1 Introduction

- Many languages treat subjects differently from objects and other arguments, in particular with respect to extraction
- This talk focuses on three subject/non-subject asymmetries in English

1.1 Roadmap

Our Claim: These asymmetries follow from an anti-locality constraint prohibiting short subject movement from spec-TP to spec-CP, as proposed in Erlewine (2014a)

Organization:

- Introduce anti-locality, and its original motivation to account for a seemingly unrelated subject/non-subject asymmetry in a different language—Agent Focus in Kaqchikel (Mayan). (§2)
- Survey the English asymmetries, and argue that they can each be unified with Agent Focus and each other as anti-locality effects (§3-5)
  - That-trace effects (§3)
  - Tough-movement (§4)
  - Matrix subject wh-questions (§5)
2 Agent Focus and Anti-locality

2.1 Kaqchikel Agent Focus alternations

Erlewine (2014a) notes the following subject/non-subject asymmetry in Kaqchikel (Mayan):

- regular transitive clauses (and clauses with extracted objects) show regular verbal agreement (4)

\[ \text{(4) a. Iwir } x\text{-u-tej ri wäy ri a Juan} \]  
\[ \text{yesterday ASV-ASP-3sg-eat the tortilla Juan} \]  
\[ \text{‘Yesterday, Juan ate the tortilla.’} \]

\[ \text{b. Achike x-u-tej ri a Juan?} \]  
\[ \text{what ASV-ASP-3sg-eat Juan} \]  
\[ \text{‘What did Juan eat?’} \]

- subject extraction triggers “special agreement” called Agent Focus (5)

\[ \text{(5) Achike *x-u-tej / } \checkmark \text{x-Ø-tj-∅ ri wäy?} \]  
\[ \text{who ASV-ASP-3sg-eat / ASV-eat-ASP the tortilla} \]  
\[ \text{‘Who ate the tortilla?’} \]

- but Agent Focus really isn’t a subject-movement phenomenon
  - it’s a short subject movement phenomenon

- when an XP intervenes between CP and TP, Agent Focus does not occur
  - this is shown in (6) with an AdverbP (assuming that adverbs are in projections on the clausal spine, Cinque 1999)

\[ \text{(6) Achike [kanqtzij √ x-u-tej / *x-tj-∅ ri wäy?} \]  
\[ \text{who actually ASV-ASP-3sg-eat / ASV-eat-ASP the tortilla} \]  
\[ \text{‘Who actually ate the tortilla?’} \]

(7) Erlewine’s Generalization

Subjects in Kaqchikel never short-move from spec-TP to spec-CP

- What’s going on in ??
  - Normal verbal agreement is triggered when the subject is in spec-TP (8)
  - Agent Focus surfaces when the subject has not moved through spec-TP (9)
  - In ??, the subject moves to spec-CP directly from lower in the clause

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\[ ^1 \text{For clarity, the examples in this section do not gloss Kaqchikel object agreement (which is null in all examples given).} \]
2.2 Ruling out short subject movement: Anti-locality

- Erlewine proposes an anti-locality constraint on $\bar{A}$-movement (distinct from the anti-locality of Abels 2003 and Bošković 2005)

(10) Spec-to-Spec Anti-Locality

$\bar{A}$ movement of a phrase from the specifier of XP must cross a maximal projection other than XP. Movement from position $\alpha$ to $\beta$ crosses $\gamma$ if and only if $\gamma$ dominates $\alpha$ but does not dominate $\beta$.

(11) Violates Spec-to-Spec Anti-Locality

(12) Satisfies Spec-to-Spec Anti-Locality

- We focus on short subject movement from spec-TP to spec-CP, a special case of ??:

(13) Violates Spec-to-Spec Anti-Locality

- Anti-locality violations are obviated for subjects if ...
  i. an XP intervenes between TP and CP ??
  ii. the subject moves to spec-CP from lower in the clause than spec-TP ??
  iii. in the case of extraction from embedded clauses, if the subject moves to the matrix clause directly from spec-TP, skipping the local spec-CP
  iv. the subject is left in situ
2.3 On to English

- Can English subject/non-subject asymmetries be understood as anti-locality effects?
- Do they neutralize when anti-locality violations are obviated?

3 That-trace effects

- Subjects cannot extract from an embedded clause with complementizer that (14a)
- Objects and adjuncts can (14b)

(14) a. *Who does Bill think that saw John?
   b. Who does Bill think that John saw ?

3.1 An anti-locality account

- Anti-locality predicts the contrast in (14) (c.f. Erlewine (2014b), available online: lingbuzz/002029)
- Extraction proceeds successive cyclically through spec of the embedded CP
- In (14a), the subject moves to spec-CP from spec-TP–anti-locality is violated, as shown in (15)

(15)

- When a object or adjunct moves from lower in the clause, anti-locality is respected (16)
3.2 Neutralizing the asymmetry

3.2.1 Case #1: intervening material

- That-t violations are obviated when an XP intervenes between TP and CP
  - Anti-that-trace effects (Bresnan 1977, Cullicover 1993)

(17) a. *Who does John think that served as president?
   b. Who does John think that for all intents and purposes served as president?

- Not any adverb that linearly intervenes between that and the following verb obviates that-trace effects—only those that structurally intervene between TP and CP
  - Obviously (agent-oriented) can attach between TP and CP, (18a); quickly (manner) attaches lower, (18b)

(18) a. John said that obviously Mary ran to the store.
   b. *John said that quickly Mary ran to the store.

  - Obviously obviates that-trace, (19b); quickly does not, (19c).

(19) a. *Who did John say that ran to the store?
   b. Who did John say that obviously ran to the store?
   c. *Who did John say that quickly ran to the store?

  - Similarly, rudely, which is ambiguous in (20c) between agent-oriented (20a) and manner (20b) readings (Jackendoff 1972) has only an agent-oriented reading in (20d).

(20) a. Rudely, Mary left. (it was rude of Mary to leave, agent-oriented)
   b. Mary left rudely. (Mary left in a rude way, manner)
   c. Mary rudely left. (ambiguous)
   d. Who did John say that rudely left? (unambiguously agent-oriented)

3.2.2 Case #2: Subject “skips” spec-TP

- That-trace violations are obviated when the subject moves to spec-CP from lower in the clause than spec-TP
  - there sits in spec-TP so the subject does not need to pass through spec-TP to satisfy the EPP (Rizzi 2006)

(21) a. *How many horses does John think that are in the barn?
   b. How many horses does John think that there are in the barn?

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2Some of the data in this section have been taken in Kandybowicz (2006) as evidence for a prosodic account of that-trace effects: a PF constraint prohibits a sequence of C and adjacent t at the left edge of a prosodic phrase. The structural analysis presented here is also viable. We leave further comparison of the two approaches to future work (or question period).

3Thanks to Sabine Iatridou for bringing these facts to our attention.
3.3 *That vs. ∅*

- A question remains: Why can subjects extract from embedded clauses when C is null?

\[(22)\] Who does Bill think ∅ saw John?

- The contrast between *that* and ∅ may be consistent with anti-locality

- **Possibility #1**: There is an available parse of (22) in which the embedded clause lacks a CP layer
  - Extraction from the embedded clause would then proceed directly from spec-TP.

- **Possibility #2**: There is a CP layer in (22), but the subject can still extract from the embedded clause directly from spec-TP.
  - **Possibility #2a**: Erlewine (2014b): Adopts a Cyclic Linearization model (Fox & Pesetsky 2000).
    - An extracting subject must move to spec-CP when C is overt to be linearized to the left of C on the CP phase.
    - When C is null, linearization requirements do not force movement to spec-CP, and extraction can proceed directly from spec-TP.
  - **Possibility #2b**: The matrix verb can optionally Agree with the embedded CP (cf. Rackowski & Richards 2005, van Urk & Richards to appear)
    - The realization of the complementizer correlates with whether this agreement does or does not occur.
    - C is null when there is agreement, and *that* when there is no agreement.
    - When there is agreement (when C is null) the CP is de-phased and extraction need not go through spec-CP.

4 *Tough-movement*

- Subjects cannot undergo tough-movement (23a); objects can (23b).

\[(23)\] a. *Anneke was tough ∅ to talk to Ian.* (subject)
   b. Ian was tough for Anneke to talk to ∅. (object)

4.1 An Anti-Locality Account

- two major theoretical approaches to tough-movement
  - tough-movement involves movement of a overt DP (Pesetsky 1987)
  - tough-movement involves movement of a null operator (Chomsky 1977)

- without spec-to-spec anti-locality, a restriction on tough-moving subjects is mysterious under either theory of tough-movement (24)-(25)\(^4\)

Hypothetical overt DP tough movement chain: Hypothetical null operator tough movement chain:

\[(24)\] *Anne is tough \[CP t_A \[TP t_A \text{ to visit Ian}\]\] \[(25)\] *Anne is tough \[CP OP \[TP t_{op} \text{ to visit Ian}\]\]

- with spec-to-spec anti-locality, this restriction is immediately explained
  - both possible structures in (24)-(25) involve short subject movement from spec-TP to spec-CP
  - this movement violates spec-to-spec anti-locality!

\(^4\)This restriction has previously been accounted for in terms of a (stipulative) restriction on the \(\bar{A}\) extraction of subjects of an infinitival clauses.
Banned overt DP *tough* movement chain:  
(26) *Anne is tough [CP t₄ [TP t₄ to visit Ian]]

Banned null operator *tough* movement chain:  
(27) *Anne is tough [CP OP [TP top to visit Ian]]

4.1.1 An Attempt at Neutralization

- Adverb insertion can’t ameliorate *tough*-movement restrictions
  - adverbs that could be inserted in the clausal spine of a finite embedded clause cannot be inserted in the infinitival clauses embedded by *tough*-constructions
  - cannot separate the case assigning *for* form the infinitival subject

(28) a. *It’s tough [CP for all intents and purposes Anneke to talk to Ian.]
b. *It’s tough [CP for obviously Anneke to talk to Ian.]

- without a grammatical baseline, extraction tests are not illuminating

4.2 Gapped degree phrases

A different way of testing:

- we can compare *tough*-constructions (TCs) with Gapped Degree Phrases (GDPs)
  - close relationship between TCs and GDPs first noted in Lasnik & Fiengo (1974), analyzed in Chomsky (1977) and expanded upon in Brillman (2014)
- GDPs have a degree word between the AP and the embedded CP

(29) a. Anneke is tough **enough** to talk to Ian.
b. Anneke is tough **enough** for Ian to talk to **

- Nissenbaum & Schwarz (2011): GDPs are null operator constructions
- following Nissenbaum (2000), null operator must move to the highest specifier of the complement of the adjective
  - this movement creates a semantic context where the null operator can be bound to its matrix antecedent

4.2.1 Object GDPs

- Recall (29): GDPs can appear with *object* gaps
  - object gapped degree phrases are ambiguous
  - ambiguity stems from the fact that Deg can attach in two different positions, resulting in two different readings
Anneke is tough enough for Ian to talk to.

**Reading 1:** DegP attaches on the clausal spine. ("Biker reading")

(31) Anneke is \[
\text{AP tough } \left[ \text{DegP enough } \left[ \text{CP for Ian to talk to } \_ \right] \right] \]

**Interpretation:** Ian only likes talking to intimidating women. Anneke is a biker, and is so herself tough enough for Ian to talk to.

**Reading 2:** DegP attaches to the AP\(^5\). ("Nemisis reading")

(32) Anneke is \[
\text{AP } \left[ \text{AP tough } \left[ \text{DegP enough} \right] \right] \left[ \text{CP for Ian to talk to } \_ \right] \]

**Interpretation:** Ian and Anneke are bitter enemies, making even a simple conversation extremely challenging.

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\(^5\)To most clearly illustrate the parallels between GDPs and TCs, this paper has represented the *tough*-construction structures with degree words as null operator structures. This should not be taken as evidence that favors a null operator analysis of TCs over an improper movement approach.
4.2.2 Subject GDPs

- Recall ??: GDPs can appear with subject gaps\(^6\)
  - unlike object GDPs, subject GDPs are unambiguous
  - only the Biker Reading is possible; the Nemesis Reading is impossible
- Recall: the Biker Reading occurs when DegP adjoins directly to the clausal spine
  - N&S: Null operator must move to highest specifier of the complement of AP (in this case, DegP)

(33) Anneke is \([_{\text{AP}} \text{tough} [_{\text{DegP}} \text{enough} [_{\text{CP}} \_ \text{to talk to Ian} ]]]) \) (Biker Reading)

- movement from spec-TP to spec-DegP doesn’t violate anti-locality
- the (impossible) Nemesis Reading would require movement from spec-TP to spec-CP (over no intervening material)
  - anti-locality rules out Nemesis Reading of subject GDPs

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\(^6\)Evidence that subject GDPs are movement constructions comes from their ability to license parasitic gaps (e.g., “?That student is too young \(t\) to take the bar-exam without us talking to \(pg\)” that, while slightly degraded, as notably improved from minimal pairs involving control predicates (e.g., “*That student is eager PRO to take the bar exam without us talking to \(pg\)”)).
The Upshot

- Restriction on *tough*-movement subjects is consistent with anti-locality
- Contrast between GDP and TCs is predicted by anti-locality
- Subject gaps are only possible when the subject can move to spec-DegP

5 Matrix subject *wh*-questions

- Subject and non-subject questions show a number of asymmetries
- Asymmetry #1: *do*-support
  - Subject questions cannot have *do*-support (35)
  - Non-subject questions (and other cases of movement to spec-CP) must (36):

(35)  a. Who saw John?
     b. *Who did see John? (non-emphatic)

(36)  a. *Who John saw ?
     b. Who did John see ?

- Asymmetry #2: islands (Chung & McCloskey 1983)
  - Subject relatives show fewer island effects (37) than non-subject relatives (38)

(37)  a. Paul and Stevie were the only ones [who wanted to record that song].
     b. Isn’t that the song *which Paul and Stevie were the only ones [who wanted to record <which>]*?

(38)  a. Paul and Stevie were the only ones [who George would let <who> record that song].
     b. *Isn’t that the song *which Paul and Stevie were the only ones [who George would let <who> record <which>]*?
• **Asymmetry #3**: parasitic gaps (Engdahl 1983, i.a.)
  - Subject questions do not license parasitic gaps (39)
  - Non-subject questions do (40)

(39) *Who hired Mary [without her talking to *pg]*?
(40) Who did Mary hire _ [without talking to *pg]*?

5.1 **An anti-locality account**

- Wh-movement in a subject question like (41) would violate anti-locality

(41) Who saw John?

- If *who* moved to spec-CP, it would be short movement from spec-TP.
- Possibility: The anti-locality violation is obviated by leaving *who* in spec-TP
  - **Subject questions = wh-in-situ**
- All of the asymmetries are consistent with this.
- Asymmetry #1: *do*-support
  - English is residual V2 (cf. Holmberg 2010)
  - Movement to matrix spec-CP in general licenses *do*-support.
  - This is true in non-subject questions, as well as other constructions like negative inversion (42)

(42) [On no day] does Mary check her e-mail.

- If *who* does not move to spec-CP in (42a), it is not surprising that there is no *do*-support.
- Asymmetry #2: *wh*-islands
  - if matrix subject *wh*-questions are *wh*-in-situ, Chung & McCloskey’s island facts are predicted
- Asymmetry #3: parasitic gaps
  - Á-movement is required to create a syntactic (Engdahl 1983) or semantic (Nissenbaum 2000) host for an adjunct containing a parasitic gap
  - if matrix subject questions are *wh*-in-situ, neither of these host cites are available

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7Though, see Pesetsky & Torrego (2001) and Ginzburg & Sag (2001) for a counterargument from the distribution of the *hell*: the *hell* can generally attach to a *wh* only if has moved to spec-CP, e.g. (i) vs. (ii), and is possible in matrix subject questions, (iii).

(i) What the hell did John steal _? 
(ii) *John stole what the hell?*

(iii) *Who the hell stole the jewels?*
5.2 Neutralizing the asymmetries

- Do-support improves with intervening material between TP and CP (43)

\[(43)\]
\[
a. *Who does serve as president? \\
b. Who does for all intents and purposes serve as president?
\]

- As do parasitic gaps (Longobardi 1985)

\[(44)\] Who [without Mary talking to pg] t was hired?

6 Conclusions

- Spec-to-spec anti-locality (in the sense of Erlewine 2014) offers a uniform account of a set of English subject/non-subject asymmetries.
  - (anti-)that-trace effects
  - restrictions on tough-moving subjects
  - potentially sheds light on matrix subject wh-questions
- Connects English subject/non-subject asymmetries with a subject/non-subject asymmetry in Kaqchikel
- Helps us move towards a theory connecting and explaining the broader suite of subject/non-subject asymmetries more generally

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References


\[^8\]There is weak evidence that intervening adverbs also improve subject wh parasitic gaps, but the contrasts are extremely subtle (i)-(ii)

(i) *Who was hired by Mary [without her talking to pg]?*
(ii) Who was for all intents and purposes hired by Mary [without her talking to pg]?


