CreteLing make-up class handout #1

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Part 1: Clause types and Kinyalo Dissimilation (review)

1. So many kinds of clauses

- **A puzzle:** Why are there so many sizes of clause — not just full finite CPs but also clauses missing all sorts of things in their C and T systems?

(1) **kinds of English clauses**

a. **full:**
Mary thinks [that Sue is reading a book].

b. **no overt C:**
Mary thinks [Sue is reading a book].

c. ***that*→*for*, no tense marking or agreement in T**
Mary would be happy [for Sue to be reading a book].

d. **no overt C, no tense marking or agreement in T**
Mary believes [Sue to be reading a book].

e. **no overt C, no tense marking or agreement in T (and subject raised)**
Mary seemed [__ to be reading a book].

f. **no overt C, no tense marking or agreement in T (and subject = PRO)**
Mary planned [PRO to be reading a book].

g. **no overt C, no tense marking or agreement in T, *-ing* version (subject raised or PRO)**
Mary started [__/PRO reading a book].

h. **no overt C, no T at all**
Mary saw [Sue read a book].

i. *and more …!*

(2) **German restructuring (Wurmbrand 1998; 2002): looks like bare VP**
"long passive"
weil [der Lastwagen und der Traktor] zu reparieren versucht wurden/*wurde
since [*the truck and the tractor*]-NOM to repair tried were/*was
meaning: 'since somebody tried to repair the truck and the tractor'
but literally: 'since the truck and the tractor were tried to repair'

(3) **Tamazight Berber anti-agreement** (examples from Ouali 2006, 5, ex. (10)-(12))
subject agreement reduced

a. *thamttut thʕla araw* (full agreement)
woman 3SG.FEM.see.PERF boys
'The woman saw the boys'

b. *mani thamttut ag ʕlan araw* (reduced ageement)
which woman COMP see.PERF.*Part* boys
'Which woman saw the boys'

c. ***mani thamttut ag thʕla araw** (*full agreement)
which woman COMP 3SG.FEM.see.PERF boys
'which woman saw the boys?'

- **Naïve observation:** In all non-full-and-finite clauses, the subject is doing something interesting.

- **Bolder version of the conjecture:** In all non-full clauses, the subject has moved.

Even when subject movement is not obvious #1: English *that*-less finite clauses

- **Claim:** In *that*-less finite complement clauses like (1b), the subject has moved from spec,TP to spec,CP (Pesetsky and Torrego 2001).

(4) **Adverbials may not precede subject in complementizerless declarative clauses (English)**

a. She claimed [*(that) soon Mary would arrive].

b. She insisted [*(that) most of the time they accepted this solution].
(Grimshaw 1997, 411, ex. (43a))

c. Mary is claiming [*(that) for all intents and purposes John is the mayor of the city].
(Pesetsky and Torrego 2001, 375, ex. (37b))

(5) **Adverbials may follow subject in complementizerless declarative clauses (English)**

a. She claimed [Mary soon would arrive].

b. She insisted [they most of the time accepted this solution].

c. Mary is claiming [John for all intents and purposes is the mayor of the city].

- **Conjecture:** Not a special fact about adverbials, but a fact about the position of the subject, which is in spec,CP in *that*-less finite clauses — higher than any position where the adverbials in (4) may occur:

(6) **Adverbials impossible as specifier of CP**

a. *She claimed [soon that Mary would arrive].

b. *She insisted [most of the time that they accepted this solution].

c. *Mary is claiming [for all intents and purposes that John is the mayor of the city]

(7) **Adverbials that may precede *that* may also precede the subject in *that*-less finite clauses (observation of Doherty 1997)**

a. She says [when we get home (that) things will be different].

b. I believe [next year (that) she'll be fine].

c. I suppose [ordinarily (that) you would go somewhere else].

d. He thinks [in some circumstances (that) things would be better].
(Doherty 1997, 203, ex. (16)-(17))

Even when subject movement is not obvious: obligatory control infinitivals

- … where Landau argues, following earlier insights of Chierchia, that a semantically vacuous minimal pronoun moves from spec,TP to spec,CP — creating a λ-expression denoting a property:

(8) Mary tried [PRO C [__ to …]]

Core proposal #1: Clauses smaller than full finite CPs are always syntactically derived — their smaller-than-full size a consequence of the subject moving. Clause-size differences are not part of what a clause is born with, but arise in the course of the derivation.

Core proposal#2: It is the creation of a specific configuration as a result of subject raising — a structurally adjacent T and C that have both attracted the same element — that triggers deletion of elements of T or C or both: **a *dissimilation* process** (not unknown in syntax elsewhere).

Ingredients:

- conventional view of merge, probes, goals, EPP
- a semi-conventional distribution of movement-triggering features
- a specific version of the ban on "improper movement"
- successive cyclicity requiring extraction from CP to always proceed via Spec,CP
- the Dissimilation rule

A personal note:

- Much of this material was first developed in work that I thought motivated a process of "Exfoliation" (deleting outer layers of a clause) — but Exfoliation now plays a very minor role as a limiting case of *dissimilation*.
- It may (or may not) be interesting to discuss where I went wrong and why, as an object lesson in wrongness. Happy to do that if it is requested.

Part 1: Clause reduction due to dissimilation

2. Complementizer-trace effects

Subject/non-subject asymmetries (English)

- **The "*that*-trace effect" in English**

(9) **Ā-extraction of the local subject → *overt complementizer**

a. *Who do you think [**that** __ met Sue]?

b. ✓Who do you think [__ met Sue]?

(10) **Ā-extraction of object or anything other than local subject → ✓overt complementizer**

a. ✓Who do you think [**that** Sue met __]?

b. ✓Who do you think [Sue met __]?

What moving elements produce the effect?

- **Ā-extraction of any element that seems to satisfy the obligatory-subject requirement of English clauses ("EPP") behaves like (9)**

(11) **Locative inversion shows the *that*-trace effect (Bresnan 1972)**
In this room can be found the best examples of Minoan sculpture.
a. *In which room do you think [**that** __ can be found the best examples of Minoan sculpture]?
b. ✓In which room do you think [__ can be found the best examples of Minoan sculpture]?

(12) **Predicate inversion shows the *that*-trace effect**
Even more important than syntax is global warming.
a. *How much more important than syntax do you think [**that** __ is global warming]?
b. ✓How much more important than syntax do you think [__ is global warming]?

- **Ā-extraction of *anything* other than a local subject behaves like (10)**

(13) **Extraction of a non-local subject: subject extraction does not produce a *that*-trace effect in higher clauses**
a. ✓Who do you think [**that** they said [__ met Sue]]?
b. ✓Who do you think [they said [__ met Sue]]?

(14) **Extraction of a local high adjunct does not show the *that*-trace effect**
a. ✓Why did you say [**that** they met Sue __]? (Huang 1983; Lasnik & Saito 1986)
b. ✓Why did you say [they met Sue __]?

- **Summary:** the effect concerns extraction from an embedded clause of *the pre-verbal phrase that satisfies the subject requirement ("EPP") of that clause*.

Effect of fronting material between Spec,TP and Spec,CP

(15) **Material intervening between C and Spec,TP eliminates the *that*-trace effect** (Bresnan, 1977, 194 fn. 6; Culicover 1993)
a. Sue met the man who Mary is claiming that [for all intents and purposes] __ was the mayor of the city.
b. Bill, who Sue said that [to the rest of us] __ might seem a bit strange, turned out to be quite ordinary.

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3. Why should we care about the *that*-trace effect?

- Versions of the effect are found in **languages all over the globe** — and never an opposite asymmetry or other simple-to-describe variants.

The challenge: Why should the input data to the child just happen to be similar in this fashion in unrelated speech communities — with the result that the same subject/non-subject asymmetry is acquired by children growing up in them?

- **C unpronounced when local subject extracted (like English):**

(16) **Levantine Arabic** (Kenstowicz 1983; 1989)
a. ʔayy fusṭaan [Fariid kaal (innu) l-bint ištarat _] (object extraction)
which dress Fariid said that the-girl bought
'Which dress did Fariid say that the girl bought?'

b. ʔayy bint Fariid kaal [(*innu) __ ištarat l-fusṭaan] (subject extraction)
which girl Fariid said that bought the dress
'Which girl did Fariid say bought the dress?'

(17) **Wolof (**l-a* with LD subject extraction)** (Martinović 2014)
a. L-an l-a Aali xam ni l-a xale bi gis
CM-Q *L*-CWH Ali know that *L*-CWH child DEF.SG see
'What did Ali know that the child saw?'
b. *K-an l-a Aali xam ni l-a ____ gis xale bi
CM-Q *L*-CWH Ali know that *L*-CWH see child DEF.SG
'Who did Ali know saw the child?'

- **Ban on local subject extraction (like English) — but no C-omission rescue strategy**

(18) **Russian** (Pesetsky 1979)
a. %Kogo ty xočeš', čtoby Maša vstretila __? (object extraction)
who.ACC you.NOM want, that.SJN Maša.NOM meet.SJN.F.SG
`Who do you want Masha to meet?'

b. *Kto ty xočeš', čtoby __ vstretil Mašu? (subject extraction)
who.ACC you.NOM want, that.SJN meet.SJN.M.SG Maša.ACC
'Who do you want to meet Masha?'

(19) **Nupe** (Kandybowicz 2006, 220-221)
a. Ke u: bè [ke Musa du __] na o? (object extraction)
what 3.SG seem COMP Musa cook NA O
'What does it seem that Musa cooked?

b. *Zèé u: bè [ke __ du nakàn] na o? (subject extraction)
who 3.SG seem COMP cook meat NA O
'Who does it seem cooked meat?'

- **C takes an alternate form when subject extracted (like English)**

(20) **French**
a. Qui penses-tu [que Marie a rencontré __]? (object extraction)
who think-you that Marie met
'Who do you think Mary met?

b. *Qui penses-tu [qu' __ a rencontré Marie]? (subject extraction)
who think-you that has met Marie
'Who do you think met Mary?'

c. Qui penses-tu [**qui** __ a rencontré Marie]?

- **Material intervening between C and Spec,TP cancels the *that*-trace effect (cf. (15))**

(21) **Adverb intervention ameliorates *que*-trace effect** (Bošković 2016)
?Quelle étudiante crois-tu [**que** dans deux jours __ va partir?
which student believe-you that in two days goes leave.INF
'Which student do you believe that in two days is going to leave?'

Nupe

(22) **Adverb intervention ameliorates *that*-trace effect** (Kandybowicz 2006)
Zèé Musa gàn [gánán pányi lèé __ nì enyà] o?
who Musa say COMP before PST beat drum O
'Who did Musa say that a long time ago beat the drum?'

Dutch (Marcel den Dikken, p.c. circa 2000)

(23) **Object parsable as fronted → no *that*-trace effect (Dutch)**
a. *Subject extracted from below Spec,TP*
Wie denk je [dat er komt]?
who think you C EXPL comes

b. *Subject extracted from Spec,TP*
*Wie denk je [dat ___ komt]?
who think you that comes

c *OK because the direct object has been fronted above Spec,TP?*
✓Wie denk je dat dat (__) zag?
who think you C DEM saw
`Who do you think saw that?'

(24) **PP parsable as fronted → no *that-trace effect*** (Dutch "PP-over-V")
a. *PP arguably intervenes between C and subject*
?Wie denk je [dat aan het eten (__) had gedacht]?
who think you C about the food had thought
'Who do you think had thought about the food?'

b. *PP does not intervene*
*Wie denk je [dat ___ had gedacht aan het eten]?

(25)a. *PP arguably intervenes between C and subject*
Wat denk je [dat in Den Haag (__) zetelt]?
what think you C in the Hague resides
'What do you think is based in the Hague?'

b. *PP does not intervene*
??Wat denk je [dat __ zetelt in Den Haag]?

c. *not just an incompatibility of PP-over-V with subject extraction*
Wat denk je [dat *al sinds mensenheugenis* zetelt in Den Haag]
what think you C since time immemorial resides in the Hague
'What do you think has been based in the Hague since time immemorial?'

- Versions of the effect are found in languages all over the globe — and never an opposite asymmetry or other simple-to-describe variants.

Why should the input data to the child just happen to be similar in this fashion in unrelated speech communities?

- **"Poverty of the stimulus":** The data actually available to children is too sparse to support learning of the relevant contrasts (Philips 2013)

- **And often, when a language fails to show a *that*-trace effect, we think we know why: the *skipping strategy*** (Rizzi 1981; 2014)

(26) **Italian: apparent absence of *that*-trace effects**
a. Chi pensi che i linguisti hanno incontrato __?
who you.think C the linguists AUX.3PL met
'Who do you think the linguists have met?'

b. Chi pensi che ha [incontrato i linguisti ___]?
who you.think C AUX.3SG met the linguists
'Who do you think met the linguists?'

Argument:

(27) **The "skipping strategy"**
Rizzi (1982): the obligatory use of clitic *ne* diagnoses extraction directly from a *v*P-internal object position rather than from Spec,TP

Quante hai detto che *(ne) sono [VP cadute __] ?
how.many.F.PL have.2SG said that of.them AUX.3PL fallen.F.PL
'How many of them did you say fell?

- **Does material intervening between C and the subject position interact with skipping? (rendering it unnecessary to extract from a *v*P-internal position)**

In Catalan, yes — and also in some N.Italian dialects (Enrico Flor, p.c.)

(28) **Catalan: left-periphery interveners make skipping unnecessary**
a. Quants has dit que **??han/✓n'han** caigut?
how.many have.you said that have / CL=have fallen
'How many (of them) have you said have fallen?'

b. Quants has dit que, segons els dos germans, **✓han/?n'han** caigut?
how.many have.you said that according.to the two brothers have/CL=have fallen
'How many (of them) have you said that, according to the two brothers, have fallen?'
(Núria Bosch Masip, personal communication at CreteLing)

In Standard Italian, however, no — a puzzle (Stanislao Zompì, p.c.)

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4. *Local* Ā-movement of the subject also produces effects akin to the *that*-trace effect

- Think of the *that*-trace effect in English and elsewhere as a ***reduction* or *alteration* of C when the subject is extracted.**

Speculatively: "alteration" is always reduction (even if it's not obvious, as in *que~qui*).

- **New:** Such reductions and alterations are found ***even when the subject is not extracted from its clause, but merely moved to its edge***:

Silencing or loss of C

(29) **Wolof: **l-a* also when subject is short-distance *wh*-moved**
a. K-an **a** jox Musaa téere bi? (**l-a*)
CM-*AN* CWH hand Musa book DEF.SG
'Who handed the book to Musa?'
b. K-an **l-a** Musaa gis? (*absence of *l-*)
CM-*AN* *L*-CWH Musa see
'Who did Musa see?'

Alteration of C

(30) **French *que*/*qui* alternation (cf. (20)) with local Ā-movement of subject**
a. Je me demande qui **que** Marie voulait voir ___ ?
I wonder who C Marie wanted to.see
'I wonder who Marie wanted to see?'

b. Je me demande qui ___ **qui** voulait voir Marie.
I wonder who QUI wanted to.see Marie
'I wonder who wanted to see Marie.'

(31) **Bùlì *ātì*/*ālì* alternation (Sulemana 2017)**

a. (Ká) bʷā **ātì** bí:ká dìgì: ___ ?
Q what ĀTÌ child.DEF cook
'What did the child cook?'

b. (Ká) wānā ___ **ālì** dìg lāmmú:?
Q who ĀLÌ cook meat.DEF
'Who cooked meat?'

Reduction of T: *anti-agreement*

(32) **Tamazight Berber anti-agreement** (examples from Ouali 2006, 5, ex. (10)-(12))
subject agreement reduced

a. *thamttut thʕla araw* (full agreement)
woman 3SG.FEM.see.PERF boys
'The woman saw the boys'

b. *mani thamttut ag ʕlan araw* (reduced ageement)
which woman COMP see.PERF.*Part* boys
'Which woman saw the boys'

c. ***mani thamttut ag thʕla araw** (*full agreement)
which woman COMP 3SG.FEM.see.PERF boys
'which woman saw the boys?'

***Local* subject extraction obligatorily from (post-verbal) *v*P-internal position**

(33) **Italian short-distance subject extraction** (compare (27))
*Quante __ sono cadute? / ✓Quante **ne** sono cadute __?
how.many are fallen **CL.GEN**
'How many (of them) have fallen?'

5. What do local and long distance Ā-movement of the subject have in common?

Answer: If *wh*-movement is successive-cyclic — what they have in common is **local movement from spec,TP to spec,CP**, as the first (or only) step.

(34) **First step of long-distance *wh*-movement =**
only step of short-distance *wh*-movement…

a. [$_{CP}$ Who C __ should buy the car]?

b. [$_{CP}$ Who do you think [$_{CP}$ __ (that) he'll say [$_{CP}$ __ C __ should buy the car]]?

(35) **… because all Ā-extraction out of a clause proceeds through its edge**

[$_{CP}$ What do you think [$_{CP}$ __ (that) he'll say [$_{CP}$ __ (that) we should buy __]]

Evidence that successive-cyclic movement through spec,CP is possible:

- stranding of parts of *wh*-phrase in intermediate specifiers of declarative CP (e.g. West Ulster English pluralizing *all*, McCloskey 2000; Afrikaans postpositions, English possessa, Davis 2021) etc.
- special behavior of declarative C in clauses from which Ā-extraction has taken place (e.g. Belfast English and European Spanish T-to-C (Torrego 1993 ; Henry 1995)
- landing in intermediate spec,CP permits reflexives to satisfy the locality requirements of Binding Theory that are otherwise unsatisfied

Evidence that successive-cyclic movement is obligatory:

- unavailability of spec,CP due to occupancy by some other element creates an island violation (*wh*-island effect) for extraction from that clause (Chomsky 1973)
- obligatory special behavior of declarative C in clauses from which Ā-extraction has taken place — e.g. Irish complementizer alternations (McCloskey *passim*.)
- Ā-extraction from an embedded declarative CP creates verb-first order in an otherwise verb-second embedded clause in Yiddish and Dinka (Diesing 1990; Van Urk and Richards 2015)

Proposal:

- Both the *that*-trace family of effects found wth long-distance Ā-movement and the similar effects found with short-distance Ā-movement have the same origin …

  … a consequence of short-distance movement to spec,CP from the specifier of the complement of C (henceforth "TP")

6. Kinyalolo Dissimilation

(36) **Kinyalolo Dissimilation (first version)**
In [$_{CP}$ … C [$_{TP}$ .... T …]], where TP is the complement of C, if both T and C have triggered movement of the same phrase, one or the other must undergo featural reduction.

The "skipping strategy": The phrase that moves to spec,CP did not pass through spec,TP.

The ameliorating effect of fronting material between TP and CP: if the material occupies a specifier or modifier position in a projection between TP and CP, the environment for Kinyalolo Dissimilation is not met.

Assumption: only feature deletion is an acceptable form of "featural alteration" (but this will not be crucial), so we might just say "alteration" in the statement of the rule

Examples so far: No pronounced C (right analysis to be determined), C changes its shape, T loses agreement morphology

To be discussed:
Which head (C or T or both) undergoes dissimilation under which circumstances.

- Closely related to proposed *anti-locality constraints*, with which it basically shares an environment, e.g.

(37) **Anti-locality**
Movement to the edge of CP must cross a phase boundary.
(cf. Saito & Murasugi 1998; Bošković 1994; Ishii 1999; Grohmann 2003, Erlewine 2015)

- The proposal here does not *ban* very local movement — it permits it and even *requires* it. But it singles out such movement as triggering an effect.

Claim: Kinyalolo Dissimilation is responsible for much of the look of the world's less-than-full clauses (and more).

7. The unity of movement: Kinyalolo Dissimilation triggered by Hyper-raising

- **Hyper-raising =** A-movement from a finite clause

Two languages in which hyper-raising triggers a *that*-trace effect

Lusaamia (Bantu, Kenya) shows hyper-raising with a *that*-trace effect:
"The reconstructed reading is blocked by the presence of a complementizer in the embedded clause." (Carstens & Diercks 2013)

(38) *Scenario: You find that the watering hole is empty. Though there are no cows on site, you can say:*

a. **no raising**
Bi-bonekhana koti eng'ombe chi-ng'were amachi
8SA-appear that 10cow 10SA-drink 6water
'It appears that the cows drank the water'

b. **R1, no complementizer**
Eng'ombe chi-bonekhana chi-ng'were amachi
10cow 10SA-appear 10SA-drink 6water
'The cows appear to have drunk the water'

... but not:

c. **R1, complementizer**
*Eng'ombe chi-bonekhana koti chi-ng'were amachi
10cow 10SA-appear that 10SA-drink 6water
'The cows appear as if they have drunk the water' (Carstens & Diercks 2013)

Moro (Kordofanian, Sudan): Hyper-raising incompatible with complementizer (as is subject relativization) (Jenks & Rose)

(39) ***Complementizer in hyper-raising**

a. *Kúkːu g-a-rə́mə́ṭ-iə [(*ṭá) g-é-↓ʧə́ð-á ugi]*
K. CLG-RTC-continue-IPFV COMP1 CLG-DPC1-chop-IPFV CLg.tree
'Kuku kept chopping the tree'

b. *oráŋ g-a-nː-ó Kúkːu-ŋ [(*ṭá) g-é-lanḍ-ó ʌwúr]*
man CLG-RTC-hear-PFV Kuku-ACC COMP1 CLG-DPC1-close-PRFV CLj.door
'The man heard Kuku close the door'

English: Hyperraising surprisingly tolerable if followed by Ā-movement of the hyperraised nominal — as discovered by Danckaert and Haegeman.

(40) **Hyperraising in English**

a. %McDonald's has also seen an increase in the standard of hygiene across restaurants which ___ is felt ___ is attributable to the fact that the programme is now specifically about McDonald's restaurants.

b. %A recording was also made of each School and was then used to transcribe the minutes and any quotes which ___ were felt ___ were relevant to the process.

c. %[The church leaders] disagreed as to which books ___ were thought ___ were "Godly inspired". (Danckaert and Haegeman 2017, 27-28, ex. (1), (4), % added)

(41) **Complementizer-trace effect with hyperraising (English)**
These organisations will now have the opportunity to bid for the new city funds, which are hoped (*that) ___ will help up to 150 families facing eviction.
(Danckaert and Haegeman 2017, 30, ex. (9))

The skipping strategy and hyper-raising

(42) **No COMP-trace effect: Ā-extraction co-occuring with complementizer (Greek)**
Pjos nomizis oti tilefonise?
who think.2S that phoned (Roussou 2002, ex. 32b)

(43) **Hyperraising co-occuring with complementizer (Greek)**
Ta pedhia arxisan na trexoun
the children.NOM started.3PL COMP.SUBJ run.3PL
'The children started to run' (Alexiadou and Anagnostopoulou 1999, ex. (11))

- **Conjecture:** The skipping strategy obviates the COMP-trace effect for hyperraising as it does for Ā-extraction.

Another way to skip?

(44) **Ā-movement shows no complementizer-trace effect (Zulu)**
ubani uSipho o-cabanga ukuthi u-zo-fika?
AUG.1who AUG.1Sipho 1REL-think COMP 1SG-FUT-arrive
'Who does Sipho think will arrive?' (Claire Halpert, personal communication; field notes)

(45) **Hyperraising co-occurring with complementizer (Zulu)**

a. ku-bonakala [ukuthi iqhina li-zo-phuma embizeni]
17s-seem COMP AUG.5steinbok 1s-FUT-exit LOC.3cooking.pot

b. iqhina li-bonakala [ukuthi ___ li-zo-phuma embizeni]
AUG.5steinbok 5s-seem COMP 5-FUT-exit LOC.3cooking.pot
'It seems that the steinbok will leave the cooking pot.' (idiom)
i.e. 'It seems that the cat will be out of the bag.' (Halpert 2018, 6, ex. (19a-b))

- Halpert (2018): Raising verb first agrees with CP, then with raised subject — optional which agreement is realized on verb:

(46) **Raising verb agrees with raised subject or with complement clause (Zulu)**

a. **ku** bonakala [ukuthi uZinhle u zo xova ujeqe] *no Raising/CP agr.*
17 seem that AUG.1Zinhle 1S FUT make AUG.1bread

b. uZinhle **u**-bonakala [ukuthi ___ u-zo-xova ujeqe] *Raising/subj. agr.*
AUG.1Zinhle 1s-seem COMP 1-FUT-make AUG.1bread

c. uZinhle **ku**-bonakala [ukuthi ___ u-zo-xova ujeqe] *Raising/CP agr.*
AUG.1Zinhle 17s-seem COMP 1s-FUT-make AUG.1steamed.bread
'It seems that Zinhle will make steamed bread.'
(Halpert 2018, 14-15, ex. (35a-b),(36); citing Halpert 2012, 2016)

- Halpert (2018): Agreement of higher verb with CP complement **"unphases"** it — making it possible to skip successive-cyclic movement through its edge. Can be incorporated in the present approach with the same logic as skipping: no dissimilation will be triggered!

- **Prediction:** Raising + CP-agreement → no evidence of dissimilation in embedded clause.

Fernández-Salgueiro (2005, 2008), for example, observes that several Romance languages (Spanish, Galician, European Portuguese, Italian and Catalan) allow hyperraising with one of the two patterns observed in Zulu: invariant 3SG agreement on the higher verb, which we might plausibly analyze as agreement with the embedded clause: Spanish, Galician, European Portuguese, Italian and Catalan.

Simonović and Arsenijević (2014), building on observations by Klajn (2007), note a similar possibility in Serbian with the modal verb trebati 'ought/need' — proscribed by the normative tradition, but described by Simonović and Arsenijević as "not problematic for most speakers"

Hyperraising with 3SG agreement on the raising verb

(47) a. Estes nenos parece [que son moi listos]. *Galician*
these kids seem.**3SG** COMP are.**3PL** very smart.M.PL
'These kids seem to be very smart.' (Fernández-Salgueiro 2008, 299, (5))

b. Mi ne treba [da dođemo], ali ipak dolazimo. *Serbian*
we NEG should.**3SG** COMP come.**1PL** but nevertheless come.1PL
'We shouldn't come, but we're coming nevertheless.'
(Simonović and Arsenijević 2014, 6, (3b); translation mine)

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8. Infinitivization and long-distance A-movement

- **[Non-hyper]-Raising =**
A-movement from a clause that is **non-finite**.

- **General observation:** Infinitival clauses have *something funny going on with their subjects.*

Terminology for this class of phenomena:
R1 = "Raising to subject"
R2 = "Raising to object" / ECM

(48) **Complementizerless nonfinite clause (with propositional semantics) only if embedded subject is extracted**

a.	Sue considers Mary to have solved the problem.	*R2*
b.	Mary seems to speak French well.	*R1*
c.	*It seems Mary to have solved the problem.	*unacc. V*
d.	*It was believed Mary to speak French well.	*passive V*
e.	*Mary is aware Bill to be the best candidate.	*A*
f.	*Mary's belief it to have been raining	*N*

Infinitivization conjecture

- **Conjecture (to be supported in the next sections): Infinitivization is another possible result of Kinyalolo Dissimilation**
  - … in (48), the result of long-distance A-movement via Spec,CP …
  - … which, since it is limited in English to the embedded subject, **entails that C bears a φ-probe with a movement-triggering (EPP) property in such constructions**.

Of course, there is a more established account of the paradigm in (48) as a consequence of the Case Filter. More on that soon.

Long-distance Ā-movement can also trigger infinitivization

(49) **The "Kayne paradigm"** (Kayne 1984)
a. *I assure you Mary to be the best candidate.
b. ✓Mary, who I assure you __ to be the best candidate...
[note also: **Mary was assured you __ to be the best candidate*...]

(50) **English *wager*-class verbs (Postal 1974; Pesetsky 1991)**
a. *We wagered Mary to be the most likely winner.
b. Mary, who we wagered to be the most likely winner...
c. Mary was wagered to be the most likely winner.

(51) **French *believe*-class verbs (Kayne 1980)**
a. *Je croyais cet homme être arrivé.
I believed this man AUX.INF arrived
'I believed this man to have arrived.'

b. l'homme que je croyais être arrivé...
the.man that I believed AUX.INF arrived
'the man that I believed to have arrived...'

c. %Marie a longtemps été crue avoir résolu ce problème.
Marie AUX long.time been believe.FEM have solved this problem
(also 'consider', 'suppose', 'say', 'guess'...; Pollock 1984)

No infinitivization if no Kinyalolo Dissimilation environment

- **No infinitivization when there is Zulu-style agreement of a raising verb with its CP complement, as is possible in Serbian and Bosnian:**

(52) **Bosnian judgments: V agreement with CP complement → no infinitivization (Nedzad Leko, p.c.)**

a. Mi treba [da pjevamo], a ne da plačemo.
we should.**3SG** COMP sing.**1PL**, and not COMP cry.**1PL**.1PL

b. Mi ✓trebamo/*treba pjevati, a ne plakati.
we should.**1PL**/**3SG** sing.**INF**, and not cry.**INF**
'We should sing, and not cry.'

(53) **Zulu: no raising from an infinitival clause (because no stopping off at spec,CP)**

a. ku-bonakala [ukuthi **iqhina** **li**-zo-phuma embizeni]
17S-seem that AUG.5steinbok 1S-FUT-exit LOC.3cooking.pot

b. **iqhina**$_i$ **li**-bonakala [ukuthi t$_i$ **li**-zo-phuma embizeni]
AUG.5steinbok$_i$ 5S-seem that t_i 5S-FUT-exit LOC.3cooking.pot

c. * **iqhina**$_i$ **li**-bonakala [t$_i$ uku-(zo)-phuma embizeni]
AUG.5steinbok$_i$ 5S-seem t_i INF-(FUT)-exit LOC.3cooking.pot
'It seems that the secret will come out.'
(literal: 'It seems that the steinbok will leave the cooking pot.')

Zulu: CP agreement obligatory even if not morphologically detectable.
BCS: CP agreement an option (in certain registers)

- **Extraction of a non-subject does not have the consequences of subject extraction**

(54) **No *that*-trace effect for Ā-extraction of a direct object**
a. Who do you think that Sue met __? (cheating slightly here)
b. Who do you think (*that) __ met Sue?

(55) **No infinitivization licensed by direct object extraction**
recall:

*It seems Mary to have solved the problem.	*unacc. V*
*It was believed Mary to speak French well.	*passive V*
*Mary is aware Bill to be the best candidate.	*A*

extracting the object does not improve these structures:
a. *What does it seem Mary to have solved?
b. *Which language was it believed Mary to speak well?
c. *How good a candidate is Mary aware Bill to be?

---

9. Infinitivization and short-distance A-movement

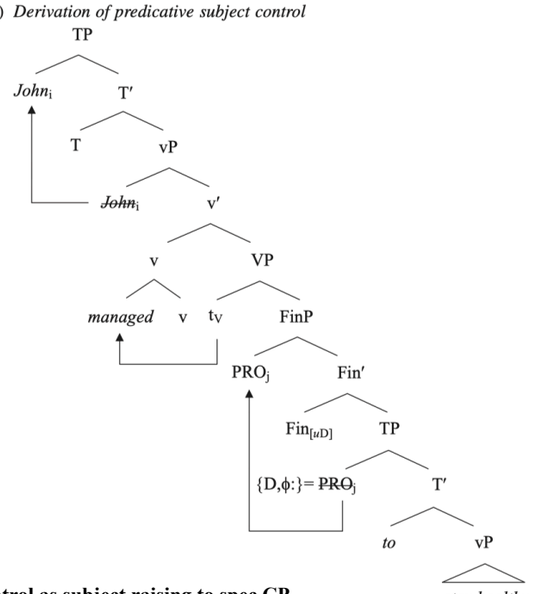
Is infinitivization also triggered by *short*-distance A-movement?

- **Control:** A-movement of PRO (a semantically vacuous minimal pronoun) from Spec,TP to Spec,CP creates the necessary configuration for predicative interpretation …

  … triggers Kinyalolo Dissimilation in the form of infinitivization (reducing the featural content of T)

(56) **An analysis of Obligatory Control from Landau (2015, 26) (building on Chierchia 1984)**

(32) *Derivation of predicative subject control*



(57) **Control as subject raising to spec,CP**

a. Sue promised [$_{CP}$ PRO C [$_{TP}$ __ to leave early]]

b. [$_{CP}$ PRO C [$_{TP}$ __ to leave early]] would be rude.

- **Even in Zulu this yields an infinitive** — since local subject movement to Spec,CP does take place and de-phasing by a higher verb is irrelevant.

(58) **Zulu control complement is infinitival**

uMandla u-thanda uku-cula
AUG.1Mandla 1S-like INF-sing
'Mandla likes to sing.' (Halpert 2015: Ex. (60a))

(59) **English infinitival relative clause, *too/enough* construction built on local subject**

a. I need [a book __ to read on the plane].

b. ?This student is too young __ to take the bar exam [without someone talking to *pg* first].

(Brillman 2014)

CreteLing make-up class handout #2
David Pesetsky (MIT)

Part 2: The derivational nature of infinitivization

1. Where do infinitives come from?

KD only when subject is extracted

- We have talked about the "extended *that*-trace effect" informally as a *process*: extract the subject and as a consequence KD takes place: reduction of C or T.

- This reduction is limited to subject extraction environments. For example, we do not find optional *qui* introducing a French clause in which the subject has *not* been extracted.

(1) **No *que→qui* without local subject extraction (French)**

a. Je pense [✓**que**/***qui** Marie a rencontré Pierre.
I think C Marie has met Pierre

b. Quelle personne penses-tu [✓**que**/***qui** Marie a rencontré __]?
what person think-you C Marie has met
'What person do you think that Marie has met?'

- We saw similar logic in our discussion of Zulu hyperraising and Bosnian infinitivization: when the subject does not move through the local spec,CP, no infinitive is found.

- Another place where subject extraction is a prerequisite to the use of reduced forms of C and/or T is English **Raising constructions:** *Raising-to-subject* (**R1**) and "*Raising-to-object*" (**R2**) — actually movement to spec,VP of the higher clause (and **passive** counterparts of R1).

Only when the subject has raised (because the higher clause contains an appropriate probe on V) is an infinitive permitted — recalling (1):

(2) **Complementizerless nonfinite clause (with propositional semantics) only if embedded subject is extracted**

a. Bill believes Mary (quite sincerely) __ to have solved the problem. *R2*

b. Mary seems __ to have solved the problem. *R1*

c. *It seems Mary to have solved the problem.
d. *It was believed Mary to have solved the problem.
e. *Bill is aware Mary to have solved the problem.
f. *Bill's belief Mary to have solved the problem.

- We do not, however, usually talk about the nonfiniteness of the embedded clauses in (2a-b) as a *process* triggered by the raising of the subject...

... instead, we usually talk about it in the exact opposite way ...

(3) **Standard *lexicalist* view of nonfinite clauses**

a. **A nonfinite clause is born that way**, the result of *lexical choice* in constructing the clause by Merge from an array of lexical items.
b. the nonfiniteness of the embedded clause is what forces the subject to raise ...
... e.g. because **nonfinite T does not assign case to its specifier**.

Some presuppositions of the "lexicalist" standard theory

Standard lexicalist view of the past four decades **(Kiparsky & Kiparsky 1970, Bresnan 1972)**

- The finiteness of a clause and presence/absence of C is a result of the lexical items freely chosen to participate in the derivation that built that clause (*Lexical Array*).
- For example: if [±Past] and C do not form part of the Lexical Array chosen to build a particular clause, the result will be a reduced infinitive. Conversely, if [±Past] and C are chosen, the result will be a full finite CP.

How the behavior of R1 and R2 looks from the standard lexicalist perspective

- Given that the derivation has built an infinitive, how does the system solve the problems that follow from having chosen to build an infinitive?
- ***For example*:** The subject of an English infinitive has a licensing problem that can be solved (only) if an R1 or R2 probe successfully locates it, so that that movement and case-licensing becomes possible. This is possible only across a reduced infinitival clause boundary but not across an unreduced one, due to [various proposals].

An alternative "derivationalist" view

- Abandon the assumption that infinitives and reduced clauses are "born, not made".
- Movement of the embedded subject *precedes* the differentiation of the embedded clause into finite vs. non-finite — and *triggers* its reduction to an infinitive.

The new proposal:

It is **extraction of the subject that entails its nonfiniteness** in R1 and R2 constructions (in non-hyper-raising languages), not the other way around.
(Adapting the proposal from my "Exfoliation" ms.)

(4) **Derivationalist view of nonfinite clauses**

a. **Full CP hypothesis:**
Every embedded clause is built by Merge as a full finite CP ...

b. **KD as the only infinitivizer:**
... and may be reduced to a less-than-full clause only as a consequence of KD.

(5) **Nature of English *to***

a. an instance of T, as in most standard theories …
b. … whose tense and agreement features have been removed (affecting its exponence)

Consequence for "impoper movement":

Raising proceeds through the specifier of CP (responding to a φ-probe on C).
So there is no ban on "improper movement:

(6) **R1 and R2 via spec,CP**

a. Bill believes Mary (quite sincerely) [$_{CP}$ __ C [$_{TP}$ __ T have solved the problem]]. *R2*

b. Mary seems [$_{CP}$ __ C [$_{TP}$ __ T have solved the problem. *R1*

An argument for the new proposal from the distribution of (non-control) infinitives

Standard wisdom about case:

(7) **Nominal vs. non-nominal complements differ in case needs**

a. We are sure [that the world is round].
*We are sure *(of) the world's roundness.*
b. my proof [that the world is round]
*my proof *(of) the world's roundness*

Prediction of the new proposal:

Case is irrelevant to the correlation between subject raising and nonfiniteness. It's just about the Raising. So *nominality should be irrelevant* to the raising paradigm of (2)

Prediction confirmed (Pesetsky 2019):

The correlations between nonfiniteness and subject movement characteristic of nominal subjects ...

(8) **... are mirrored by CP subjects ...**
baseline: [That the world is round] is a tragedy.

a.	Sue considers [that the world is round] to be a tragedy	*R2*
b.	[That the world is round] seems to be a tragedy.	*R1*
c.	*It seems [that the world is round] to be a tragedy.	*unacc. V*
d.	*It was believed [that the world is round] to be a tragedy.	*passive V*
e.	*Mary is aware [that the world is round] to be a tragedy	*A*
f.	*Mary's belief [that the world is round] to be a tragedy	*N*

(*but perhaps CP subjects are actually nominal?)*

(9) **... and mirrored by predicate-inversion (AP) subjects ...**
baseline: Even more important than linguistics is the fate of the planet.

a.	Sue considers [even more important than linguistics] to be the fate of the planet.[19]	*R2*
b.	[Even more important than linguistics] seems to be the fate of the planet.	*R1*
c.	*It seems [even more important than linguistics] to be the fate of the planet.	*unacc. V*
d.	*It was believed [even more important than linguistics] to be the fate of the planet.	*passive V*
e.	*Mary is aware [even more important than linguistics] to be the fate of the planet	*A*
f.	*Mary's belief [even more important than linguistics] to be the fate of the planet	*N*

(10) **... and mirrored by fronted locatives in Locative Inversion ...**
baseline: In this room are found the finest examples of Athenian sculpture.

a.	Sue considers [in this room] to be found the finest examples of Athenian sculpture	*R2*
b.	[In this room] seems to have been found the finest examples of Athenian sculpture.	*R1*
c.	*It seems [in this room] to be found the finest examples of Athenian sculpture	*unacc. V*
d.	*It was believed [in this room] to be found the finest examples of Athenian sculpture	*passive V*
e.	*Mary is aware [in this room] to be found the finest examples of Athenian sculpture	*A*
f.	*Mary's belief [in this room] to be found the finest examples of Athenian sculpture	*N*

(11) **... and mirrored by expletive subjects ...**
baseline: There is a riot in progress

a.	Sue considers [there] to be a riot in progress.	*R2*
b.	[There] seems to be a riot in progress.	*R1*
c.	*It seems [there] to be a riot in progress.	*unacc. V*
d.	*It was believed [there] to be a riot in progress.	*passive V*
e.	*Mary is aware [there] to be a riot in progress.	*A*
f.	*Mary's belief [there] to be a riot in progress	*N*

- and recall that Locative Inversion and Predicate Inversion subjects also show *that*-trace effects when Ā-moved (as do subject CPs).

Summary of the argument:

- The paradigm in (1) taught us that **the reduction produced by a KD configuration is not freely available in other context**s. The subject must be moved be extracted to spec,CP. Other data have made the same point, e.g. the evidence that English *that*-less declarative clauses must involve loval subject raising to spec,CP.

- What correlates with the availability of a (non-control) infinitive in the English data above is whether the subject has been extracted or not (not case).

- The most parsimonious explanation: **infinitives arise only as a result of KD**.

Derivationalist view of nonfinite clauses
a. **Full CP hypothesis:**
Every embedded clause is built by Merge as a full finite CP ...
b. **KD as the only infinitivizer:**
... and may be reduced to a less-than-full clause only as a consequence of KD.

---

2. Pedagogical pause: English R2 and the probes that trigger it

The basic puzzle of English (and Icelandic) R2

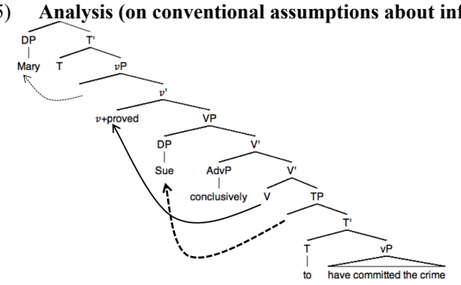
(12) **postverbal element in R2 behaves like embedded-clause subject ...**
Mary judged there to be a good reason for the meeting.

(13) **... but shares properties with higher-clause direct objects**
a. Mary believed me_{ACC} to have solved the problem.
b. Sue_i proved $herself_i$ / her_{*i} to be a capable leader.

In favor of movement into the higher verbal domain (vs. in-situ ECM)

(14) **R2 subject precedes higher-clause low-VP adverbs** (Postal (1974, 146-7)
a. Somebody found Germany recently to have been relatively justified in the [1915] *Lusitania* sinking. (Postal)
b. Sue believes Bill with all her heart to be the best candidate.
c. Mary proved Sue conclusively to have committed the crime.

(15) **Analysis (on conventional assumptions about infinitives)**



(16) **R2 subject may precede the particle of a higher-clause Verb-Particle construction**
a. They made these people out [to be great writers].
'They intentionally gave the impression that these people are great writers.'
b. They made it out [to be raining] when it was just drizzling.
'They intentionally induced us to believe that it was raining, when …'

(17) **R2 subject c-commands low elements in the higher clause** (Lasnik & Saito 1991)
Principle C:
a. John believes that he_i is a genius even more fervently than Bob_i's mother does.
b. *John believes him_i to be a genius even more fervently than Bob_i's mother does.
Principle A:
c. The DA proved the $defendants_i$ to be guilty during each $other_i$'s trials.
d. *The DA proved [that the defendants were guilty] during each other's trials.

- If accusative case and binding conditions care about phase-mate status, R2 constructions differ from embedded finite clauses as required.

If R2 involves movement, it is a twin of R1, for which movement is not in doubt:

(18) **Raising-to-Subject (R1)**
Mary appears to have solved the problem.

---

(19) **Working assumptions about movement:**
(i) **Boring idea about probes and EPP:**
An X-probe on α with an EPP property triggers movement of the closest XP, forming Spec,αP.
(ii) **Relevance of criteriality (**Rizzi, *passim.*)**:**
An X-probe on α with an EPP property may determine the specifier that it creates to be **criterial** or **non-criterial.** If criterial, the specifier *may not move further,* even if found by a higher probe. If non-criterial, the specifier *must* move further, i.e. may not remain in that position.

(20) **Criterial vs. non-criterial specifiers of the various φ-probes relevant to R1 snd R2**
- **C:** non-criterial in R1 and R2 constructions
- **higher V:** criterial for R2 predicates (an "R2 probe")
  non-criterial for R1 predicates (an "R1 probe")
- **higher *v*:** non-criterial and relevant for R1

(C and *v* bear Ā-probes)

(21) **Location of criterial R2 probes in English**
Present on a subset of active instances of V (but not passive or unaccusative verbs, and not A or N.

(We assume that non-criterial R2 probes are present on other instances of V at least, and probably A and N as well.)

- The starred examples in (2) and (8)-(11) are either parsed as illegal instances of R2 subject raising into the higher VP (with legal KD dissimilation) or as illegal KD dissimilation (illegal because the embedded subject has not raised anywhere).

---

3. Infinitivization as a process — a derivational opacity argument
no visible case licenser yet nominals are ok (the Kayne paradigm)

Derivational opacity and case-licensing

- A moved nominal subject of a subordinate clause that has been infinitivized was assigned NOM and case-licensed in that subordinate clause ...
- ... but its case-licenser is not present on the surface, an instance **of derivational opacity**.

- Standard instances of R1 and R2 raise the nominal to a position where it receives a second case (more on this below), and thus are equally compatible with the familiar proposal that the nominal never was case-licensed in the embedded clause.
- A legal configuration in which raising triggers infinitivization but does not target a new case position, however, will provide an argument for the derivational opacity of NOM assignment posited here.

Setup: Configuration in which the subject σ of an embedded clause may not undergo R2 movement, either because:
(a) **no-criterial φ-probe on the higher V:** the R2 φ-probe on V of the higher clause that could attract σ and permit it to remain in Spec,VP is not criterial or does not exist, or
(b) **minimality problem:** an intervening nominal blocks contact between a φ-probe on V of the higher clause and σ.

From a Kinyalolo Dissimilation perspective...
... the embedded clause in situations (a) and (b) may be infinitival only if its subject is raised out of its clause and does not end up remaining in Spec,VP.
- In situation (a), the subject must be attracted by some criterial probe after (or instead of) a φ-probe on V.
- In situation (b), the extractor could only be an Ā-probe, since the same Minimality considerations that would block the φ-probe R2 should block R1.

From a Lexicalist perspective ...
... in which infinitives are born rather than made, **situations (a) and (b) would both look like additional puzzles of case theory** — case-licensing of the embedded subject only if it undergoes Ā-movement or R1.

Situation (a) instantiated:

(22) **English *wager*-class verbs (Postal 1974; Pesetsky 1991)**
a. *We wagered Mary to be the most likely winner.
b. Mary, who we wagered to be the most likely winner...
c. Mary was wagered to be the most likely winner.

(23) **French *believe*-class verbs (Kayne 1980)**
a. *Je croyais cet homme être arrivé.
I believed this man AUX.INF arrived
'I believed this man to have arrived.'

b. l'homme que je croyais être arrivé...
the.man that I believed AUX.INF arrived
'the man that I believed to have arrived...'

c. %Marie a longtemps été crue avoir résolu ce problème.
Marie AUX long.time been believe.FEM have solved this problem
(also 'consider', 'suppose', 'say', 'guess'...; Pollock 1984)

(24) **Stipulation**
The verbs that show the paradigm of (22) and (23) lack a criterial R2 probe.

Situation (b) instantiated:

(25) **Double-object infinitive-taking verbs**
a. *I assure you Mary to be the best candidate.
b. *Mary was assured you __ to be the best candidate...
c. ✓Mary, who I assure you __ to be the best candidate... (Kayne 1984)

The puzzle in a standard lexicalist theory*: **How is the embedded subject licensed?***

The puzzle for a derivationalist theory*: **Why did the embedded clause become an infinitive?***

In a lexicalist world:

- ***Premise:*** the infinitival clause in (25b) is non-finite from the beginning.

- ***Easy examples:*** In (25a), the embedded subject needs case-licensing — and cannot receive it in the subject position of an infinitival clause because the indirect object intervenes (cf. **I assure you my sincerity*). In (25b), locality prevents the movement of *Mary* over *you*.

- ***The challenging example****:* In (25c), the moved embedded subject receives case in an intermediate landing site that it cannot receive *in situ*.

(Kayne 1984; Pesetsky 1991; Rezac 2013)

But the powers and non-powers of the putative higher case assigner would have to be extraordinarily peculiar:

(26) ***Peculiarity 1:*** The putative case assigner is insensitive to category distinctions that otherwise matter for case.
a. ***passive****:* Mary, who I've been assured to be the best candidate...
b. ***adjective****:* Mary, who I am positive to be the best candidate...
Mary, who we're confident to be the best candidate...
c. ***noun****:* %Mary, who I have a hunch to be the best candidate...

(27) ***Peculiarity 2****:* The putative case assigner saves *only* nominals that have been extracted from the subject position of an infinitive. Extraction of a complement from a non-case position cannot be saved by this case assigner.
a. ***passive:*** your honesty, which I've been assured *(of) ...
b. ***adjective:*** Mary, who I am positive *(about)...
Mary, who we're confident *(of)...
c. ***noun:*** Mary, who I have a hunch *(about)...

The derivationalist alternative

- **Infinitivization is the issue:** If movement from an embedded clause to one of the positions in (21) does not happen, no infinitivization is possible. The clause will remain a full finite CP.

- **No puzzle for case theory:** No need to worry about the licensing of the moved subject in the *wager*/French or *assure* paradigms. **The subject is always licensed in the embedded clause before reduction of T to *to*.**

In (28a-c), since movement of the embedded subject to an R2 position is impossible, **the embedded clause should have remained finite**, as in (29)

(28) **Not a case problem, but an untriggered infinitivization problem**
a. *We wagered Mary to be the most likely winner.
b. *Je croyais cet homme être arrivé. 'I believed this man to have arrived.'
c. *I assure you Mary to be the best candidate.

(29) **Example (28a-c) without Raising**
(perhaps the φ-probe on C or V or both is optional)
a. We wagered that Mary was the most likely winner.
b. Je croyais que cet homme est arrivé. 'I believed that this man arrived.'
c. I assure you that Mary is the best candidate.

Non-subject Ā-movement from embedded clause

- **Question:** Why does infinitivization not accompany *object* extraction? In (30), the embedded subject is licensed by finite T before infinitivization — so why does extraction of the object not infinitivize the embedded clause?

(30) **Non-subject extraction does not feed infinitivization**
*This book, which I assure you Sue to have read __.

- **Answer:** No movement takes place here from Spec,TP to Spec,CP. It's not just movement to Spec,CP that triggers infinitivization, but specifically movement from Spec,TP.

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4. Is Kinyalolo Dissimilation a derivational *process*? An opacity argument

- **A famous case-theory puzzle in Icelandic:**
  - Icelandic has an English-like R2 construction.
  - Icelandic also has quirky-case-subject/NOM-object clauses in which the nominative object agrees with T [(31)]
  - A NOM object remains acceptable and marked NOM in an R2 infinitive [(32)] — often taken as evidence that NOM case is not a consequence of agreement with T (Yip, Maling, Jackendoff 1987; Marantz 1991)

The challenge to class 1 from Icelandic

(31) **Quirky subject, nominative object in finite clause**
a. Barninu batnaði veikin.
the.child.DAT recovered.from.3SG the.disease.**NOM**
'The child recovered from the disease.'
b. Barninu bötnuðu veikirnar.
the.child.DAT recovered.from.3PL the.diseases.**NOM**
'The child recovered from the disease.'

(32) **Quirky subject, nominative object in an R2 infinitival complement**
Læknirinn$_i$ telur barninu (í barnaskap sínum$_i$) batnaði veikin.
the.doctor.NOM believes the.child.DAT (in foolishness his) recovered.from.INF the.disease.**NOM**
'The doctor$_i$ believes the child (in his$_i$ foolishness) to have recovered from the disease.'

- "... [I]f tensed inflection with agreement is the source of NOM case on the objects of DAT subject verbs, we would expect the object to lose its NOM case in an infinitive, because infinitive inflection does not assign NOM. Instead [...], such DAT subject/NOM object verbs still take a NOM object in infinitival constructions although there is no element around to assign NOM case." (Marantz 1991 "Case and Licensing", 18-19)

Life history of (32)

While the embedded clause is a full finite CP...
- Finite T in the embedded clause assigns NOM and case-licenses the nominative object — by whatever magic permits it to do so in simple clauses.

When the R2 probe on 'believe' finds the DAT subject of the embedded clause ...
- It has first moved to Spec,CP, creating a KD configuration, to which the response is infinitivization (more to say about this, but not today).
- The embedded DAT then raises to spec,VP (over a higher-VP adverb, if present).

So NOM case on the object is a residue of the embedded clause's pre-reduction status as full and finite → an argument for infinitivization as a derivationasl *process*

- But this argument is only as strong as the claim that NOM should be viewed as a by-product of agreement between a nominal and T, in the first place — which some have suggested should be abandoned.

... the argument that Icelandic R2 infinitival clauses start full and finite is strong in its own right, however:

Anaphor-Agreement Effect before Infinitivization

(33) **Anaphor-Agreement Effect**
a. *Mary believes that herself gave a good talk.
b. *Jón segir að sig elski Maríu. (Icelandic)
John says that REFL love.SUBJ.3SG Mary

Reasons to blame the star on agreement:
- a NOM-marked reflexive anaphor should be acceptable in a language without subject agreement (as long as its antecedent is sufficiently local)
- any syntactic position that is agreed with, even a non-subject, should block the appearance of a reflexive in that position
- special strategies might be invoked cross-linguistically that suppress agreement — to permit a reflexive in otherwise agreeing positions (Woolford 1999, 258; Sundaresan 2016, 79; Yuan 2018)

- **No surprise** that when an otherwise licensed Icelandic reflexive bears quirky case and therefore fails to trigger φ-agreement, it is acceptable as a subject (since long-distance binding of a reflexive across a subjunctive clause boundary is generally permitted in Icelandic):

(34) **No AAE effect for quirky subject (Icelandic)**
Hún sagði að sér þætti vænt um mig.
she said that REFL.**DAT** was.SUBJ3SG fond of me
(Maling 1984, 216 ex 8b; Woolford 1999, 261 ex 9a)

- **No surprise** that a NOM object, which is a target for agreement by finite T, may not be a reflexive in a finite clause:

(35) **AAE effect for NOM object in finite clause (Icelandic)**
*Maríu leiðist sig.
Maria.DAT find.boring.3SG REFL.**NOM**
Intended: 'Maria finds herself boring.'
(Everaert 1991; Woolford 1990)

- **A big surprise (perhaps):** that a reflexive is **also excluded as the NOM object in an infinitival R2 clause,** where there is **no visible agreement morphology** in the embedded clause:

(36) **AAE effect for NOM object in *non*-finite clause**
*Ég tel Maríu leiðast sig.
I believe Maria.DAT find.boring.INF REFL.**NOM**
Intended: 'I consider Maria to find herself boring.'

- Not attributable to a failure of c-command by the DAT antecendent — since a DAT nominal may serve as the antecedent for a non-nom reflexive.
(Zaenen et al. 1985, 456 ex 31; Taraldsen 1996, 200 ex 28)

Infinitivization resolution: The AAE arises from the pre-infinitivization derivational period in which the embedded clause contained a T that agreed (or attempted to agree) with it.

A problem and a possible explanation

- The impossibility of an embedded NOM object reflexive in an R2 construction like (36) contrasts with the complete acceptability of a reflexive as the raised ACC subject in an R2 construction ...
- ... despite the fact that here too the reflexive occupied a position targeted by agreement pre-infinitivization.

(37) **No AAE effect for raised ACC subject in R2**
a. She believes herself to be strong.
b. Hún telur sig vera sterka.
She.NOM believes REFL.ACC be.INF strong.FACC (Icelandic)

- **Difference between the raised subject in (37) and its unraised counterpart in (36):**
  - the embedded subject in (37) has received a new case (ACC) after moving into the higher VP; but
  - nothing comparable happens in (36).

- **Absence of NOM→ACC case overwriting is at stake, not raising per se:**
  - Icelandic R2 with unaccusative verbs (impossible in English) yields NOM on the raised subject.

(38) **"Nominative with infinitive" construction (Icelandic)**
Mér sýndist Haraldur (í barnaskap mínum) hafa gert þetta vel.
me.DAT seemed Harold.NOM (in foolishness my) have.INF done this well
'Harold seemed to me (in my foolishness) to have done this well.'
(Thraínsson 1979, 426, ex 121)

  - ... and the raised NOM subject shows an AAE effect.

(39) **AAE effect in "Nominative with infinitive" construction (Icelandic)**
*Mér sýndist sig hafa gert þetta vel.
me.DAT seemed REFL.NOM have.INF done this well
'Harold seemed to me to have done this well.'

Why does NOM→ACC overwriting eliminate the AAE effect?

- **Baker & Vinokurova (2010, 639) on Sakha:** nominal licensing in Sakha takes place in one of two ways:
  (1) by agreement with an element such as T, or
  (2) by the assignment of dependent case (under local c-command by a distinct non-oblique nominal).

- **Two features of their proposal**
  - integration of dependent case into a view that also countenances agreement as a source of case;
  - the idea that dependent case has a licensing role and is not purely morphological (cf. also Branan 2017 on Kikuyu).

- **If Icelandic has essentially the same system as Sakha** (and the clause is a locality domain for dependent case), then licensing by agreement with T should be the only licensing strategy available for the subject of a finite clause, or for a direct object locally c-commanded only by an oblique nominal within that clause.

- This suggests the following logic for generating the AAE effect:

(40) **AAE revised**
Agreement does not case-license a reflexive anaphor (perhaps because agreement fails).

- **Consequences:**
  - A reflexive for which T is the only possible source of licensing throughout the derivation will violate the Case Filter.
  - If a reflexive moves to a position where it may be licensed by dependent case, it can satisfy the Case Filter.

→ AAE effects are Case Filter effects.

More derivational opacity evidence for agreement before infinitivization

- First and second person ([+Participant]) NOM objects are problematic in finite clauses with overt agreement (for many speakers). Note that 1PL is the worst of the imperfect examples:

(41) **NOM objects in present- and past-tense indicative clauses (Icelandic)**

Present				**Past**			
a. (?)	Henni	leiðist	ég.	g. (?)	Henni	leiddist	ég.
	her.DAT	find.boring.PRS.1SG	I.NOM		her.DAT	find.boring.PST.1SG	I.NOM
	Intended: 'She finds me boring.'				Intended: 'She found me boring.'		
b. (?)	Henni	leiðist	þú.	h. (?)	Henni	leiddist	þú.
	her.DAT	find.boring.PRS.2SG	you.NOMSG		her.DAT	find.boring.PST.2SG	you.NOMSG
	Intended: 'She finds you (sg.) boring.'				Intended: 'She found you (sg.) boring.'		
c. ✓	Henni	leiðist	hann.	i. ✓	Henni	leiddist	hann.
	her.DAT	find.boring.PRS.3SG	he.NOMSG		her.DAT	find.boring.PST.3SG	he.NOMSG
	'She finds him boring.'				'She found him boring.'		
d. *	Henni	leiðumst	við.	j. *	Henni	leiddumst	við.
	her.DAT	find.boring.PRS.1PL	we.NOM		her.DAT	find.boring.PST.1PL	we.NOM
	Intended: 'She finds us boring.'				Intended: 'She found us boring.'		
e. ?	Henni	leiðist	þið.	k. ?*	Henni	leiddust	þið.
	her.DAT	find.boring.PRS.2PL	you.NOM.PL		her.DAT	find.boring.PST.2PL	you.NOM.PL
	Intended: 'She finds you (pl.) boring.'				Intended: 'She found you (pl.) boring.'		
f. ✓	Henni	leiðast	þeir.	l. ✓	Henni	leiddust	þeir.
	her.DAT	find.boring.PRS.3PL	they.NOM		her.DAT	find.boring.PST.3PL	they.NOM
	'She finds them boring.'				'She found them boring.'		

- **Same contrasts hold in non-finite R2 infinitives**:

(42) **1PL and 2PL NOM objects in an R2 infinitive (Icelandic)**
Ég tel henni leiðast…
I believe her.DAT find.boring.INF…
'I consider her to find boring…'

a.	?*…ég. …I.NOM.SG	d.	*…við. …we.NOM
b.	?*…þú. …you.NOM.SG	e.	?*…þið. …you.NOM.PL
c.	✓…hann. …he.NOM	f.	✓…þeir. …boys.they.NOM

- If the contrast between third-person and [+Participant] subjects in (41) is due to an agreement problem ...
- ... we must conclude that **the same kind of agreement created the same problem in the infinitival embedded clauses of (42)** — as predicted by a derivational account of infinitivization.

- **Data credit and caution:** Höskuldur Thráinsson (reporting judgments of two others as well) and Halldór Ármann Sigurðsson, p.c. The overall strength of their judgments of deviance differed somewhat, but I believe the pattern presented here correctly represents their data fairly. A fifth (younger generation) speaker, Iris Edda Nouwenstein, prefers 3PL agreement with plural nominative objects and reports the major contrast in (42) but not the subtle difference between 1PL and other [+Participant] NOMs. So take these data as the fruits of an informal pilot experiment, awaiting further confirmation.

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5. Back to case theory

- We still need to understand the correlation between V/P vs. N/A in licensing a nominal *complement* that formed half of the domain of classical case theory ...

- ... but the generalization that extended this theory to the behavior of finite vs. non-finite T is gone.

What do the arguments for classical case theory look like now?

- We do not have an argument against the agreement theory of NOM any more, though we do not have an argment in favor of it either.

What evidence can now decide between agreement triggering nominative vs. nominative triggering agreement?

Part 3: What reduces where

6. Reduction hierarchy and infinitivization under Raising

- Languages differ in exactly what obliterations and what reductions they tolerate.
- Higher predicates may select for or against the output of reduction.

(43) **Reduction hierarchy in Kinyalolo Dissimilation**
a. Don't delete if the language prohibits it >>
b. **otherwise Reduce C if specifier is non-criterial** (C lacks semantic content) >>
c. **otherwise Reduce T**

Easier Examples:

- **Long-distance Ā-movement of subject via spec,CP**
C is non-criterial and declarative (semantically vacuous) → **reduce C**
(delete C, delete all C's features (*that*-trace effect), alter it (*que~qui*)

- **Short-distance Ā-movement of subject to spec,CP**
C is criterial and interrogative (semantically contentful) → **reduce T**
(anti-agreeement)

Harder examples:

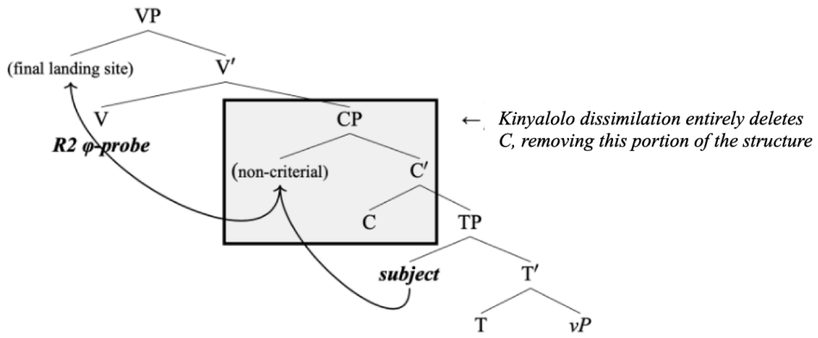
- **Long-distance A-movement of the subject via spec,CP, i.e. R1 and R2**
C is non-criterial and declarative → **reduce C**
But why is T also reduced in English R1 and R2?

This relates to the following question:
When C is inaudible due to Kinyalolo Dissimilation, are some features of C still present, projecting CP, or is CP entirely ***exfoliated*** due to total elimination of its features?

Proposal: Both possibilities are attested — total exfoliation and mere silencing.

- In English-style infinitival Raising constructions, CP has been exfoliated, producing a situation of (derived) TP complementation:

(44) ***Step 1*: subject movement to Spec,CP → maximal reduction of C (yielding exfoliation of CP):**



- We now generalize Kinyalolo Dissimilation so that it is not just about C and T:

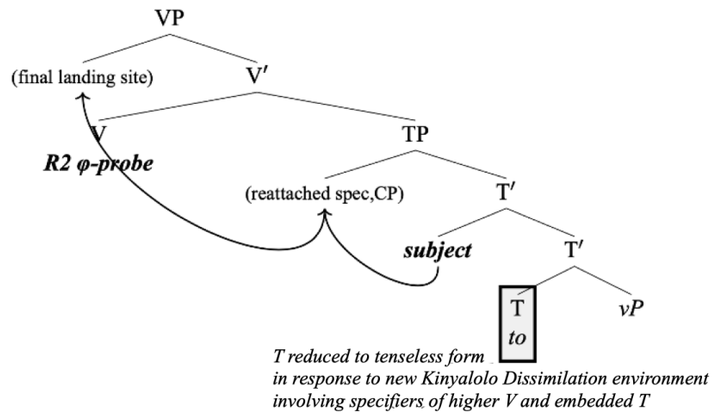
(45) **Kinyalolo Dissimilation (generalized)**
In [$_{XP}$ … X [$_{YP}$ .... Y …]], where YP is the complement of X, if both X and Y have triggered movement of the same phrase, one or the other must undergo featural reduction.

- And we generalize the reduction hierarchy:

(46) **Reduction hierarchy in Kinyalolo Dissimilation (generalized)**
a. Don't delete if the language prohibits it >>
b. otherwise reduce the higher head if non-criterial (lacks semantic content) >>
c. otherwise reduce the lower head

- If Kinyalolo Dissimilation is generalized in this fashion, we can see that Exfoliation of CP has created a new dissimilation environment involving the higher V instead of C. Since it has semantic content (and in R2 is criterial), T now reduces.

(47) ***Step 2*: new Kinyalolo configuration → reduction of T**



- In Lusaamia and Moro hyper-raising with a *that*-trace effect, let us suppose that CP is not totally exfoliated, but merely loses its phonological features — with that reduction counting as Kinyalolo Dissimilation for both the C-T and V-C applications of the rule.

Because CP is never exfoliated, and C is not criterial, nothing motivates reduction of T — hence its hyper-raising character.

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7. Some details

(48) **A probe-featural view of the A/Ā distinction**
… ideas developed and defended in Van Urk's (2015) dissertation
a. A-movement is movement triggered by a φ-probe with EPP.
b. Ā-movement is movement triggered by an Ā-probe with EPP.

(49) **Ban on improper movement**
An element that has undergone Ā-movement may not undergo A-movement.
(Even if a φ-probe treats it as a goal, it may not trigger movement.)

(50) **The features of important heads with an EPP property in English**
a. **T:** always φ
b. **C:** always Ā, optionally A
c. **V:** always A [criterial for R2 verbs, otherwise not]
d. ***v*:** always non-criterial Ā and (probably) always non-criterial A

(51) **Possible Kinyalolo dissimilations in English**
a. C: total reduction yielding exfoliation of CP
b. T: reduction to *to*

R2: The subject A-moves to C, exfoliating CP; then moves to V in response to criteral φ-feature. Because CP has been exfoliated, a second application of Kinyalolo Dissimilation reduces T to *to*. **Result:** raising from an infinitivized clause.

R1: Like R2 above, except that the subject moves again to form a specifier of *v*P because the φ-feature on V was non-criterial. **Result:** raising from an infinitivized clause.

Subject Ā-movement yielding a *that*-trace effect: The subject Ā-moved to C, exfoliating CP. The ban on improper movement makes the φ-probe on V irrelevant to the next step of movement. The Ā-probe on *v* triggers the next step of movement, which does not trigger

a second application of Kinyalolo Dissimilation (since VP intervenes between *v* and C). **Result:** movement from a finite clause lacking the complementizer.

Long-distance Ā-movement of a non-subject: A non-subject will move via the specifier of the embedded *v*P to form spec,CP in response to the Ā-probe on C. This does not trigger an application of Kinyalolo Dissimilation. The ban on improper movement again makes the φ-probe on the higher V irrelevant to the next step of movement — triggered by the φ-probe on the higher *v*, which once again does not trigger any application of Kinyalolo Dissimilation.

Kayne-paradigm Ā-movement: For *wager*-class verbs (and French *believe*-class verbs), the story is identical to R1, with a non-criterial φ-probe on R2 triggering the first step of movement — except that the second step of movement is triggered by the Ā-feature on *v*.

For the case of *assure*, V takes the first object as its specifier and CP as its complement. The embedded subject raises within CP, triggering exfoliative reduction to TP. The non-criterial φ-probe on V attracts that subject to it, forming a second specifier and triggering the same second step of reduction of embedded T to *to* seen in R1, R2 and Kayne-paradigm Ā-movement discussed above. From there, it is attracted by the Ā-probe on *v*.

French: like English, except almost not criterial R2 probes, and:
a. reduced C due to Ā-probe → ***qui***
b. reduced C due to A-probe → exfoliation as in English

Anti-agreement: Because interrogative C is criterial, when the Ā-feature on C attracts the subject, Kinyalolo Dissimilation must reduce T rather than C.

Speculative observation: Movement to criterial C prefers to affect Agreement on T (anti-agreement), while other movement that reduces T prefers to affect its TAM features. Unclear why.

Speculative observation: Movement to criterial C prefers to affect Agreement on T (anti-agreement), while other movement that reduces T prefers to affect its TAM features. Unclear why.

(52) **Tamazight Berber short-distance subject Ā-extraction reduces T (anti-agreement)**
(from Ouali 2006, 5, ex. (10)-(12), repeated)
subject agreement reduced

a. *thamttut thʕla araw* (full agreement)
woman 3SG.FEM.see.PERF boys
'The woman saw the boys'

b. *mani thamttut ag ʕlan araw* (reduced ageement)
which woman COMP see.PERF.*Part* boys
'Which woman saw the boys'

c. **mani thamttut ag thʕla araw* (*full agreement)
which woman COMP 3SG.FEM.see.PERF boys
'which woman saw the boys?'

(53) **Tamazight long-distance Ā-subject extraction reduces C**

a. *long distance subject extraction: *overt C*
*mani ɵamattut$_i$ ag nna ʔli [bəlli t$_i$ ɵ-ʔla arǰaz-nəs]
which woman$_i$ comp 3sm.say.PFV ali [Comp t$_i$ 3sf-see.PFV man-her]
"Which woman did Ali say saw her husband?"

b. *long-distance subject extraction: ✓zero C*
mani ləçɵa:b$_i$ ag nna ʔli [t$_i$ ɵ-qra fatima t$_i$]
which woman$_i$ comp 3sm.say.PFV ali [t$_i$ 3sf-read.PFV t$_i$]
"Which book did Ali say Fatima read?"

c. *though object extraction is also less than perfect from a clause with overt C*
?? mani ləçɵa:b ag nna ʔli [t$_i$ bəlli ɵ-qra fatima t$_i$]
which book comp 3sm.say.PFV ali [t$_i$ comp 3sf-read.PFV Fatima t$_i$]
"Which book did Ali say Fatima read?"

Why does English not show anything like anti-agreement in a short-distance *wh*-question?

- Perhaps it does? Maybe the absence of T-to-C movement in short-distance subject questions is a sign that T has been slightly reduced so as to lack the feature that C targets to raise T.

(54)a. Who *(did) Mary visit __?
b. Who (*did) visit Mary?

Is there no ban on improper movement?

Maybe not?

Part 4: Infinitivization and Control

8. Control controversies: history of the debate

Basics (focusing on English)

(55) **Silent subjects of infinitives: are they the same?**
a. Mary seemed [__ to like apples].
b. Mary was believed [__ to like apples].
c. Mary tried [__ to like apples].

(56) **Similarities of distribution 1: not into finite clauses**
a. *Mary seemed [__ likes apples].
b. *Mary was believed [__ likes apples].
c. *Mary tried [__ likes apples].

(57) **Similarities of distribution 2: not across subjectsd**
a. *Mary was preferred [for it to seem [__ to like apples]].
b. *Mary tried [for it to seem [__ to like apples]].

(58) **But: there are θ-theoretic differences ("control")**
a. Apples seemed [__ to be liked by Mary].
b. Apples were believed [__ to be liked by Mary].
c. Apples tried [__ to be liked by Mary].

[Peter S. Rosenbaum. 1967. *The Grammar of English Predicate Complement Constructions*. Cambridge: MIT Press.]

d. The cat seemed [__ to be out of the bag]. (✓idiomatic meaning)
e. The cat was believed [__ to be out of the bag]. (✓idiomatic meaning)
f. The cat tried [__ to be out of the bag]. (*idiomatic meaning)

(59) **and distributional differences: the "control effect" is absent for co-arguments**
a. John was praised __.
b. *John praised __. 'John praised himself'

(though intrinsically reflexive predicates do exist: *Mary washed* ≅ *Mary washed herself*)

Early Analysis: Equivalent-NP deletion ("Equi")

(60) **Raising/Passive vs. Equi**
a. **Movement:** Mary$_i$ seemed [t_i to like onions].
b. **Movement:** Mary was believed [t_i to like onions].
c. **Equi:** Mary$_i$ tried [Mary$_i$ to like onions]. ==> Mary$_i$ tried [ø to like onions].

(61) **The Equi'd NP has clause-internal syntax like any NP**
a. *Mary$_i$ seems to her$_i$ [t_i to like onions]. **[Raising is obligatory]**
b. *Mary$_i$ tried [__$_i$ to seem to her$_i$ [t_i to like onions]].

c. *Mary$_i$ seems to t$_i$ [that the world is round]. **[Raising is impossible.]**
d. *Mary$_i$ hopes [__$_i$ to seem to t$_i$ [that the world is round].

Semantic proposal: the SD for Equi requires *coreference*

(62) **But...**
a. Many students arranged [for many students to go to the picnic]. ≠
b. Many students arranged [__ to go to the picnic].

(63) **...and...**
a. Only Churchill remembers [Churchill giving that speech]. ≠
b. Only Churchill remembers [__ giving that speech].

- a road not taken: Equi requires *binding*

Lectures on Government and Binding (Chomsky 1981): PRO theorem

- θ-properties of control follow because PRO is an independent argument.
- Interpretation as a bound variable built into the semantics of PRO.
- Distribution from Binding Theory, under assumption that PRO is [+pronoun, +anaphor].

(64) **Governing Category**
The governing category for α is the minimal X containing α and a governor of α [and...].

(65) **Government (roughly)**
α governs β iff
(i) α m-commands β, and
(ii) no barrier dominates β that fails to dominate α, and
(iii) α is not *infinitival T*, *null C*, ..., or...

(66) **CP stipulation**
CP is a barrier to government.

(67) **Binding Theory**
a. An anaphor is bound in its Governing Category.
b. A pronoun is free in its Governing Category.
c. An r-expression is free.

Consequence: A pronominal anaphor (PRO) lacks a Governing Category,
and is therefore ungoverned.

Question: PRO in this theory also lacks Case, which is assigned/checked under government. Is lack of case a *sufficient* condition for PRO in this theory?

Answer: No! *Why?*

(68) **Lack of case not a sufficent condition for licensing PRO**
*It seems [PRO to have read the book].

"Null Case"

(69) **The Equi'd NP has clause-internal syntax like any NP** [(61)]
a. *Mary$_i$ tried [PRO$_i$ to seem to her$_i$ [t_i to like onions]].
b. *[PRO$_i$ to seem to her$_i$ [t_i to like onions]] was Mary$_i$'s goal in life.
==> PRO moves to Spec,TP in response to a Case need

c. *Mary$_i$ hopes [PRO$_i$ to seem to t$_i$ someday [that the world is round].
d. *[PRO$_i$ to seem to [t_i to like onions]] was Mary$_i$'s goal in life.
==> PRO fails to move to Spec,TP when it has no Case need

Chomsky and Lasnik (1993; 1995):
- PRO is a normal D (or DP) and bears unchecked/unassigfned Case that needs to be checked/assigned to pass the Case Filter.
- Its special distribution follows from a s**pecial Case need (*null Case*) satisfied obligatorily and exclusively by certain instances of infinitival T**.

Hornstein's movement theory of control eliminates "null Case"

Grant that PRO moves to Spec,TP for the same reason any DP moves there. Then:
- We must posit a full T (assigning null Case) at the "control position" *only if we assume that the control position heads a movement chain (i.e. is PRO).*
- If, instead, the control position is an *internal* position in a chain headed by the controller, we can posit a **raising-type "defective T"** at the control position, rather than a null case-assigning T.
- This is the kind of T that a DP moves to only as an intermediate step.

Expected consequence:
Distribution of control positions should mirror distribution of A-trace positions.

True to the extent that Spec,TP control positions are found only in infinitival clauses. But:
- Why no direct object PRO?
- Why do only certain infinitival clauses permit PRO?

(70) *It is likely [PRO*arb* to lose your pencil just when you need it most].

Also: what about Obligastory Control vs. Non-obligatory Control?

(71) **Hornstein: properties of OC PRO** **[(4)]**
a. **PRO must have an antecedent**
It was expected PRO to shave himself.
b. **Antecedent must be local**
*John thinks that it was expected PRO to shave himself.
c. **Antecedent must c-command PRO.**
*John's campaign expects PRO to shave himself.
d. **Only sloppy reading allowed in parallelism contexts (e.g. ellipsis)**
John expects PRO to win and Bill does too. (= Bill win)
e. **No split antecedents**
*John$_i$ told Mary$_j$ PRO$_{i+j}$ to wash themselves/each other.
f. **Only *de se* interpretation**
The unfortunate expects PRO to get a medal.
g. **Similarly...**
Only Churchill remembers PRO giving the BST speech.

(72) **Hornstein: properties of NOC PRO** **[(6)]**
a. **PRO need not have an antecedent**
It was believed that PRO shaving was important.
b. **Antecedent need not be local**
John$_i$ thinks that it is believed that PRO$_i$ shaving himself is important.
c. **Antecedent need not c-command PRO**
Clinton's$_i$ campaign believes that PRO$_i$ keeping his sex life under control is necessary for electoral success.
d. **Strict reading available, along with sloppy**
John thinks that PRO getting his resume in order is crucial and Bill does too. [ambig]
e. **Split antecedents ok**
*John$_i$ told Mary$_j$ [that [[PRO$_{i+j}$ washing themselves/each other] would be fun]].
f. **Non-*de se* OK**
The unfortunate believes that PRO getting a medal would be boring.
g. **Similarly...**
Only Churchill remembers that PRO giving the BST speech was momentous.

(73) **Hornstein's tenets [(18)]**
a. θ-roles are features on verbs, whose need to be assigned may force movement.
b. A DP receives a θ-role by checking a θ-feature of a predicative phrase that it merges with.
c. There is no upper bound on the number of θ-roles a chain can have.

(74) [John$_1$ [$_{VP}$ t_2 hopes [$_{IP}$ t_3 to [$_{VP}$ t_4 leave]]]]

(75) ***OC properties explained***

a.	PRO must have an antecedent:	"PRO" is a trace.
b.	Antecedent must be local:	Locality of movement (attract closest etc.)
c.	Antecedent must c-command PRO.	Featural cyclicity.
d.	Only sloppy reading allowed	Like raising constructions.
e.	No split antecedents	Like raising.
f.	Only *de se* interpretation	John λ*x* [x hopes *x* leave]

Object control and the Minimal Distance Condition

(76) [John$_i$ T [$_{vP}$ t_i persuaded [$_{VP}$ Harry$_{j1}$ *persuaded* [t_{j2} to [$_{VP}$ t_{j3} leave]]]]

- *Harry*$_1$ is the result of movement for θ-feature reasons
- Subject control would violate "Attract Closest"

(77) **MDP violation #1**
Mary promised Bill [__ to read his essay].

- "Highly marked."

(78) **MDP violation #2**
a. John [__ heard Mary] [before __ entering the room] (subject control!)
b. John read every book [before reviewing it] (object c-commands adjunct)

- In (78a), *John* moves "sideways" to the External Argument position of *heard Mary*, which raises no MLC issues

NOC

A null pronoun, somehow a last resort strategy.

<u>Landau and others against the Movement Theory of Control</u>

- **No minimal distance effect, not "highly marked"**

(79) **Lots of verbs act like *promise***
a. We$_1$ vowed to our leader [PRO$_1$ to be loyal].
b. The prisoner$_1$ asked the guard [PRO$_1$ to smoke one more cigarette].
c. John$_1$ proposed to Mary [PRO$_1$ t o help her with the arrangements].

(80) ***Promise* doesn't always act like *promise*. Nor does *persuade*.**
a. Sue persuaded the committee [__ to be allowed to attend the game].
b. Sue was promised by the committee [__ to be allowed to attend the game].

- **Raising and control infinitivals have distinct syntax**

(81) **Control CPs vs. Raising TPs**
a. Control complements may be introduced by complementizers;
b. Raising complements are never introduced by complementizers.

Perlmutter (1970): aspectual verbs are ambiguously control/raising, and...

(82) ...the **Hebrew complementizer *me* disambiguates**
a. Rina xadla (me-)le'acben et Gil.
Rina stopped (from-)to-irritate acc. Gil
'Rina stopped irritating Gil'

b. Ha-muzika ha-ro'ešet xadla (*me-)le'acben et Gil.
the-music the-noisy stopped (*from-)to-irritate acc. Gil
'The loud music stopped irritating Gil'

- **Partial control exists (but no partial raising)**

(83) We thought that...
a. The chair$_1$ preferred [PRO$_{1+}$ to gather at 6].
b. Bil$_1$ regretted [PRO$_{1+}$ meeting without a concrete agenda].
c. Mary$_1$ wondered [whether PRO$_{1+}$ to apply together for the grant].

- **Icelandic: controller never inherits case from controllee (but lower-position case is inherited in Raising)**

(84)a. Pétur hafði borðað kæstan hákarl
Peter-NOM had eaten rotten shark

b. Pétur hafði reynt að borða kæstan hákarl
Peter-NOM had tried to eat rotten shark

c. Pétur hafði virst að borða kæstan hákarl
Peter-NOM had seemed to eat rotten shark

(85) **Some quirky case-marked subjects**
a. Hana vantar peninga.
her-ACC lacks money
'She lacks money.'

b. Henni batanaði veikin.
her-DAT recovered-from disease-the.
'She recovered from the disease.'

c. Honum var hjálpað
him-DAT was helped
'He was helped'

(86) a. Hún vonast til að vanta ekki peninga.
She-NOM hopes for to lack not money

b. Hana virðist vanta peninga.
her-ACC seems to-lack money

(87) a. Hún vonast til að batnað veikin.
She-NOM hope for to recover-from disease-the

b. Henni virðist hafa batnað veikin.
her-DAT seems to-have recovered-from disease-the

(88) a. Strákarnir vonast til að verða hjálpaðir.
boys-the-NOM hope for to be helped

b. Strákunum virðist hafa verið hjálpað
boys-the-DAT seems to-have been helped-DFLT

9. New thoughts about control

Not movement to controller …
Control phenomena *always* involve a distinct controller and controllee (e.g. PRO) — not movement between these positions.

…but the controllee undergoes movement nonetheless — to Spec,CP, in response to a φ-probe on C, creating a dissimilation environment. [Crucial, at least for non-hyper-control languages: the skipping strategy is unavailable for controllees.]

Challenges:

- **Infinitivization** (and other kinds of clause reduction) characteristic of control constructions must reflect local movement of the subject.

  What moves from subject position, why and to where?
  The controllee moves in response to a φ-probe on a complementizer that provides control, creating a Kinyalolo Dissimilation configuration.

- **Restructuring infinitives** (at least in German, where "long passive" is possible): these appear to involve control, but have been argued by Wurmbrand and others to be *very very very small* — a bare VP, in fact, lacking every normal component of a clause including *v*P.

  Why are they infinitival, and why are they control constructions if they lack vP and therefore a syntactic position for the external argument?
  I will suggest that they are somewhat bigger than has been claimed.

- **Character of the controllee:** ***Why is the controllee often silent (PRO) or at most a weak overt pronoun (e.g. Bùlì)?***
  I will have something to say about this, but not a huge amount,

Proposal:
Control involves movement of a semantically vacuous phonologically null element to spec,CP, creating a predicate.

(89) **Control configuration**

Mary planned [$_{CP}$ PRO C [__ to visit Tokyo]]

- **Semantic conjectures:**

(90) **Control configuration denoting a property…**
Mary planned [$_{CP}$ PRO λx. C [*x* to visit Tokyo]]

(91) **… and in fact can be used as a relative clause (a more obvious property)**
a. I am looking for a person [$_{CP}$ PRO λx. C [*x* to play Hamlet]]
b. The last person [$_{CP}$ PRO λx. C [*x* to leave]] should turn off the lights.

- "the element known as PRO functions as a property-creating abstractor" (Landau, building on Chierchia 1984)

- "More interesting are situations where the infinitive is headed by some functional category (Asp, T, Fin, etc.). These categories project phrases that are not natural predicates, and become predicative only with the aid of a syntactic operator. Thus, a clause is turned into a predicate by an operator merged at its edge, either externally or internally (by movement); the operator is later translated as a λ-abstractor. This device is put to use in relative clauses, toughconstructions, object purpose clauses, parasitic gap constructions, left dislocation, and copy-raising constructions [….]" Landau (2014) *A Two-tiered theory of Control*

- **Why is T reduced?**

  C is *criterial*, supporting (in some fashion) the interpretation of the embedded clause as controlled.

- **Why is control always cross-clausal, and why is the controlled position limited to the subject?**

  If control depends on a complementizer with a φ-probe, like the one that facilitates R1 and R2, then in general the controlled position will always be the subject of an embedded clause — so its controller will be clause-external.

  But: Landau (2015) proposes that the clause-external controller is not necessarily the obvious argument in the visible higher clause. Attitude predicates select a phrase larger than the visible complement, which contains attitude-bearer arguments that are the proximate controller of PRO in the visible complement — hence the possibility of partial and split control (really partial/split control of attitude holder arguments in the intermediate projection).

- **Why does the controllee move following the same laws as any other nominal (the null case problem)?**

  Instead of "null case", PRO receives normal NOM case and agrees with T in a normal fashion before infinitivization takes place.

Argument from participle and secondary-predicate agreement:

(92) **A derivational opacity argument for a reduction analysis of control infinitives: NOM controllees in Icelandic**
Raising: NOM on subject overwritten by ACC, when subject raises into higher VP
Control: NOM remains

a. Ég tel Maríu hafa verið tekna/**tekin* af lögreglunni. **(R2)**
I.NOM believed Maria.ACC to.have been taken.F.SG.ACC/*NOM by the.police
'I believed Maria to have been taken by the police.'

b. Ég bað Maríu að vera tekin/**tekna* af lögreglunni. **(Control)**
I.NOM asked Maria.ACC to be taken.F.SG.NOM/*ACC by the.police
'I asked Maria to be taken by the police.'
(Thráinsson 1979:362–363)

a. Jón taldi Bjarna$_i$ hafa hlaupið einan$_i$/*einn$_i$. **(R2)**
Jon.NOM believed Bjarni.ACC to.have run alone.ACC/*NOM
'Jon believed Bjarni to have run alone.'
(B&H 2006a:601)

b. Ég bað hann$_i$ að fara einn$_i$/einan$_i$ þangað. **(**Control)
I.NOM asked him.ACC to go alone.NOM/ACC there
'I asked him to go alone.'
(Thráinsson 1979:301)

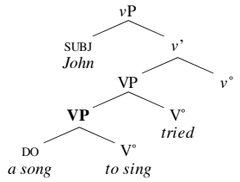
apud Bobaljik and Landau (2009)

… and the secondary predicate really is agreeing with PRO: the verb *bore* takes a DAT subject, and PRO is DAT, normal case behavior:

(93) (#)Jón bað hann að leiðast ekki einum.
Jon.NOM asked him.ACC to be.bored not alone.DAT
'Jon asked him not to be bored alone.'
(Bobaljik and Landau 2009, 116)

10. Restructuring (focusing on German)

(94) **Basic structure of German restructuring infinitival clauses according to Wurmbandt (1998; 2002)**



- **If v hosts both the external argument (and possibly all subject arguments) and assigns ACC case...**

  ... what this entails about *control*:

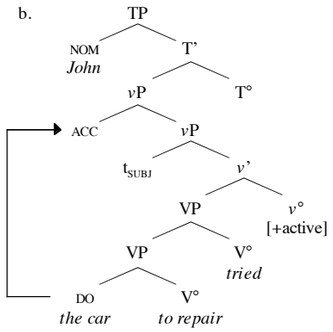
- There must be a way to understand the agent of the embedded VP as identical to the external argument of the higher verb without the presence of an actual controlled PRO in the embedded clause.
- This does not entail that all control clauses should be analyzed as subjectless.

...what this entails about case:

(95) **ACC assignment in a restructuring infinitival clause comes from the higher *v*, since the lower VP has no case assigner of its own**

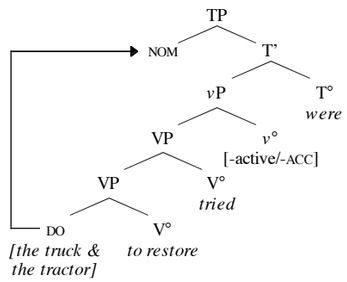
a. weil Hans den Wagen zu reparieren versuchte
since John [the car]-ACC to repair tried
'since John tried to repair the car'

b.



(96) ***Long Passive*:**
passivize the upstairs verb, and it's the downstairs object that must move
weil [der Lastwagen und der Traktor] zu reparieren versucht wurden/*wurde
since [*the truck and the tractor*]-NOM to repair tried were/*was
meaning: 'since somebody tried to repair the truck and the tractor'
but literally: 'since the truck and the tractor were tried to repair'

(97) **Long Passive structure**



- **Supporting evidence: when long passive (or long-distance scrambling, also unique to restructuring clauses) takes place ...**
  - an inherent or benefactive reflexive is excluded (no local subject)
  - the embedded clause cannot have its own tense semantics (no T)
  - the embedded clause cannot has its own negation (no NEG)

... so it is **so small that it lacks an external argument position, tense, negation, and the ability to assign ACC —**
but not so small that it lacks the verb itself.

11. restructuring → no PRO to bind an inherent or benefactive reflexive

- Verbs that can take a restructuring complement can also take a full CP complement (and produce non-long passives, including impersonal passives

(98) **No restructuring, impersonal passive →**
ok *sich* in embedded clause with subject antecedent

a. *Es wurde beschlossen*
it was decided
[PRO$_i$ *sich*$_i$ *den Fisch mit Streifen vorzustellen*]
PRO$_i$ SELF$_i$ the-ACC fish with stripes to-imagine
'They decided to imagine what the fish would look like with stripes.'

b. *Es war notwendig* [PRO$_i$ *sich*$_i$ *einen Wagen zu kaufen*]
it was necessary PRO$_i$ SELF$_i$ a-ACC car to buy]
'It was necessary to buy oneself a car'

c. *Es wurde versucht* [PRO$_i$ *sich*$_i$ *den Fisch mit Streifen*
it was tried PRO$_i$ SELF$_i$ the-ACC fish with stripes
vorzustellen]
to-imagine
'People tried to imagine what the fish would look like with stripes.'

(99) **Yes restructuring, long passive →**
***sich* in embedded clause with subject antecedent**

a. **… weil {sich} der Fisch {sich} vorzustellen versucht wurde*
since {SELF} the-NOM fish {SELF} to-imagine tried was
'…since somebody tried to recall the image of the fish.'

b. *… weil {*sich} der Turm {*sich} zu bauen versucht wurde*
since {*SELF} the-NOM tower {*SELF} to build tried was
'…since somebody tried to build (*himself) the tower.'

12. long passive → no negation in the embedded clause

(100) **No restructuring, non-long passive →**
embedded clause may contain negation

a. *weil dem Hans [den Spinat nicht zu essen]*
since the John-DAT [the spinach-ACC not to eat]
erlaubt wurde
allowed was
%'since John was not allowed to eat the spinach'
'since John was allowed not to eat the spinach'

b. *weil [den Kuchen nicht zu essen] versucht wurde*
since [the cake-ACC not to eat] tried was
%'since they didn't try to eat the cake'
'since they tried not to eat the cake'

c. *weil dem Hans [den Kuchen nicht zu essen]*
since the John-DAT [the cake-ACC not to eat]
gelungen ist
managed is
%'since John didn't manage to eat the cake'
'since John managed not to eat the cake'

(101) **Restructuring, long passive →**
embedded clause may not contain negation

a. *weil dem Hans [der Spinat nicht zu essen]*
since the John-DAT [the spinach-NOM not to eat]
erlaubt wurde
allowed was
'since John was not allowed to eat the spinach'
*'since John was allowed not to eat the spinach'

b. *weil [der Kuchen nicht zu essen] versucht wurde*
since [the cake-NOM not to eat] tried was
'since they didn't try to eat the cake'
*'since they tried not to eat the cake'

c. *weil dem Hans [der Kuchen nicht zu essen]*
since the John-DAT [the cake-NOM not to eat]
gelungen ist
managed is
'since John didn't manage to eat the cake'
*'since John managed not to eat the cake'

13. restructuring → no independent tense in the embedded clause

(102) **No restructuring → tense mismatch possible**

a. *Hans erlaubte dem Kind*
John allowed the child-DAT
(?*morgen*) *einen Kuchen zu essen*
(?tomorrow) a cake to eat
'John allowed the child to eat a cake (tomorrow)'

b. *Hans verbot dem Kind*
John forbade the child-DAT
(?*morgen*) *einen Kuchen zu essen*
(?tomorrow) a cake to eat
'John forbade the child to eat a cake (tomorrow)'

c. *Hans empfahl dem Kind*
John recommended the child-DAT
(?*morgen*) *einen Kuchen zu essen*
(?tomorrow) a cake to eat
'John recommended to the child to eat a cake (tomorrow)'

d. *Hans beabsichtigte* (*morgen*) *einen Brief zu schreiben*
John intended (tom.) a letter to write
'John intended to write a letter (tomorrow)'

(103) **Restructuring → no tense mismatch possible**

a. *Dem Kind wurden nur Kekse*
the child-DAT were only cookies
(**morgen*) *zu essen erlaubt*
(*tomorrow) to eat allowed
'The child was only allowed to eat cookies tomorrow'

b. [[t_{OBJ} {**Morgen*} *zu essen*] *erlaubt*]$_{VP}$ *wurden*
[[t_{OBJ} {*Tomorrow} to eat] allowed]$_{VP}$ were
dem Kind {**morgen*} *nur die Kekse*
the child-DAT {*tomorrow} only the cookies
'Only cookies were such that the child was allowed to eat them tomorrow'

c. *Dem Kind wurden* (*gestern*)
the child-DAT were (yesterday)
nur Kekse zu essen erlaubt
only cookies to eat allowed
'The child was only allowed to eat cookies (yesterday)'

d. *Dem Kind wurde erlaubt*
the child-DAT was allowed
(?*morgen*) *einen Kuchen/Kekse zu essen*
(?tomorrow) a cake-ACC/cookies to eat
'The child was allowed to eat a cake/cookies (tomorrow)'

14. How small are restructuring clauses really? And what part is small?

Sketch of an alternative:

- **German restructuring clauses are "full" insofar as they start out, like all clauses, with CP and TP layers** — i.e. they start out full and finite, and even contain a full and normal *v*P…

- … but from the beginning, **they are missing layers between *v*P and TP** that non-restructuring clauses have.

  This possibility is not a shock, since (for example) layers of the English auxiliary verb system can be fully missing. The absence of TemporalP, PolarityP and perhaps more layers between *v*P and TP is the special property that characterizes German restructuring clauses.

  (accounts for lack of independent tense and ability to negate)

- **Control involves a null element like PRO,** which moves to spec,TP and from there to spec,CP like controlled PRO in fuller clauses…

  (so no need for semantic magic alongside conventional PRO)

- … but this null element lacks features found in controlled PRO within larger clauses — call it **PRO*min*,** with the following consequences:
  - it cannot antecede a reflexive
  - it does not count as a case-competitor for the assignment of ACC to the object
  - it does not count as an intervener for a higher case-competitor or probe

(104) **Restructuring that includes a controlled subject**
Restructuring in German involves PRO after all — but a version of PRO that is featurally so small it does not antecede reflexives, act as a case competitor, or count for minimality (**PRO*min***).

Why the subject of a restructuring clause is super-small "PRO*min*":

(105) **Satık's generalization** (2022):
The size of the subject of a clause correlates with the size of the clause.

(106) **How to explain Satık's generalization**
a. **Featural demands of heads:** Individual heads in the clausal spine search for a nominal that bears certain specific features. (As a consequence, the more such heads are present in a clause, the more feature-rich the nominal must be.) [not in Satık's paper]
b. **Economy condition** (Satik, building on Cardinaletti & Starke 1999): Minimize featural content.

Baker's observation concerning nominal richness and ability to license dependent case

(107) **Dependent case-relevant nominal hierarchy**

Overt >	pro >	controlled >	arbitrary >	implicit agent of > PP, VP, etc.
NPs and clitics		PRO	PRO	passive agent of nominal nonspecific object

- "The idea is that categories to the right on this scale have a subset of the nominal features that categories to their left on the scale have. Languages then vary as to which of these features is minimally necessary in order to participate in dependent case assignment." (Baker 2015)

- **Sakha:** even implicit agent of passive and of deverbal nominalizations trigger ACC
- **Turkish, Tamil, Amharic...:** PRO and *pro* yes, but not implicit agents of passive etc.
- **Finnish...:** not uncontrolled PRO, but yes controlled PRO
- **Cuzco Quechua...:** *pro* but not PRO (be careful about restructuring!)
- **Coast Timshian:** neither *pro* nor PRO of any sort

(108) **PRO*min* and Long Passive**

German PRO*min* is too featurally small to
(1) license dependent ACC
(2) serve as an antecedent for reflexives
(3) count as an intervener for movement triggered by a higher φ-probe

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Analysis:

- A German restructuring clause is generated with a full C and T, but nothing else besides *v*P.
- Therefore, by (106) the subject that starts out in *v*P has minimal featural demands placed on it, and therefore is minimal itself: PRO*min*.
- The interpretation of an element as small as PRO*min* must involve control, so C must be the control version of the complementizer — and PRO*min* raises to form spec,CP, triggering reduction to an infinitive.
- *Zu* is just a normal infinitival T
- Control involves no magic — just controlled PRO moved to spec,CP in response to a φ-probe as in non-restructuring clauses.