Ergatives Move Too Early

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GLOW 35, Universität Potsdam, March 28-30, 2012

1. Background

- Some kinds of linguistic expressions are less mobile than others; they may not cross domains that are transparent for other items: object vs. subject, argument vs. adjunct, referential vs. non-referential, having an address or not (Manzini (1992)), etc.

- This can be captured by imposing appropriate constraints on empty categories that are assumed to be left by displacement operations (cf., e.g,. the Empty Category Principle (ECP) for traces, or the different constraints for trace vs. pro in Cinque (1990)).

- Such options do not exist if:

  - All constraints are either principles of efficient computation or imposed by the interfaces (Chomsky (2001; 2008)).
  - Traces do not exist. (This may be so because displacement does not leave a reflex in the original position; see Epstein & Seely (2002), Unger (2010), Müller (2011) for some options; or because a multidominance approach is adopted; see Gärtner (2002), Starke (2001), Abels (2004), Frampton (2004), among others.)

- Conclusion: If some items are less mobile than others, this must be so because their movement may lead to problems elsewhere, either for themselves or for other items in the clause.

- Suggestion: Movement of certain items (α) may create problems for other, sufficiently similar items (β).

- Goal: A *relational*, co-argument-based approach to displacement (α cannot move in the presence of β because α-movement creates problems for β-licensing) of the type that has sometimes been suggested for case assignment (α is assigned x-case in the presence of β; see Marantz (1991), Bittner & Hale (1996), Wunderlich (1997), Stiebels (2000), McFadden (2004)).

2. Introduction

Observation:
In many morphologically ergative languages, ergative arguments (DP_{erg}) cannot undergo Ā-movement (wh-movement, focussing, relativization).

Question:
What explains the prohibition against movement of ergative subject DPs?

Answer:
If an ergative subject DP undergoes movement, an absolutive object DP cannot get case: Movement of the ergative DP per se is unproblematic; but problems are created for its absolutive co-argument. Thus, the approach captures Polinsky et al.'s (2011) hypothesis that ergative displacement leads to a processing problem because removal of an ergative DP from a clause makes identification of the grammatical function of the absolutive DP difficult (but not vice versa).

3. Data

3.1 Wh-Movement

(1) *Wh-Movement of DP_{erg} vs. DP_{abs} in Mam* (Mayan; England 1983a; 1989; Campana 1992:88):

   a. Ma-aʔ   chi   tzaj t-tzyu-ʔn   Cheep kab' xiinaq
   RPST-EMPH 3PL.ABS DIR 3SG.ERG-grab-DS José   two man
   'José grabbed the men.'

   b. Alkyee-qa xhi   tzaj t-tzyu-ʔn   Cheep
   who-PL   RPST.DEP.3PL.ABS DIR 3SG.ERG-grab-DS José
   'Whom did José grab?'

   c. *Alkyee saj   t-tzyu-ʔn   kab' xiinaq
   who   RPST.DEP.3SG.ABS.DIR 3SG.ERG-grab-DS two man
   'Who grabbed the men?'

(2) *Wh-Movement of DP_{abs} in Mam* (England 1983a; 1989; Campana 1992:92):

   a. Ma   chi   b'eet xiinaq
   RPST 3PL.ABS walk man
   'The men walked.'

   b. Alkyee x-hi   b'eet?
   who   3PL.ABS-DEP walk
   'Who walked?'

(3) *Wh-Movement in Kanamarí* (Katukinan; Queixalos 2010):

   a. Hanian tu Nodia nah=hoho-nin?
   who(m) Q Nodia ERG=call-DURATIVE
   'Whom is Nodia calling?'

   b. Hanian tu waokdyi-nin?
   who(m) Q arrive.here-DURATIVE
   'Who is arriving here?'

   c. *Hanian tan na=dyuman tahi yu?
   who   here ERG-spread water Q
   'Who spread water here?'

   d. Hanian tan wa-dyuman tahi   yu?
   who   here AP-spread   water Q
   'Who spread water here?'

(4) *Relativization of DP_{erg} vs. DP_{abs} in Jacaltec* (Mayan; Campana 1992: 91; Craig 1977)

    a. ... ch'en   ome   [xinliko   ...]
        the.CLASS earrings buy.3ABS.1ERG
        '...the earrings that I bought ...'

    b. X-Ø-w-il   naj   [xto   ewi]
        ASP-3ABS-1ERG-see CLASS go.3ABS yesterday
        'I saw (the man) who went yesterday'

    c. *... metx   tx'i [xintx'a   ni'an unin ...]
        the.CLASS dog bite.3ABS.3ERG little child
        '...the dog that bit the child ...'

(5) *Relativization of DP_{erg} vs. DP_{abs} in Dyirbal* (Pama-Nyungan; Dixon 1994: 169-170)

    a. ŋuma-Ø   [_{CP} banaga-ŋu]   yabu-ŋgu   bura-n
        father-ABS   return-REL.ABS mother-ERG see-NONFUT
        'Mother saw father who was returning.'

    b. ŋuma-Ø   yabu-ŋgu   [_{CP} banaga-ŋu-rru] bura-n
        father-ABS mother-ERG   return-REL-ERG see-NONFUT
        'Mother, who was returning, saw father.'

    c. *yabu-Ø   [_{CP} bural-ŋu   ŋuma-Ø] banaga-n^{y}u
        mother-ABS   see-REL-ABS father-ABS return-NONFUT
        'Mother, who saw father, was returning.'

    d. yabu-Ø   [_{CP} bural-ŋa-ŋu]   ŋuma-gu] banaga-n^{y}u
        mother-ABS   see-ANTIPASS-REL-ABS father-DAT return-NONFUT
        'Mother, who saw father, was returning.'

(6) *Relativization in Kanamarí* (Queixalos 2010):

    a. Yo-hik   nyan   Nodia na=dahudyi-nin   tukuna
        1SG-know DEICTIC Nodia ERG=bring-DEPENDENT Indian
        'I know the Indian that Nodia brought.'

    b. Yo-hik   nyan   waokdyi-nin   anyan piya
        1SG-know DEICTIC arrivi.here-DEPENDENT this   man
        'I know the man who arrived here.'

    c. *Yo-hik   nyan   piya na=dahudyi-nin   Hanani
        1SG-know DEICTIC man ERG=bring-DEPENDENT H.
        'I know the man who brought Hanani.'

    d. Yo-hik   nyan   piya wa-dahudyi-nin   Hanani
        1SG-know DEICTIC man AP-bring-DEPENDENT H.
        'I know the man who brought Hanani.'

(7) *Relativization in Tongan* (Austronesian; Otsuka (2006)):

    a. e   fefine [na'e fili   'e   Sione]
        DEF woman PST choose ERG Sione
        'the woman (who) Sione chose'

    b. *e   fefine [na'e fili   'a   Sione]
        DEF woman PST choose ABS Sione
        'the woman (who) chose Sione'

(8) *Focus Movement of DP_{erg} vs. DP_{abs} in Mam* (England 1983b: 4)

    a. Ma chi   kub' t-tzyu-?n   xiinaq qa-cheej
        ASP 3PL.ABS DIR 3SG.ERG-grab-DS man   PL-horse
        'The man grabbed the horses.'

    b. Qa-cheej xhi   kub' t-tzyu-?n   xiinaq
        PL-horse DEP.ASP.3PL.ABS DIR 3SG.ERG-grab-DS man
        'The man grabbed THE HORSES.'

    c. *Xiinaq chi   kub' t-tzyu-?n   qa-cheej
        man 3PL.ABS DIR 3SG.ERG-grab-DS PL-horse
        'THE MAN grabbed the horses.'

(9) *Focus Movement of DP_{abs} in Mam* (England 1983b: 4)

    a. Ma tz-uul   xiinaq
        ASP 3SG.ABS-arrive.here man
        'The man arrived here.'

    b. Xiinaq s-uul
        man   DEP.ASP.3SG.ABS-arrive.here
        'THE MAN arrived here.'

(10) *Focus Movement in Kanamarí* (Queixalos 2010):

    a. Maranmaran na=tyo   kana tona   tyo
        M.   ERG/GEN=daughter FOCUS go.away EXCLAMATIVE
        'It's Maranmaran's daughter that went away.'

    b. A-obatyawa kana   Aro na=nuhuk kariwa
        3SG-wife   FOCUS Aro give   white.man ERG=LOC
        'It's his own wife that Aro gave to the white man.'

    c. *Waro na=minkudak-boni   wa:pa
        parrot ERG=hindquarters-peck dog
        'It's the parrot that pecked the dog's hindquarters.'

    d. Waro wa-minkudak-boni   wa:pa
        parrot AP-hindquarters-peck dog
        'It's the parrot that pecked the dog's hindquarters.'

4.   Previous Analyses

Three kinds of analyses:

1. The trace of DP_{erg} is not licensed (e.g., in ECP terms, it is not strictly governed; cf. *that*-trace effects in English).

2. There is nothing wrong with ergative movement as such; it's just that the relevant lan-

guages have a special (*agent focus*, AF) marker which does what the ergative marker does *and* signals the presence of an A-bar dependency at the same time. Given an optimality-theoretic approach, the agent focus construction can block the ergative+movement construction as suboptimal because it leads to a better constraint profile (Stiebels (2006)).

3. (Covert) case-driven movement of DP$_{abs}$ blocks movement of DP$_{erg}$, either due to minimality (Campana (1992)), or because DP$_{abs}$ blocks the only escape hatch within vP (Aldridge (2004), Coon (2010)).

Problem with analysis 1:
The analysis is not available under minimalist assumptions.

Problem with analysis 2:
The analysis can only work for Mayan languages with agent focus constructions. (Antipassive, e.g., cannot lead to a better constraint profile because the strategy is harmonically bounded by ergative movement: Antipassive neither indicates A-bar movement, nor does it maintain case faithfulness.)

Problems with analyses 3:

- Technical problems: Campana's analysis is based on a non-standard concept of intervention; Aldridge (2004) and Coon (2010) must stipulate a ban on multiple specifiers.

- Empirical problem: All three accounts must resort to covert movement of DP$_{abs}$, which is typically not motivated on independent grounds.

- Empirical problem: The Aldridge/Coon analyses predict that similar movement asymmetries between coarguments should be found in nominative-accusative languages, contrary to fact.

- Empirical problem: DP$_{abs}$ blocks movement of DP$_{erg}$ but *not* movement of other vP-internal elements like PP arguments, DPs with oblique case, or (referential) adjuncts (which are VP-internal; see Aoun (1986)); cf. (11)-(14). On an Aldridge/Coon type of analysis, this can partly be accounted for by stipulating that intransitive vPs are never phases; but the problem is more general, and a wrong prediction remains for transitive contexts as in (13), (14). (Essentially, what is derived is an *absolutive island* constraint rather than an *ergative movement* constraint.)

(11) *Wh-Movement of Passive Agent in Mam* (England (1983ab)):
Al uʔn xhi   kub' tzy-eet   qa-cheej?
Q RN DEP-3PL.ABS DIR grab-PASS PL-horse
'By whom were the horses grabbed?'

(12) *Wh-Movement of Referential Adjuncts in Jacaltec* (Craig (1977)):
  a. Bakin x-Ø-ul   naj ?
      when ASP-ABS.3-arrive he
      'When did he arrive?'
  b. Bay   chach yoyi ?
      where ABS.2 go
      'Where are you going?'

(13) *Wh-Movement of Instrumental PP in Erg. Contexts in Yucatec* (Tonhauser (2007, 6)):
Yeetel ba'ax t-u   ch'aak-Ø   che'?
with   what PERF-ERG.3 cut-3SG.ABS wood
'With what did he cut the wood?'

(14) *Wh-Movement of Locational PP in Erg. Contexts in Tzotzil* (Aissen (1996, 470)):
Buch'u ta s-na   av-ik'ta   komel 1-a-bolsa-e?
who   P A3-house ERG2-leave DIR   the-A2-bag-ENC
'In whose house did you leave your bag?'

5.   Assumptions

5.1   *Clause structure*

(15) [$_{CP}$ C [$_{TP}$ T [$_{vP}$ DP$_{ext}$ [$_{v'}$ v [$_{VP}$ V DP$_{int}$]]]]]

5.2   *Locality of movement*

Minimal assumption:
Movement to SpecC must make an intermediate stop in SpecT. This can be ensured by assuming that either TP is a phase (Richards (2011)); or by stipulation (Chomsky (2005), Boeckx & Grohmann (2007)), or by assuming that every phrase is a phase.

Actual assumption:
Movement takes place successive-cyclically, from one XP edge domain to the next one higher up. Given the Phase Impenetrability Condition (PIC; Chomsky (2001)), this follows automatically if every XP is a phase.

(16) *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.

(17) *Edge*:
The edge of a head X is the residue outside of X′; it comprises specifiers of X (and adjuncts to XP).

Assumption:
It must be ensured that intermediate steps of movement as required under the PIC are possible

in the first place in a model of syntax where all operations are feature-driven. A standard assumption here is that *edge features* ([●X●]) that trigger intermediate movement steps can be inserted on all intervening phase heads.

5.3 Assignment of structural case

Three proposals in minimalist syntax:

- T assigns nominative=ergative, v assigns accusative=absolutive.
  (Levin & Massam (1985), Chomsky (1995, ch.3), Bobaljik (1993), Laka (1993), Rezac (2003), Bobaljik & Branigan (2006) (with a qualification for Chukchi), etc.)

- T assigns ergative, v assigns accusative, nominative=absolutive is default case.
  (Bittner & Hale (1996))

- T assigns nominative=absolutive, v assigns accusative=ergative (Murasugi (1992), Jelinek (1993), Ura (2000; 2006), Müller (2004), Heck & Müller (2007))

The third type of analysis will be presupposed in what follows. (This assumes that the ergative is a structural case. See Nash (1996), Alexiadou (2001), Woolford (2001; 2006), Legate (2008) for the opposite view. However, Woolford & Legate also assume that ergative is assigned by v; the only relevant difference is that they postulate that ergative assignment must go hand in hand with θ-assignment.)

5.4 Patterns of argument encoding

Timing of elementary operations:
The analysis in Müller (2004), Heck & Müller (2007) crucially relies on *timing*. Ergative vs. accusative patterns of argument encoding result from different (local optimality-theoretic) resolutions of conflicting earliness requirements for Agree and Merge on the vP level: Agree ≫ Merge → accusative pattern; Merge ≫ Agree → ergative pattern.

(18) *Two types of features that drive operations*:
  a. Structure-building features (edge features, subcategorization features) trigger Merge: [●F●]
  b. Probe features trigger Agree: [∗F∗].
  c. Agree and Merge both take place under *m-command* (i.e., Agree may affect a head and its specifier).

(19) AGREE CONDITION:
  Probes ([∗F∗]) participate in Agree.

(20) MERGE CONDITION:
  Structure-building features ([●F●]) participate in Merge.

Assumptions about argument encoding:
(i) There is one structural argument encoding feature: CASE.

(ii) CASE can have two values: ext(ernal) and int(ernal) (determined with respect to vP, the predicate domain).
(iii) [CASE:ext] = nominative/absolutive, [CASE:int] = accusative/ergative (Murasugi (1992)).
(iv) [CASE] features figure in Agree relations involving T/v and DP, as in (21).

(21) *The role of T and v in argument encoding*:
  a. T bears a probe [∗CASE:ext∗] that instantiates a matching [CASE:ext] goal on DP.
  b. v bears a probe [∗CASE:int∗] that instantiates a matching [CASE:int] goal on DP.

(22) *Argument encoding by case or agreement*:
  a. Argument encoding proceeds by case-marking if [CASE:α] is morphologically realized on DP.
  b. Argument encoding proceeds by agreement-marking if [∗CASE:α∗] is morphologically realized on T/v.

Side remark:
Case/agreement mismatches may arise, in the sense that agreement deviates from the basic case-marking pattern in a language. A possible analysis: Secondary, purely ϕ-based Agree.

A conspicuous property:
The head v has a dual role: It participates in a Merge operation with a DP, and it also participates in an Agree relation with a DP. This dual role has far-reaching consequences for the nature of argument encoding.
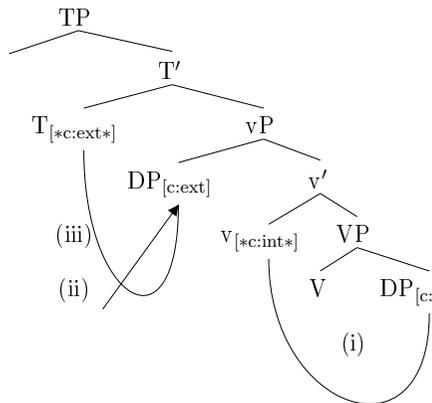
A constraint conflict:
Consider a simple transitive context, with two arguments DP$_{int}$, DP$_{ext}$. Suppose that the derivation has reached a stage Σ where v has been merged with a VP containing DP$_{int}$, with DP$_{ext}$ waiting to be merged with v in the workspace of the derivation. At this point, a conflict arises: AC demands that the next operation is Agree(v,DP$_{int}$) (see (a)), MC demands that it is Merge(DP$_{ext}$,v) (see (b)). (Application of these constraints at each derivational step derives the effects of the Earliness Principle (Pesetsky (1989).)
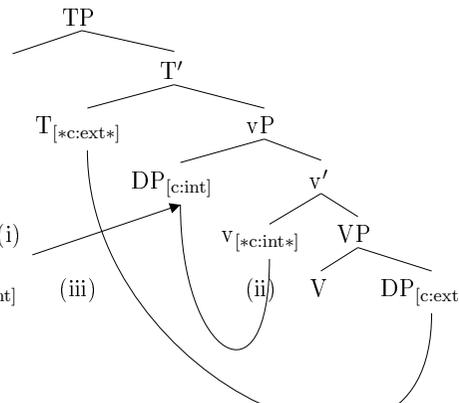
(23) *Stage Σ:*

DP$_{[c:□]}$ v'
         (b) v$_{[∗c:int∗],[●D●]}$ VP
             V   DP$_{[c:□]}$
               (a)
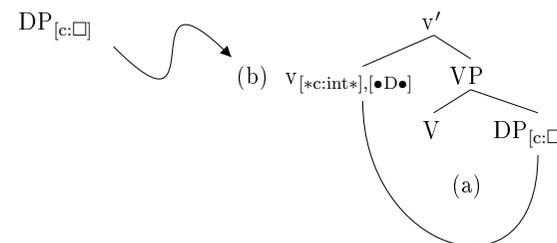
(24) a. *Agree before Merge: accusative*   b. *Merge before Agree: ergative*

Note:
The derivation of the ergative pattern presupposes that a specifier is preferred with respect to Agree with its head to an item included in the complement of that head. This can be formulated as the *Specifier-Head Bias* (Chomsky (1986; 1995), Koopman (2006); see Béjar & Řezáč (2009) for a similar idea with the bias inversed).

(25) *Specifier-Head Bias*:
     Spec/head Agree is preferred to Agree under c-command.

This replaces standard minimality conditions (Relativized Minimality, MLC) (though with a somewhat different empirical coverage). The Specifier-Head Bias is compatible with equidistance effects, which pose a problem for path-based definitions of minimality.

5.5 Maraudage

Assumption:
Certain goal features require checking in Spec/head configurations; this way, they may "maraude" a functional head and take away features that should normally be reserved for some other item. (See Georgi, Heck & Müller (2009), Georgi (2010), Müller (2011) on maraudage; similar concepts are suggested in Chomsky (2001), Abels (2003), Anagnostopoulou (2005), Adger & Harbour (2007), Béjar & Řezáč (2009); and by Trommer (2011) and Zimmermann (2011) for morphophonology.)

Case features and maraudage:
Structural case features trigger maraudage in Spec/head configurations even if they have already been checked (or valuated). Independent motivation: the existence of *case stacking* in the world's languages (see Andrews (1996), Nordlinger (1998), Richards (2007)).

(26) *Activity of structural case features*:
     Structural case features act as active goals.

Note:
Given the Specifier-Head Bias, the configuration in (27-a) may involve checking of [case:int] by X or not (leading to a crash of the derivation or not because of an unchecked [case:☐]), whereas the configuration in (27-b) must involve checking of [case:int] by X (which invariably leads to a crash).

(27) a. $[_{X'}$ X$_{[*case:ext*]}$ $[_{ZP}$ ... $\alpha_{[case:int]}$ ... $\beta_{[case:☐]}$ ... $]]$
     b. $[_{XP}$ $\alpha_{[case:int]}$ $[_{X'}$ X$_{[*case:ext*]}$ $[_{ZP}$ ... t$_\alpha$ ... $\beta_{[case:☐]}$ ... $]]]$

Note:
There is no minimality condition on Agree or Merge; minimality effects are derivable from the PIC; see Müller (2011). (Thus, there is no *defective intervention* because there is no minimality constraint; but there is "*defective non-intervention*".)
Suppose that both α and β are PIC-accessible to X in (27); this will imply that the PIC is slightly less restrictive, as eventually proposed in Chomsky (2001), or that Agree operations can escape the PIC, as suggested by Bošković (2007), among others.

Assumption:
Checking of [case:int] on α with a conflicting [*case:ext*] on X is harmless as such; α will simply maintain its original feature value. However, [*case:ext*] is then discharged, and not available for further operations anymore.

6. Analysis

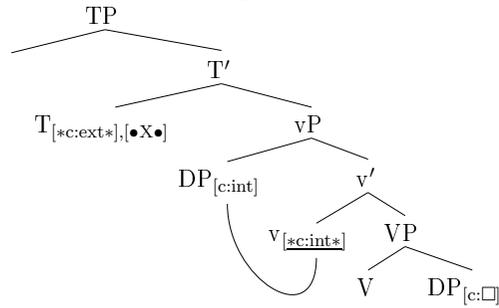*6.1 Displacement in Languages with Ergative Encoding Patterns*

*6.1.1 *DP_{erg} Movement*

Given the PIC, DP_{erg} needs to move from Specv to SpecT if it is to undergo subsequent movement to SpecC (*wh*-movement, relativization, focus movement). Given that the "ergative" ranking Merge ≫ Agree (more precisely, MC ≫ AC) is also maintained on the TP cycle (see Lahne (2008) for an application of this idea to a different empirical domain, viz., word order), movement of DP_{erg} (as an instance of internal Merge) will have to *precede* Agree of T with the VP-internal DP that has not yet valued its case feature (as absolutive). Given the Specifier-Head Bias, DP_{erg} will next maraud T's case probe; the internal argument DP will consequently remain without a checked case feature. Assuming that all DPs must have their case features checked eventually (and assuming that there is no such thing as a default case), the derivation will therefore crash. In a nutshell, ergative movement is impossible because the remaining argument cannot get absolutive case in this context.
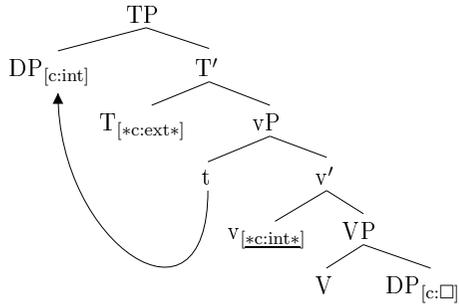
(Note: Underlining signals a discharged probe in the following trees; discharged edge features are not represented; t's are only inserted as mnemonic devices.)
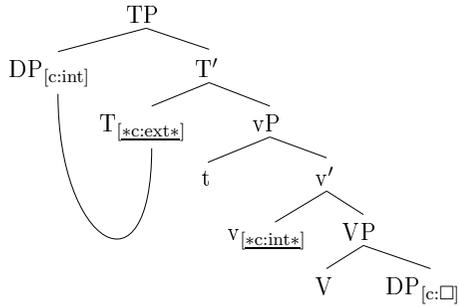
(28) *Illegitimate movement of DP_{erg}*

    a. Structure after T is merged

```
                TP
          _____|_____
                       T′
             _____|_____
     T_[∗c:ext∗],[●X●]            vP
                          _____|_____
                     DP_[c:int]           v′
                                   _____|_____
                              v_[∗c:int∗]         VP
                                              ____|____
                                             V        DP_[c:□]
```

    b. Merge before Agree triggers movement of DP_{erg} first

```
              TP
        _____|_____
  DP_[c:int]         T′
               _____|_____
        T_[∗c:ext∗]         vP
                      _____|_____
                     t             v′
                              _____|_____
                         v_[∗c:int∗]     VP
                                     ____|____
                                    V        DP_[c:□]
```

    c. Specifier-Head Bias triggers maraudage of T

```
              TP
        _____|_____
  DP_[c:int]         T′
               _____|_____
        T_[∗c:ext∗]         vP
                      _____|_____
                     t             v′
                              _____|_____
                         v_[∗c:int∗]     VP
                                     ____|____
                                    V        DP_[c:□]
```
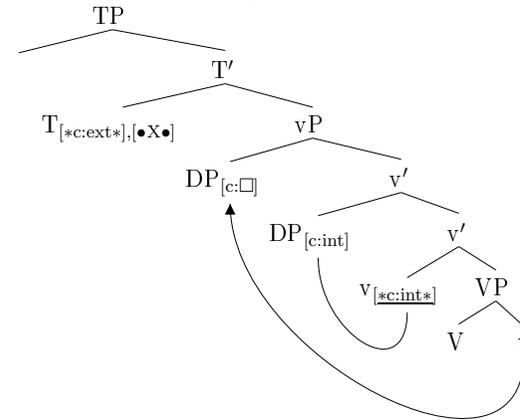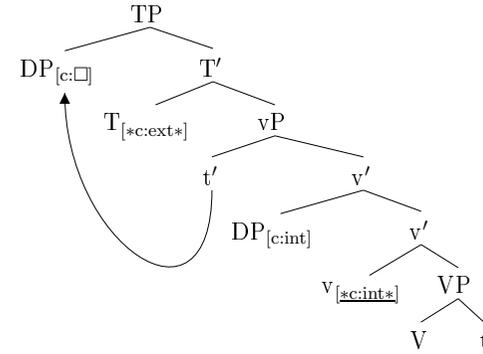
6.1.2   DP_{abs} Movement

No such problem arises for movement of DP_{abs} because DP_{erg} has already been assigned case when DP_{abs} moves to SpecT.
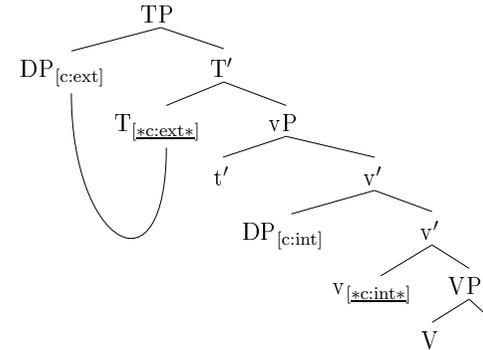
(29) *Legitimate movement of DP_{abs}*

    a. Structure after T is merged

```
                TP
          _____|_____
                       T′
             _____|_____
     T_[∗c:ext∗],[●X●]            vP
                          _____|_____
                     DP_[c:□]             v′
                                   _____|_____
                              DP_[c:int]          v′
                                           _____|_____
                                      v_[∗c:int∗]         VP
                                                      ____|____
                                                     V        t
```

    b. Merge before Agree triggers movement of DP_{abs} first

```
              TP
        _____|_____
  DP_[c:□]           T′
               _____|_____
        T_[∗c:ext∗]         vP
                      _____|_____
                     t′            v′
                              _____|_____
                         DP_[c:int]      v′
                                   _____|_____
                              v_[∗c:int∗]       VP
                                            ____|____
                                           V        t
```

    c. Finally, Agree with T ensures external case of DP_{abs}; no maraudage

```
              TP
        _____|_____
  DP_[c:ext]         T′
               _____|_____
        T_[∗c:ext∗]         vP
                      _____|_____
                     t′            v′
                              _____|_____
                         DP_[c:int]      v′
                                   _____|_____
                              v_[∗c:int∗]       VP
                                            ____|____
                                           V        t
```

Note:

On the vP cycle in (29-a), MC $\gg$ AC ensures that external Merge of DP_{ext} and (subsequent; Chomsky (2001; 2008)) internal Merge of DP_{int} (both triggered by ([•X•]) features on v) both precede Agree. Since there is no MLC-like constraint and both items occupy a Specv position (so the Specifier-Head Bias does not discriminate the options), the derivation can now proceed in two ways: Agree(v,DP_{ext}) ultimately leads to a well-formed output, as indicated; in contrast, Agree(v,DP_{int}) in (29-a) would lead to a crash because DP_{ext} would then never be assigned case.

6.2   Displacement in Languages with Accusative Encoding Patterns

6.2.1 DP_{acc} Movement

The ranking Agree $\gg$ Merge that gives rise to an accusative pattern in the first place (on the vP cycle) is also active on the TP cycle. Here it ensures that Agree with the DP_{nom} in Specv can be carried out *before* the DP_{acc} undergoes successive-cyclic movement to SpecT (and then to a higher position).

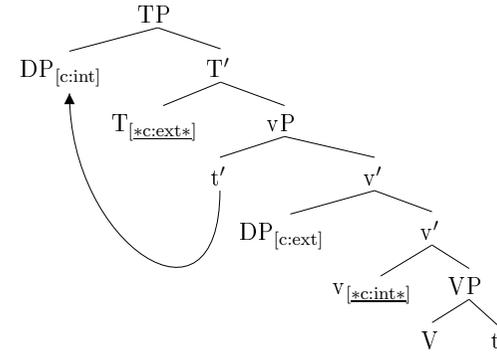(30)   *Legitimate movement of DP_{acc}*

    a.   Structure after T is merged
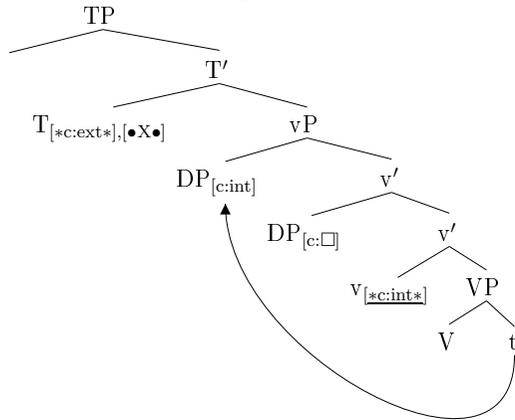
    b.   No maraudage: Agree before Merge triggers case valuation of DP_{nom} next
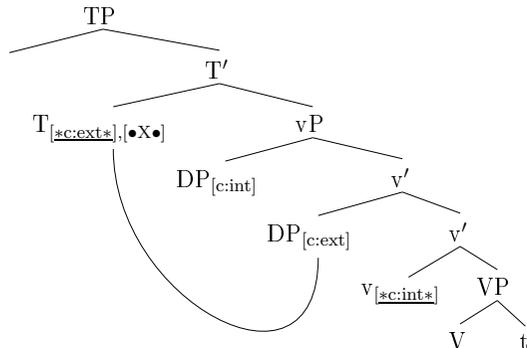
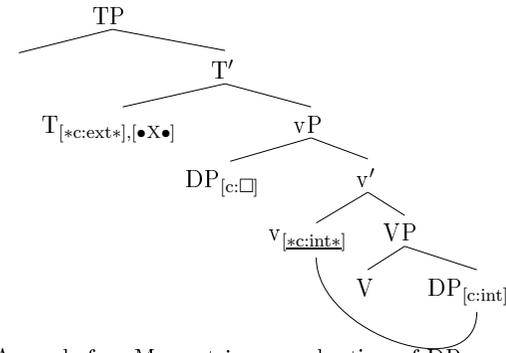   c.   Finally, movement of DP_{acc} takes place to SpecT
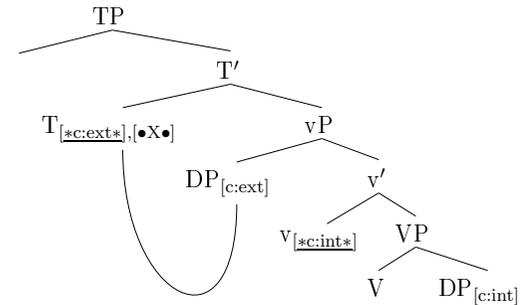

6.2.2 DP_{nom} Movement

Similarly to the DP_{abs} case, there is no problem for movement of DP_{nom} because DP_{acc} has already been assigned case when DP_{nom} moves.

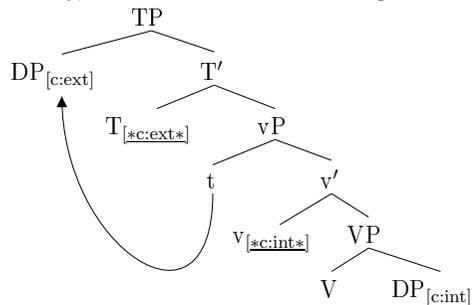(31)   *Legitimate movement of DP_{nom}*

    a.   Structure after T is merged

    b.   Agree before Merge triggers valuation of DP_{nom} next

c. Finally, movement of DP_{nom} takes place to SpecT

```
                    TP
          ┌─────────┴─────────┐
      DP[c:ext]               T'
                      ┌───────┴───────┐
                  T[*c:ext*]          vP
                              ┌───────┴───────┐
                              t               v'
                                      ┌───────┴───────┐
                                  v[*c:int*]          VP
                                              ┌───────┴───────┐
                                              V          DP[c:int]
```

6.3 Opacity

Note:
Under the present analysis, the data show opacity effects (Chomsky (1951; 1975), Kiparsky (1973), Arregi & Nevins (2012)).

- Merge(T,DP_{erg}) *bleeds* Agree(T,DP_{abs}): A crash results.

- Move(T,DP_{acc}) *counter-bleeds* Agree(T,DP_{nom}): DP_{acc} movement comes too late to effect bleeding, but this cannot be detected by just looking at the output representations on the TP cycle (even if they are enriched with devices like traces): DP_{acc} in SpecT *does* occupy the preferred position for case valuation with T, compared with DP_{nom} in Specv.

(Note that the opacity here is of a type that cannot be accounted for representationally by positing devices like traces. As a matter of fact, *both* rule interactions are strictly speaking opaque because their effects cannot be read off final output representations; but the bleeding effect with ergative movement can be if traces are present, unlike the counter-bleeding effect with accusative movement.)

7. Outlook

7.1 Open Questions

- What about DP_{erg}s of unergative intransitive verbs in languages with active encoding patterns? Can they move or not? Does the theory predict them to be mobile or not? (A relevant issue: Are unergative intransitive verbs hidden transitive verbs?)

- Why do not all ergative languages instantiate a ban on ergative movement? Options include:

  - The order of operations on T may differ from the order on v (perhaps as a marked option).

  - T is not a phase head in some languages.

  - DPs cannot check multiple case features in some languages.

- What happens if two arguments are moved? The analysis predicts that if both the ergative and the absolutive DP undergo A-bar movement via SpecT, wellformedness can result (in one of the two possible derivations). Is this prediction confirmed? Data such as (32) would seem to indicate that it is.

- What about repair strategies for the ban on ergative movement such as the agent focus (AF) construction (Stiebels 2006, Aissen 1999)? Plausibly, the agent focus morpheme is the morphological realization of an added probe which assigns case to DP_{int}, thereby preventing a crash of the derivation (cf. Béjar & Řezáč 2009, Coon 2010). (See the appendix for an explicit proposal.)

(32) *A-bar movement of DP_{erg} and DP_{abs} in Yucatec* (Tonhauser (2007, 11)):
Maria-e'   maax t-uy   il-ah?
Maria-TOP who   PERF-ERG.3 see-CMP
'Maria, who does she see?'

7.2 The Bigger Picture

(33) *Generalization*:
Displacement of α is impossible if there is a step τ of the derivation, with X the current phase head, such that (a), (b), and (c) hold.
   a. X c-commands β, and β needs some feature(s) δ from X.
   b. Merge before Agree holds on the XP cycle.
   c. α can take δ (but would not normally require it from X) and needs to undergo movement via the edge of XP.

Two (possible) further instances of this effect:

- Movement of topics vs. *wh*-phrases from *wh*-islands in German (Müller (2011, ch.5))

- Left Branch Condition effects

8. Appendix: Agent Focus

Question:
How can the external argument of a transitive verb be questioned, relativized or focussed?

Answer:
One possibility is to use the *Agent Focus* construction (AF).

8.1 Properties of Agent Focus in Mayan languages

Transitive verb, no AF

- Both arguments receive structural case.

- The verb agrees with DP_{int} and DP_{ext} in person and number. DP_{ext} is cross-referenced by set A-affixes; DP_{int} and the sole argument of an intransitive verb are cross-referenced by set B-affixes (ergative pattern).

- The verb carries the transitive status suffix (gloss: TV).

Transitive verb in the AF construction

- Both arguments receive structural case. There is no demotion of one of the arguments, AF is not a detransitivizing operation (for arguments see the references in Aissen (1999)).

- The verb agrees with only one of the two arguments and cross-references this argument by the set B-affixes. The choice of the agreement-triggering argument is regulated by language-specific rules.

- The verb carries the intransitive status suffix (gloss: ITV).

- The AF-suffix attaches to the verb.

The AF construction is syntactically transitive, but morphologically intransitive.

(34) *Agent Focus in Yucatec (Tonhauser; 2007)*:
    a. aree ri   achii x-Ø-aa-ch'ay-o
        FOC the man PERF-3SG.ABS-2SG.ERG-hit-TV
        'It was the man that you hit.'   *patient extraction without AF*
    b. aree ri   at x-at-ch'ay-ow   ri   achii
        FOC the you PERF-2SG.ABS-hit-AF the man
        'You were the one who hit the man.'   *agent extraction with AF*

(35) *Agent Focus in Q'anjobal (Coon; 2010)*:
    a. Max-ach   y-il-a
        ASP-ABS.2 ERG.3-see-TV
        'She saw you.'   *transitive verb, no extraction*
    b. Max-ach way-i
        ASP-ABS2 sleep-ITV
        'You slept'   *intransitive verb*
    c. *Maktxel max-ach   s-laq'-a'
        who   ASP-ABS.2 ERG.3-hug-TV
        'Who hugged you?'   *agent extraction without AF*
    d. Maktxel max-ach   laq'-on-i
        who   ASP-ABS.2 hug-AF-ITV
        'Who hugged you?'   *agent extraction with AF*

Distribution of AF

- AF can only be used if an agent is to be extracted, it cannot be used in a regular transitive clause without extraction.

- AF cannot be used if a non-agent DP is extracted.

(36) *AF Restrictions in Tzotzil (Aissen; 1999: 455)*:
    a. *I-kolta-on   tzeb li   Xun-e
       CP-help-AF girl the Juan-ENC
       'Juan helped the girl.'   *no extraction*
    b.??A li   Xun-e,   I-kolta-o li   tzeb-e
       TOP the Juan-ENC, CP-help-AF the girl-ENC
       'The girl helped JUAN.'   *extraction of DP_{int}*

8.2 Analysis of Agent Focus

We need to account for (i) the intransitive agreement, (b) the structural case assignment, (c) the extractability of DP_{ext} and (d) the impossibility of extracting DP_{int}.

Assumptions

- DP_{int} is assigned structural case by an added probe [∗c:x∗] (Béjar & Řezáč; 2009). This probe is realized by the AF-morpheme (cf. Coon (2010)).

- The probe is located below v. For concreteness, we assume that it is added to V (the AF morpheme is adjacent to the verbal root).

- An intransitive v is merged that does not assign [c:int] (ergative case), but still introduces the external argument (this variant of v is independently needed to account for case assignment with unergatives). This accounts for the intransitive status suffix and intransitive agreement morphology.

- The feature content of T does not change, it still assigns [c:ext].

The (non-)extractibility of DP_{int} and DP_{ext}, respectively, follows automatically from the system developed in section 5.

(37) *Operations applying in the vP*:
    [$_{vP}$ DP_{ext} {[∗C:□∗]} [$_{v'}$ v{[•D•]} [$_{VP}$ V{ [∗c:x∗]} DP_{int} { [c:x]}]]]
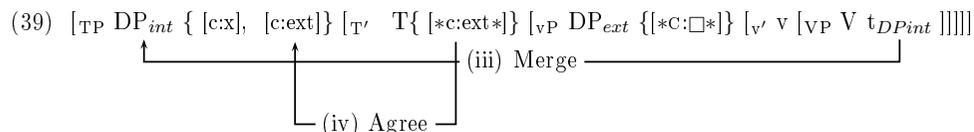   └── (ii) Merge ──┘   └ (i) Agree ─┘
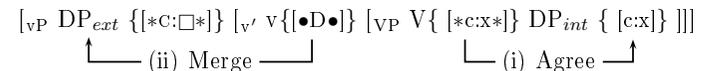
AF: DP_{ext} Movement

A case-assigning probe is added to V. Since V does not introduce a DP in its specifier, the case of V is assigned to the complement of V, i.e. to DP_{int}. DP_{ext} does not get case from v because the intransitive variant of v is merged (cf. (37)). Given the ranking Merge ≫ Agree on the TP cycle, DP_{ext} moves to SpecT. Afterwards, it is assigned [c:ext] by T due to the Specifier-Head Bias (cf. (38)). DP_{ext} can then be moved further to the left periphery. Since DP_{int} gets case early in the derivation from V and does not depend on the case assigned by T as in regular transitives, the derivation converges. Maraudage does not apply.

(38) [$_{TP}$ DP_{ext} { [c:ext]} [$_{T'}$ T{ [∗c:ext∗]} [$_{vP}$ t$_{DPext}$ [$_{v'}$ v [$_{VP}$ V DP_{int} { [c:x]}]]]]]
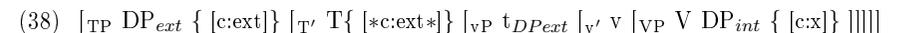
AF: *DP$_{int}$ Movement

DP$_{int}$ is assigned case by the added probe on V because V does not select a specifier that could compete for case assignment with DP$_{int}$. DP$_{ext}$ is introduced in the specifier of v but does not receive case from the intransitive v (cf. (37)). Given the ranking Merge $\gg$ Agree, DP$_{int}$ is moved to SpecT before T assigns case. Due to the Specifier-Head Bias, DP$_{int}$ gets [c:ext] from T in addition to the case [c:x] it was assigned by the added probe on V. There is no case left which could be assigned to DP$_{ext}$ and hence, the derivation crashes (cf. (39)). This is exactly the reversed pattern of what we saw in the derivation of the ban on ergative movement in regular transitives: In AF, DP$_{int}$ marauds the case that DP$_{ext}$ would need; in regular transitives, DP$_{ext}$ marauds the case for DP$_{int}$.

(39) [$_{TP}$ DP$_{int}$ { [c:x], [c:ext]} [$_{T'}$ T{ [*c:ext*]} [$_{vP}$ DP$_{ext}$ {[*c:□*]} [$_{v'}$ v [$_{VP}$ V t$_{DPint}$]]]]]

(iii) Merge

(iv) Agree

It is still an open question why AF can only be applied if an element is extracted.

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