware of). For non-structural semantic/pragmatic analyses of operator islands, see Szabolcsi and den Dikken (2003) and references cited there.

4.1. Aspects of the Approach to CED Effects in Müller (2008)

4.1.1. Context

Question:
How can the effects of the CONDITION ON EXTRACTION DOMAIN (CED; Huang (1982), Chomsky (1986; 1995; 2008), Cinque (1990), Manzini (1992)) be made to follow in the minimalist program?

Background:
Chomsky (2000; 2001; 2008): PIC forces successive-cyclic movement via phase edges; such movement is possible because edge features that drive it can be inserted.

(25) 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).

Claim:
CED effects can be derived from the PIC if the following four assumptions are made:

1. All syntactic operations are driven by features of lexical items.
2. These features are ordered on lexical items.
3. All phrases are phases.
4. Edge features that trigger intermediate movement steps can be added only as long as the phase head is still active.

(26) CONDITION ON EXTRACTION DOMAIN (to be derived from the PIC):
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.

4.1.2. Assumptions

(i) All syntactic operations are feature-driven

(27) *Two types of features that drive operations*:

a. Structure-building features (edge features, subcategorization features) trigger (external or internal) Merge: [•F•]

b. Probe features trigger Agree: [∗F∗].

(ii) Features on lexical items are ordered

(28) a. *Θ-roles*:
$\Theta_1 \gg \Theta_2 \gg \Theta_3$ (Agent ≫ Theme ≫ Goal)

b. *Subcategorization features*:
$[\bullet\text{P}\bullet]_3 \succ [\bullet\text{D}\bullet]_2 \succ [\bullet\text{D}\bullet]_1$

(29) *Last Resort* (LR, revised):

a. Every syntactic operation must discharge (and delete) either [•F•] or [∗F∗].

b. Only features on the top of a feature list are accessible.

(iii) All phrases are phases

(30) *Phase*:
All phrases are phases.

Consequence:
Wh-movement must proceed via every XP edge domain on its way to its ultimate target position (the $\text{C}_{[\bullet wh\bullet]}$ node that attracts it), given the PIC.

(iv) Edge feature insertion

(31) 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.

4.1.3. Deriving the Condition on Extraction Domain

Analysis: Merge

Deriving the CED:

1. If an edge feature [•X•] is to be inserted on a phase head γ, it must go to the top of γ's list of structure-building features. (EFC)
2. γ must contain at least one other feature at this point (otherwise it is inert). (EFC)
3. But then, [•X•] is discharged again immediately (last-in/first-out). (LR)
4. Thus, it is impossible to insert an edge feature for a category α that is merged in Γ as the last operation taking place in Γ. (EFC)

5. Therefore, a moved item in the edge domain of an α merged last in Γ is not accessible anymore outside Γ (assuming a non-recursive notion of edge). (PIC)
6. Consequently, extraction from α is predicted to be impossible. (PIC)
7. Given that (outer) specifiers are last-merged in their projections, they are thus barriers for movement. (CED derived)

(32) *Why specifiers are barriers*:
α_i is a specifier that is last-merged in its phase.

a. Edge feature insertion follows specifier feature discharge:

γ: $[\bullet\alpha\bullet]$
$\rightarrow$ γ: $\emptyset$
$\rightarrow$ γ: $[\bullet\text{X}\bullet]$

$\rightsquigarrow$ violates (31-a)

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

γ: $[\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\alpha\bullet] \succ [\bullet\text{X}\bullet]$
$\rightarrow$ γ: $[\bullet\text{X}\bullet]$

$\rightsquigarrow$ violates (31-b)

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

γ: $[\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\text{X}\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\alpha\bullet]$

$\rightsquigarrow$ does not help because of (29-b)

Conclusion:
Specifiers are barriers because of the PIC: There is no way to carry out an intermediate movement step from a last-merged specifier to the specifier of the minimal phase above it.

(33) *Why complements do not have to be barriers*:

γ: $[\bullet\beta\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\text{X}\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\alpha\bullet]$
$\rightarrow$ γ: $\emptyset$

$\rightsquigarrow$ violates nothing

(33) Edge feature insertion precedes complement feature discharge, version 1:

γ: $[\bullet\beta\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\beta\bullet] \succ [\bullet\text{X}\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\text{X}\bullet] \succ [\bullet\alpha\bullet]$

$\rightsquigarrow$ violates (31-b)

(33) Edge feature insertion precedes complement feature discharge, version 2:

γ: $[\bullet\beta\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\text{X}\bullet] \succ [\bullet\beta\bullet] \succ [\bullet\alpha\bullet]$
$\rightarrow$ γ: $[\bullet\beta\bullet] \succ [\bullet\alpha\bullet]$

$\rightsquigarrow$ does not help because of (29-b)

Conclusion:
Movement out of complements can respect the PIC: There is a stage in the derivation where the complement feature has already been discharged (so that subsequent edge feature insertion can attract an item within the complement), but the specifier feature has not yet been discharged.

Note:
Under this approach, intermediate movement steps to phase edges must take place *before* a (final) specifier is merged. This results in structures that look like (inherently acyclic) *tucking in* (Richards (2001)) has applied; but it hasn't: All movement steps extend the tree.

(34) *Intermediate movement steps*:
$\mathbf{DP}_2$ ... $[_{vP}$ DP_1 $[_{v'}$ $\underline{\mathbf{t}''_2}$ $[_{v'}$ V+v $[_{VP}$ DP_3 $[_{V'}$ $\underline{\mathbf{t}'_2}$ $[_{V'}$ t_V $\mathbf{t}_2$ $]]]]]]$

Let us call this property the *Intermediate Step Corollary*; it will become relevant later.

(35) *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.

Consequences:

- Subjects are barriers (both Specv and SpecT).
- Adjuncts are barriers (assuming that they are last-merged specifiers of special functional projections).
- Indirect objects bearing dative are barriers (assuming that they are last-merged in SpecV).

Analysis: Agree

Problem:
So far, the prediction is that a complement can avoid becoming a barrier in a phase XP only if there is something else (a specifier) that is merged later. This prediction is not borne out; see (36-ab) (examples from German).

(36) *Bridge vs. non-bridge verbs*:
a. Wen_1 denkst du $[_{CP}$ dass sie t_1 getroffen hat $]$?
whom think you that she met has
b. *Wen_1 weisst du $[_{CP}$ dass sie t_1 getroffen hat $]$?
whom know you that she met has

Analysis:

- Extraction from a sole complement is possible only if the next higher head undergoes abstract incorporation with the complement's head (Müller (1989)).
- Abstract incorporation involves Agree: Two heads share a feature [*F*]/[F].
- Agree requires c-command.
- A bridge verb undergoes Agree (with respect to [*F*]/[F]) with C of its complement; a non-bridge verb does not.

(37) *Abstract incorporation as Agree*:
a. $[_{VP}$ $V_{[*F*]}$ $[_{CP}$ α $[_{C'}$ $C_{[F]}$ $\ldots$ $]]]$ *think that*
b. $[_{VP}$ V $[_{CP}$ α $[_{C'}$ $C_{[F]}$ $\ldots$ $]]]$ *know that*

Note:
This implies that either the PIC is relaxed for Agree, or that Agree can be successive-cyclic. Something to this effect is required independently, under many versions of the

PIC (cf., e.g., agreement of T with nominative objects in Icelandic; and the analysis of long-distance agreement in general).

Observation:
Probe features on a phase head can never remove barrier status from a last-merged specifier:

1. A probe feature cannot carry out Agree with (some item in) its specifier (Chomsky (2001; 2008)).
2. A probe feature cannot carry out Agree with (some item in) its complement after a specifier has been merged. For instance, Agree(v,α) in VP (for accusative case assignment) must precede Merge(DP$_{ext}$,v′). This follows from a restrictive version of the STRICT CYCLE CONDITION (Chomsky (1973)).

(38) STRICT CYCLE CONDITION (SCC):
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.

Consequences:
(i) Last-merged specifiers continue to be barriers.
(ii) Non-last-merged specifiers and complements are not barriers (incl. *melting*).
(iii) Last-merged complements are not barriers if the phase head has an additional probe that establishes Agree with/into the complement.

(39) *Why last-merged complements do not have to be barriers*:
γ (e.g., V) is merged with α (e.g., DP) and has thereby discharged all its structure-building features.

a. Edge feature insertion follows complement feature discharge, no probe:

	γ: [•α•]
→	γ: Ø
→	γ: [•X•]

⇝ violates (31-a)

b. Edge feature insertion follows complement feature discharge, with probe:

	γ: [•α•] [∗F∗]
→	γ: [∗F∗]
→	γ: [•X•] [∗F∗]

⇝ violates nothing

Note:
To avoid a SCC violation (as it would occur with specifiers), the probe feature must be discharged before the structure-building edge feature in (39-b). This is unproblematic given that the two features are on different stacks.

Clausal heads:
(i) A clausal head (V, v, T, C, ...) *status-governs* (Bech (1955/57)) the head of its verbal complement.
(ii) This can be viewed as co-indexing of heads (abstract incorporation, hence Agree in the present approach); Sternefeld (1991).
(iii) Consequently, clausal projections are not barriers, even if there is no specifier present (and the projection is thus last-merged).

4.2. Wh-Islands and Topic Islands

Observation (Fanselow (1987), Müller and Sternefeld (1993)):
(i) *Wh-islands* block *wh*-movement but not (argument) topicalization in German.
(ii) *Topic islands* block *wh*-movement and topicalization in German.

(40) *Wh-islands in Italian: relativization vs. topicalization from* (Rizzi (1982)):

a. Tuo fratello [$_{CP_3}$ [$_{PP_1}$ a cui] mi domando [$_{\mathbf{CP}_4}$ [$_{DP_2}$ che storie]
your brother to whom myself I ask which stories
abbiano raccontato t_2 t_1]] era molto preoccupato
they have told 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

(41) *Wh-islands in German: wh-movement vs. topicalization*:

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

(42) *Topic islands in German: wh-movement and topicalization*:

a. *Welches Radio$_1$ glaubst du [$_{CP}$ der Maria$_2$ [$_C$ hat] [$_{TP}$ er t_2 t_1
which book think you the Mary has he
gegeben]] ?
given

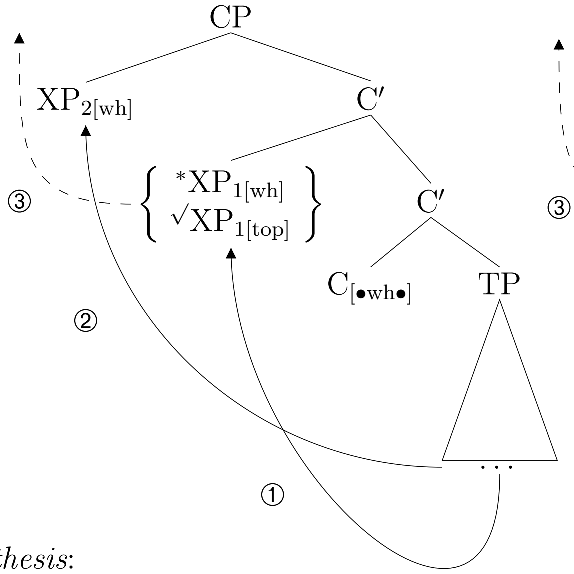
b. *Radios$_1$ glaube ich [$_{CP}$ der Maria$_2$ [$_C$ hat] [$_{TP}$ er t_2 t_1 gegeben]]
radios think I the Mary has he given

Note:
The fact that there is an asymmetry between movement types in (41), and no asymmetry in (42), poses problems for a Relativized Minimality (RM) type approach.
(i) A standard RM approach (like Rizzi (1990; 2001)) distinguishes three kinds of interveners: Head, A, A-bar. This would uniformly rule out all sentences in (41) and (42) (given that the moved items are subject to RM).
(ii) A more fine-grained RM approach (like Rizzi (2004): *argumental* (person, number, gender, case) vs. *quantificational* (interrogative, negation, measure, focus) vs. *modifier* vs. *topic*)) that distinguishes between different kinds of A-bar interveners (topic vs. *wh* in the case at hand) would wrongly predict both (41-b) and (42-a) to be well formed. If RM is to account for the 3/4 pattern in (41) and (42), further assumptions are required.

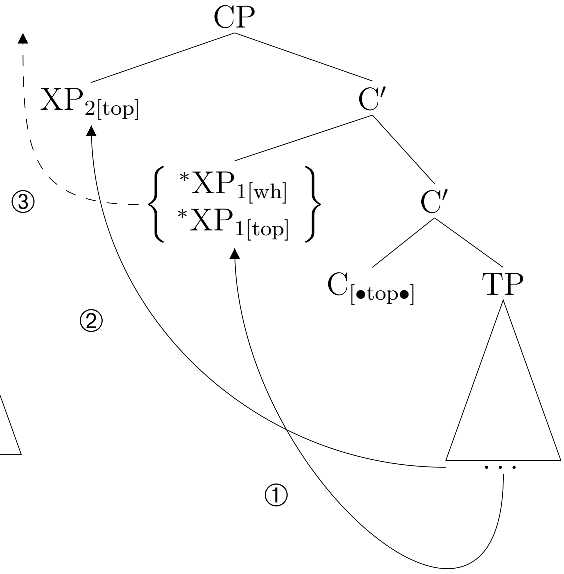
4.3. Analysis: Operator Islands as Maraudage

Observation:
Given the *Intermediate Step Corollary* in (35), the order of rule application with extractions from a *wh*-island and from a topic island must look as in (43-a,b), respectively, with the intermediate movement step (① in (43-a,b)) taking place prior to the one that would create the operator island (② in (43-a,b)).

(43) a. *Wh-island*



b. *Topic island*



Hypothesis:
Given that the item that undergoes the intermediate movement step reaches the domain of a C head before the item that is supposed to ultimately check the [•F•] of C in this position, it may maraud C's stack of structure-building features, making regular specifier placement impossible. Thus, *wh*-island and topic island effects are due not to *wh*-islands or topic islands, but to the fact that the *wh*-island/topic island cannot be generated in the first place.

Assumption:
Variation in maraudage can be accounted for by postulating a more fine-grained system of A-bar related features (see Rizzi (2004), Lahne (2007)). Suppose that topicalization (in German) is bare operator movement (cf. its multi-functionality), and *wh*-movement is movement of a certain kind of operator (viz., a *wh*-operator).

(44) *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 = $XP_{[op]}$

(45) *Constraints and Ranking*:
a. Feature Checking:
The features [pers], [anim], [op], and [wh] are checked if the structural conditions for checking are met.
b. NoMaraudage:
The integrity of feature structures is preserved.
c. Feature Checking ≫ NoMaraudage

Consequence:
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. Operator features thus attach to the inserted [•x•], are checked with the moved item, and undergo deletion. Therefore, no feature may be left to trigger subsequent, regular operator movement. This accounts for operator island effects.

4.3.1. Wh-Movement from a Wh-Island

Observation:
Wh-phrases have many operator features; therefore, they accomplish full maraudage in a $\text{SpecC}_{[wh]}$ position that they use as an escape hatch in a CP phase, thereby blocking subsequent regular *wh*-movement.

(46) *Wh-movement from a wh-island*

*Welches Radio$_1$ weißt du nicht [$_{\text{CP}}$ wie$_2$ C [$_{\text{TP}}$ man t$_1$ t$_2$ repariert]] ?
which radio know you not how one fixes

(47) *Derivation: complete maraudage*

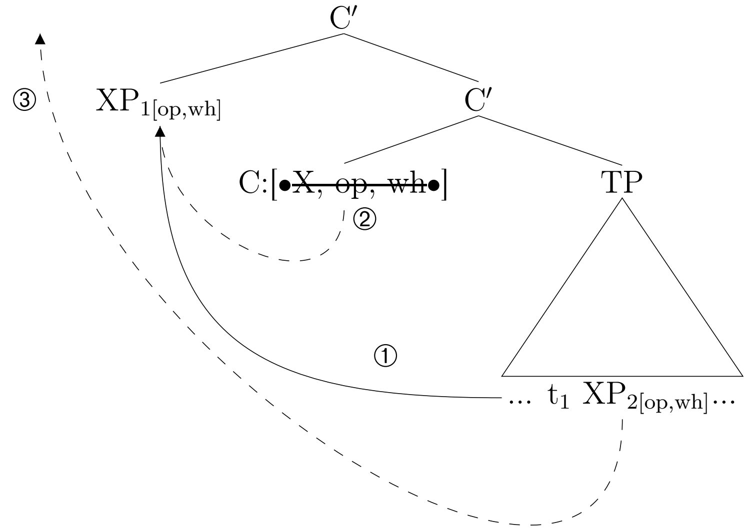
C: [•OP, WH•]
C: [•X•] ≻ [•OP, WH•] (edge feature insertion for $\text{XP}_{1[\text{op,wh}]}$)
C: [•X•] ≻ [•OP, WH•] (movement of $\text{XP}_{1[\text{op,wh}]}$ to SpecC)
C: [•X, OP, WH•] (complete maraudage by $\text{XP}_{1[\text{op,wh}]}$ in SpecC)
C: Ø (deletion of checked structure-building features on C)
C: Ø (no features left for attracting $\text{XP}_{2[\text{op,wh}]}$)

Consequence:
There is no way to get the remaining $\text{XP}_{2[\text{op,wh}]}$, the item we would expect to create the *wh*-island, to the edge domain of the embedded CP: C is now inert, which precludes further edge feature insertion. Depending on assumptions about criterial freezing (see Rizzi (2006; 2007)), it may or may not be possible now for the *wh*-phrase to move on into the matrix clause (to satisfy the demands of another $\text{C}_{[wh]}$). But this would still violate a visibility requirement for the embedded *wh*-clause; cf. (48). In any case, the prediction is that *wh*-islands are characterized by the property that the *wh*-island cannot be erected.

(48) *A violation of criterial freezing*

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

(49) *The relevant stage of the derivation – wh-extraction from wh-island*:



4.3.2. Topicalization from a Wh-Island

Observation:
Topics have fewer operator features; therefore, they do not accomplish full maraudage in a $\text{SpecC}_{[wh]}$ position that they use as an escape hatch in a CP phase. Consequently, regular *wh*-movement (may be more marked, but) is not blocked.

(50) *Topicalization from a wh-island*

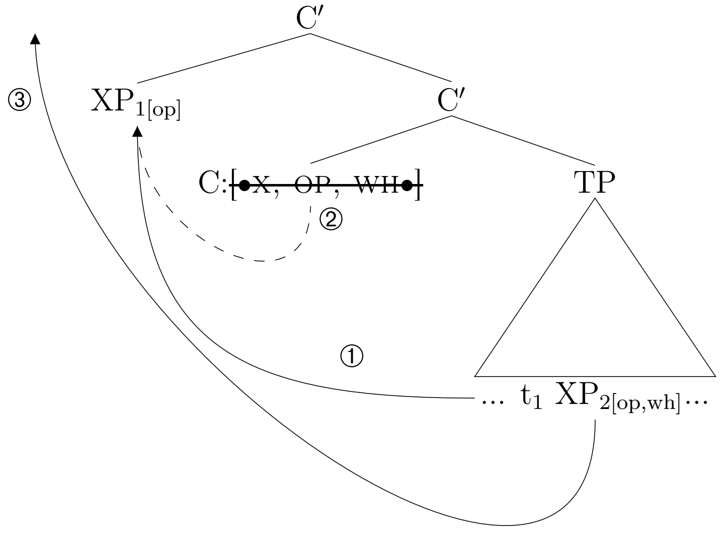
?Radios$_1$ weiß ich nicht [$_{\text{CP}}$ wie$_2$ C [$_{\text{TP}}$ man t$_1$ t$_2$ repariert]]
radios know I not how one fixes

(51) *Derivation: minor maraudage*

C: [•OP, WH•]		
C: [•X•]	≻ [•OP, WH•]	(edge feature insertion for $\text{XP}_{1[\text{op}]}$)
C: [•X•]	≻ [•OP, WH•]	(movement of $\text{XP}_{1[\text{op}]}$ to SpecC)
C: [•X, OP•]	≻ [•WH•]	(minimal maraudage by $\text{XP}_{1[\text{op}]}$ in SpecC)
C: [•WH•]		(deletion of checked structure-building features on C)
C: [•WH•]		(movement of $\text{XP}_{2[\text{op,wh}]}$ to SpecC)
C: Ø		(deletion of checked structure-building features on C)

Note:
A-bar-related (operator) goal features on items can ultimately be left unchecked, in contrast to A-related features (see above).

(52) *The relevant stage of the derivation – topicalization from wh-island*:



4.3.3. Wh-Movement from a Topic Island

Observation:
Wh-phrases are perfect marauders in a $\text{SpecC}_{[wh]}$ position; consequently, it does not come as a surprise that they are just as successful in $\text{SpecC}_{[top]}$ positions, where C is characterized by a proper subset of structure-building features.

(53) *Wh-movement from a topic island*:

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

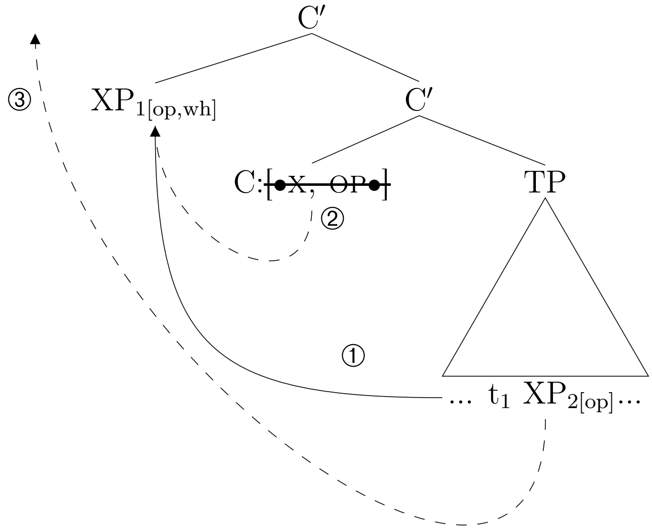
(54) *Derivation: complete maraudage*

C: [•OP•]		
C: [•X•]	≻ [•OP•]	(edge feature insertion for $XP_{1[op,wh]}$)
C: [•X•]	≻ [•OP•]	(movement of $XP_{1[op,wh]}$ to SpecC)
C: [•X, OP•]		(complete maraudage by $XP_{1[op,wh]}$ in SpecC)
C: Ø		(deletion of checked structure-building features on C)
C: Ø		(no features left for attracting $XP_{2[op]}$)

Consequence:
It is 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). 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 (55); we leave open the question of whether this might actually be an option (given that the same string can be generated in a simpler way, without topic features on two items in the numeration). Question of input optimization arise (see Prince and Smolensky (2004)).

(55) *Undetectable criterial freezing*:
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

(56) *The relevant stage of the derivation – wh-extraction from topic island*:



4.3.4. Topicalization from a Topic Island

Observation:
Topics have only one operator feature: [op]. However, this suffices to block subsequent topicalization if a topic undergoes movement to an intermediate SpecC position on its way to the left periphery of the matrix clause.

(57) *Topicalization from a topic island*:
*$Radios_1$ glaube ich $[_{CP}$ der $Maria_2$ $[_C$ hat] $[_{TP}$ er t_2 t_1 gegeben]]
radios think I the Mary has he given

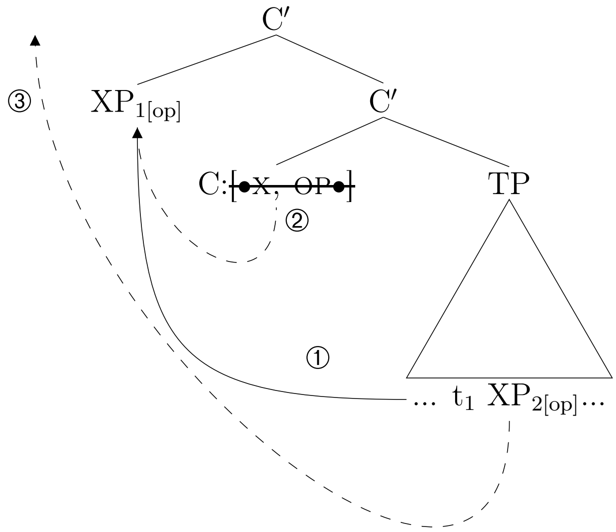
(58) *Derivation: complete maraudage*

C: [•OP•]		
C: [•X•]	≻ [•OP•]	(edge feature insertion for $XP_{1[op]}$)
C: [•X•]	≻ [•OP•]	(movement of $XP_{1[op]}$ to SpecC)
C: [•X, OP•]		(complete maraudage by $XP_{1[op]}$ in SpecC)
C: Ø		(deletion of checked structure-building features on C)
C: Ø		(no features left for attracting $XP_{2[op]}$)

Consequence:
A topic island cannot be created. The same issues arise with respect to criterial freezing and input optimization as before.

(59) *Undetectable criterial freezing*:
Radios$_1$ glaube ich [$_{CP}$ t$'_1$ [$_C$ hat] [$_{TP}$ er der Maria t$_1$ gegeben]]
radios think I has he the Mary given

(60) *The relevant stage of the derivation – topicalization from topic island*:



4.4. Further Issues

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 condition on movement. Rather, an item undergoing long-distance movement targets the same domain and marauds the inventory of movement-inducing features of C before the items supposed to show up in SpecC permanently have had a chance to get there. Thus, the crucial factor is *timing*: Which item arrives first in the C domain? Interestingly, the answer needed to derive *wh*-island and topic island effects is one that follows automatically, given the approach to CED effects in Müller (2008); cf. 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.

Possible extensions:
(i) Argument/adjunct asymmetries in extraction. (Hypothesis: adjuncts are characterized by more features.)
(ii) Finite/non-finite asymmetries in extraction. (Hypothesis: differences in feature structures on C.)

(iii) Further asymmetries between movement types. (Topicalization is "bare" operator movement; *wh*-movement is triggered by two features. Other movement types may be triggered by more, or different, operator features.)
(iv) Subset relations: Can *wh*-phrases simply be moved to the left periphery as an instance of topicalization? Perhaps the answer is yes; see Reis and Rosengren (1992).

5. Conclusion

We have argued for the existence of a repair strategy that recurs in different core domains of syntax: agreement, case, and movement. The constant part of the strategy involves a category C_1 seeking for more features than have been provided for it by some head H. C_1 thus searches H for features that H originally provided for some other category C_2: it marauds C_2's feature set. Different languages show different reflexes: in some cases, there are unexpected restrictions on C_2, in others, special morphology indicates insertion of another probe, and in yet others, the derivation crashes.

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