

Locality and anti-locality in a Merge-based system

Ángel J. GALLEGO
Centre de Lingüística Teòrica
Universitat Autònoma de Barcelona
<angel.gallego@uab.cat>

GOAL:

- Review the empirical basis of anti-locality (some projections cannot move)
- Explore an (an) alternative proposal that dispenses with feature-checking

1. Some background: locality constraints

- (1) A well-known observation (cf. Ross 1967, Chomsky 1973, 1986, Huang 1982; for recent discussion, cf. Boeckx 2003, 2008, Lasnik 2006, Stepanov 2001): some constituents cannot move.

a. [[α ... [... δ]]
 ↑ |

b. [[α ... [β ... [... δ]]] β = island / barrier
 ↑ ⊗ |

- (2) Also known is the fact that islands are not a unified phenomenon: weak / strong islands (cf. Huang 1982, Rizzi 1990 *et seq.*, and much related literature).

- (3) Different (current and old) approaches to islands:
 - a. structural approaches (cf. Chomsky 1986, 2004, Huang 1982, Lasnik & Saito 1992, Uriagereka 1999)
 - b. freezing (*Agree*) approaches (cf. Boeckx 2003, Chomsky 2000, 2001, Rizzi 2006, and references therein)
 - c. interface approaches (cf. Boeckx 2010 and references therein).

- (4) In this context, a relevant (and crucial!) point of Chomsky (1973): movement must be local (= cyclic / subjacent).

- (5) The key question: how much? (cf. Abels 2003, Abels & Bentzen 2009, Boeckx 2007, Grohmann 2003, in press)
 - a. uniform (either quasi or truly) paths (cf. HPSG, TAG, Boeckx 2007)
 - b. non-uniform paths (cf. Chomsky 1986 *et seq.*)

- (6) In the recent literature, a new twist (with antecedents, Murasugi & Saito 1985, Bošković 1994, 1997):
 - a. *Anti-locality Hypothesis* (cf. Grohmann 2003: 26)
movement must not be too local
 - b. *Anti-locality Constraint* (cf. Abels 2003: 12)
movement from complement to specifier positions is ruled out (it is too short)

- (7) Although the (bad) consequences of anti-locality have been explored for different phenomena (e.g., Case, binding, etc.; cf. Grohmann in press for an overview), I will focus on movement.

2. Anti-locality and “Last Resort”

- (8) Seen in a broader context, anti-locality is meant to account for some consequences of cyclicity. In particular, why the complement of phase heads cannot move (Chomsky’s *Phase Impenetrability Condition*).

Phase Impenetrability Condition (PIC)

In phase α with head H, the domain of H is not accessible to operations outside α ; only H and its edge are accessible to such operations. [from Chomsky 2000: 108]

- a. $[\alpha [P [\beta \dots]]]$
- b. $[\alpha [P [\cancel{\beta} \dots]]]$

- a. $[\gamma [P [\beta t_\gamma]]]$
- b. $*[[\beta \dots] [P t_\beta]]$

- (9) I will assume, with Chomsky (2000 *et seq.*), that phase heads are C and v^* (plausibly P too), the heads endowed with φ -features.

- (10) The empirical prediction is that TP and VP will not move (putting aside the complement of P; cf. Abels 2003 for discussion).

- a. *Weil $[_{VP}$ ihm dieser Turm morgen zu besichtigen] ...
 because him this tower tomorrow to visit
 ... empfohlen wurde. (German)
 recommended was
 ‘... because it was recommended to him that he visit
 ... the tower tomorrow’
- b. $*[_{TP}$ Maria sé að lesa] heldur Jón að. (Icelandic)
 Maria is to read believes Jon that
 ‘Jon believes that Maria is to read’

[from Abels 2003: 141, 117]

- (11) More data point to the same conclusion: Gallego (2010) on VOS in Romance, Vicente (2007) on vP fronting, causative structures (analyzed as in Torrego 2010), etc.
- (12) Consider the theoretical approach. According to Abels (2003), the impossibility of moving TP and VP is related to *Last Resort* (cf. Chomsky 1995).
 - a. *John seems [t_{John} is clever]
 - b. John seems [t_{John} to be clever]
- (13) *Last Resort*
 A constituent may only be Merged, i.e. base-merged or re-merged, if that leads to the immediate satisfaction of a previously unsatisfiable feature. [from Abels 2003: 92]
 - a. { $\alpha_{[F]}$, $\beta_{[F]}$ } -> feature F is checked upon merger
 - b. *{ $\beta_{[F]}$, { $\alpha_{[F]}$, $\beta_{[F]}$ }} -> no feature checked
- (14) Minimalism exploited feature-checking in a massive (and almost blind) fashion, applying it to different types of informations (ϕ -features, theta-roles, topic/focus, and many many more). Cf. Boeckx (2009) for relevant critical discussion.

3. The proposal: free Merge and feature splitting

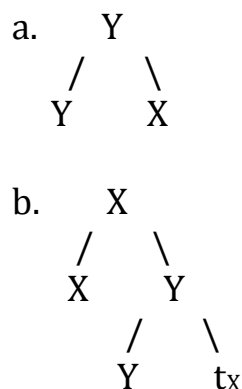
- (15) The approach to *Last Resort* we have just seen presupposes that Merge (EM and IM) must be licensed via feature checking. From this perspective, Merge is motivated (cf. Boeckx 2002, Contreras & Masullo 2000, Frampton & Gutmann 2000, Pesetsky & Torrego 2006).

- (16) The proposal I would like to present assumes, however, that Merge is free, not subject to feature checking (cf. Boeckx, 2009, Chomsky 2004 *et seq.*)

EF permits free Merge to the edge, indefinitely [. . .] Merge can apply freely, yielding expressions interpreted at the interface in many different kinds of ways. [from Chomsky 2008]

- (17) From this perspective, movement of the complement of a phase head to to edge cannot be ruled out on feature checking grounds.

- (18) An interpretation of *Last Resort* in structural (phrase structure) terms will not do either, assuming that there are no labels (cf. Chomsky 2004, Collins 2002).



- (19) Other possible objections to this version of anti-locality:
- a. feature percolation, to the extent it exists (cf. Cable 2007, Narita 2009) could also preclude [γ [P [$_{\beta}$ t_{γ}]]]
 - b. raising to object (cf. Lasnik & Saito 1999)
 - c. P-stranding languages (unless PP phases are parametrized, as Abels 2003 argues)
 - d. VP (not vP) fronting in German (cf. Ott 2009)

(20) I would like to put forward an alternative analysis that builds on Obata & Epstein's (2008) treatment of improper movement, which rests on the idea that the features of a lexical item can split (via "feature-inheritance," a current version of *Attract-F*; cf. Chomsky 1995: 262-263, Richards 2007).

(21) Building on Chomsky's (2008) idea that A and A-bar operations can apply in parallel within the same phase (see (a)), Obata & Epstein (2008) propose to treat improper movement cases as resulting from matrix C-T attracting a φ -feature-less copy of the wh-word *who*, which makes the derivation crash (see (b-c)).

a. [CP Who C [TP Who T [v*P Who v* [VP called Mary]]]]?

b. [C [T seems [Who_[Q] C [Who_[φ] T [Who v* [won the race]]]]]?]

c. [C [T_[φ] seems [Who_[Q] [Who_[φ] T [Who v* [won the race]]]]]?]

(22) I would like to consider an extension of Obata & Epstein's (2008) proposal and argue that phase heads and non-phase heads start the derivation as a single unit, which later on undergoes feature splitting.

- a. Merge ([v-V], IA) = [[v-V] IA]
- b. Merge (EA, [[v-V] IA]) = [EA [[v-V] IA]]

(23) Spell-Out applies after the "v part" of v-V moves (tucks in) below the EA, leaving the " φ -part" of v-V (namely, V) behind.

- a. [EA v [[t_{v-V}] IA]] category splitting v-V
- b. [EA v [[t_{v-φ}] IA]] spell-out

- (24) One could regard the “VP” is as a non-existing or ‘virtual’ projection (see already Vergnaud & Zubizarreta 1982), with no head: the head was v-V, but after splitting we only have “Agr”, which is not a lexical item (cf. Chomsky 1995’s distinction between feature and lexical item).
- (25) As a consequence of feature splitting, at the end of the phase, we end up with a head-less projection (TP and VP, to be read as φ Ps), which therefore cannot move.
- (26) The intuition behind the analysis put forward here owes a lot to the idea, first discussed in Stowell (1981), that v and V (and C and T) are not separate units, but actually a discontinuous item. Similar ideas can be found in Marantz’s (1997 *et seq.*) approach to categorization, and Grimshaw’s (1991) work on extended projections.
- (27) If v and V are ‘the same element,’ then the possibility that they are introduced into the derivation as a single lexical items becomes fairly plausible.
- [W]e might adopt a suggestion of Y. Aoun (personal communication) to the effect that the complementizer and Infl form a discontinuous element. The matching between complementizers and Infl would then follow from the fact that the two actually form a single unit at some level, so that selection for one implies selection for the other.
[from Stowell 1981: 241]
- (28) The discontinuous nature of C-T and v-V is emphasized in different works where the properties of the phase are not decided by the phase head alone (see Boeckx 2008, 2009, Chomsky 2007, 2008), but by the conjunction of phase head and non-phase head. They operate ‘in tandem.’ See also Fortuny (2008).

- (29) From a different perspective, the analysis is also compatible with Rizzi's (1997) idea that the Force-Finiteness cluster is a unit.
- (30) This is also consistent with the idea that only *v* and *C* are labels / head / Probes. This is in fact argued for in Chomsky (2001: 12) in the prepublication (manuscript) version, where it was suggested that "the substantive categories nominal and verbal (perhaps *T* as well) are headed by functional categories: for verbal phrases, a light verb".
- (31) Informally, one could then think of phase heads as heads of the two phrases, one of them being unlabeled, which follows from Chomsky's (2008) labeling algorithm.
- (32) From this splitting approach, it follows that what we dub "VP" and "TP" are actually very similar to intermediate projections (*X'* units) of *v* and *C* respectively, with no label. In other words, perhaps TP and VP are closer to *C'* and *v'*, namely intermediate projections of the phase heads).
- (33) The analysis is also in the spirit if not the letter of Epstein's (1999) idea that intermediate projections are *bona fide* projections at some point of the derivation, but later on become invisible. See also Chomsky (1986: 4 and ff.) on the idea that *X'* projections cannot move.

4. Some consequences of the analysis

- (34) The analysis just sketched precludes the possibility of analyzing *v* as a mere set of φ -features.

- (35) This is a rarely discussed but obvious consequence of adopting an approach along the lines of Hale & Keyser (1993). To see this, consider the analysis of unergatives such as *laugh* or *sing* proposed by Hale & Keyser (1993 *et seq.*):
- a. [VP V_{DO} [√LAUGH]]
 - b. [VP V_{DO} [√SING]]
- (36) If one adopts the analysis above, and combines it with Chomsky's (1995) account of *Burzio's Generalization*, then upstairs *v* cannot be endowed with semantic content, merely being a φ -feature bundle, as depicted in (a):
- a. [_{φ} P EA φ [VP V_{DO} [√LAUGH]]]
 - b. [_{φ} P EA φ [VP V_{DO} [√SING]]]
- (37) This is unpleasant, not only because it drives us into a theory where *v* (actually, “ φ ”) is merged and later on disappears through inheritance, but also because it brings agreement projections back (*contra* Chomsky 1995: 349 and ff.).
- (38) The non-projecting / unlabeled / invisible status of VP and TP would be consistent with the idea that intermediate projections are “invisible at the interface and for computation” (see Chomsky 1995: 242-243).
- (39) The lack of reconstruction effects in [Spec, TP] (and [Spec, VP]) (see Abels 2003, Abels & Bentzen 2009, and Boeckx 2007) in turn follow from the fact that there is no landing site (no actual “VP” and “TP” where phrases could move to).
- (40) This, however, predicts lack of subject and object raising (EPP effects), which is incorrect.

(41) A possible way out: if raising to subject/object is contingent on φ -feature deletion, and this process acts as soon as possible, then raising should take place prior to splitting.

- a. [EA [[v-V] IA]]
- b. [EA [IA [[v-V] t_{IA}]]] raising to object
- c. [[EA v [IA [[v-V] t_{IA}]]]] category splitting v-V
- d. [[C-T] [EA v ...]]
- e. [EA [C-T] [t_{EA} v ...]] raising to subject
- f. [C [EA [t_C-T] t_{EA} v ...]] category splitting C-T

5. Conclusions

(42) The empirical observation behind anti-locality appears to be stable: TP and VP cannot move, leaving C and v stranded.

(43) In a system where Merge is free, invoking a feature-checking version of *Last Resort* will not be enough.

(44) I have explored an alternative, which lies on the idea that non-phasal projections (TP, VP) are defective, behaving much like intermediate projections of X-bar Theory. Phases (CP and vP) are the only PF and LF independent units.

(45) The defective (invisible) status of TP and VP could account for: (i) the lack of TP and VP movement, (ii) the lack of reconstruction effects in [Spec, TP] (and [Spec, VP]), (iii) the invisible status of TP and VP at the interfaces.

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