Varieties of composite probes and feature independence

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1 Introduction

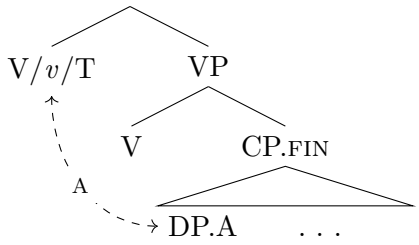
1.1 Cross-clausal A-dependencies [CCA]

An A-dependency between a matrix element $\boxed{\text{V}/v/\text{T}}$ and a $\boxed{\text{DP}}$ inside an embedded (finite) CP complement clause.

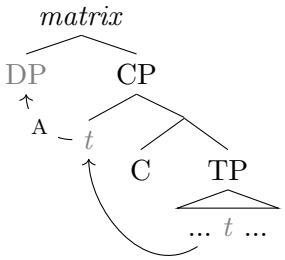
- Long-distance agreement/case assignment [**LDA**]
- Hyperraising to subject/object [**Hyperraising/HyR**]

(1) a. *I believe [that her won the triathlon]. *English LDA [Wurmbrand 2019: 1]
b. *She seems [that *t* won the triathlon]. *English Hyperraising to subject [Wurmbrand 2019: 1]

(2) a. CCA



b. Properties of CCA



- A-dependency stems from the matrix predicate
- CCA.DP is base-generated inside the embedded clause
- CCA.DP moves to the embedded left edge
- Embedded clause is a full CP

[Lohninger, Kovač, and Wurmbrand 2022: 8]

(3) a. Bat nokhoi-g chang-aar [t gaikhal-ta gej] khel-sen.
Bat dog-ACC loudly [*t* wonder-with COMP] say-PST
'Bat said loudly that dogs are wonderful.' Mongolian Hyperraising to object [Fong 2019: 3]

b. Coeng jyu gamgok/tengman [waa t m-wui ting].
CL rain feel.like/hear [COMP *t* not-will stop]
'It is felt/heard that the rain will not stop.' Cantonese Hyperraising to subject [T. T.-M. Lee and Yip 2022: 3]

c. Eni-r [CP už-ā magalu b-āc'ru-łi] b-iy-xo.
mother-DAT [CP boy-ERG bread.III.ABS III-EAT-PST.PRT.NMLZ] know.III
'The mother knows that the boy ate the bread.' Tsez Long-distance agreement [Polinsky 2001: 584]

- Phase edge analysis: Tanaka 2002, Şener 2008, Alboiu and Hill 2016, Bondarenko 2017a, Zyman 2017, 2018, Fong 2019, Gong 2022, Wurmbrand 2019, Mursell 2020, Lohninger, Kovač, and Wurmbrand 2022
- Alternatives see appendix

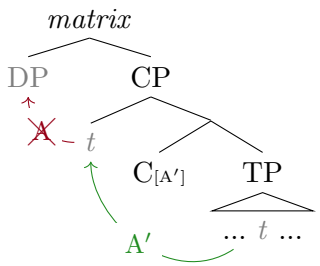
1.2 The A/A' distinction

- CCA is a mixture of A'- and A-dependencies
  - A': long-distance, A'-related effects (e.g. discourse-bound interpretation)
  - A: behaves like local argument movement (becomes an argument of the matrix clause, no WCO,...)
- **Structural perception of the A'/A perception (traditional)**:
  - A'-movement targets a non-argument position (CP-domain)
  - A-movement targets an argument-position (TP-domain and below)
- **Featural perception of the A'/A distinction (recent)**
  - Obata and Epstein 2011, van Urk 2015, Miyagawa 2010, 2017
  - Not positions but features are responsible for the A'/A-distinction
  - **A-features**: [ϕ], [θ], [D], [n], ([Case])
  - **A'/δ-features**: [wh], [foc], [top], [rel]
  - A-features trigger movement with A-properties
  - A'-features trigger movement with A'-properties
- **Implications of the featural perception**
  - Movement involves a feature dependency (valuation, sharing, agreement,...)
  - Movement consists of agreement + internal merge thus all movement restrictions also apply to agreement (Chomsky 2000, 2001)
  - Successive cyclic movement is induced by specific [A']-features ([wh], [foc],...) on embedded C (Abels 2012)
  - ... instead of a mere [EPP]-feature (Chomsky 2000, Lasnik 2001, Lasnik and Park 2003) or as a reflex of Spell-out (Bošković 2007, Putnam 2009, Stroik 1999, 2009)
  - Potential confusion: two perceptions of *Probe*
    i) Probe = an abstract construal of feature matrix (a probe is *on* a head) (Pesetsky and Torrego 2007)
    ii) Probe = a head (Chomsky 2001) ⇒ we use this definition

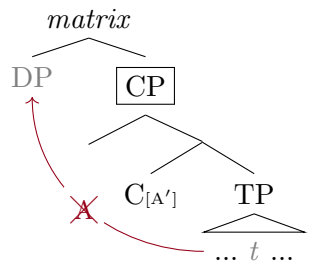
1.3 The Ban on Improper Movement & Locality

- **Ban on Improper Movement [BoIM]**: An element may not be moved from an A- to an A-position. (Chomsky 1973)
- **Phase Impenetrability Condition [PIC]**: In phase α with head H, the domain of H is not accessible to operations outside α, only H and its edge are accessible to such operations. (Chomsky 2000)
- BoIM, PIC & positional A'/A perception should rule out CCA
  - *PIC*: DP has to move to embedded left edge to escape the embedded clause
  - *Positional A'/A view*: SpecCP is an A'-position
  - *BoIM*: movement from SpecCP to a matrix A-position is impossible

(4) a. Ban on Improper Movement

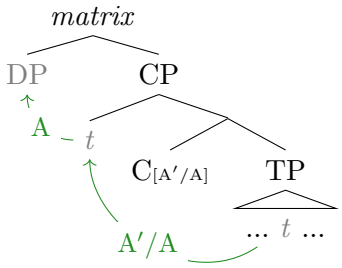


b. Phase Impenetrability Condition



- **Composite probes to the rescue!**
  - Composite A'/A probes: [A'] and [A] can combine on one head (*a.o.* van Urk 2015, Miyagawa 2017)
  - Composite A'/A probe on C enables CCA without discarding PIC or BoIM
  - A'/A → A chain possible
  - Wurmbrand 2019, Mursell 2020, Lohninger, Kovač, and Wurmbrand 2022
  - Related: Alboiu and Hill 2016, Bondarenko 2017a, Zyman 2017, 2018, Fong 2019, Gong 2022

(5) CCA with Composite probe



1.4 Focus of this talk

- **Empirical: Is there cross-linguistic variation of CCA/ Composite probes?**

⇒ Yes! Languages fall into two groups with respect to....

  - ... ***semantic restrictions*** on the DP undergoing CCA (topichood, focus, etc.)
  - ... the allowance of ***additional A'-movement*** (wh-movement, focalisation, topicalisation, relativisation) to occur simultaneously to CCA
  - (... whether the CCA.DP needs to be the highest element in the embedded clause - see appendix)

- **Theoretical: How are composite probes organized?**

⇒ Hierarchy of composite probes; difference in the (in)dependence of the two features from each other

⇒ Dependent vs. independent composite probes (Scott 2021)

⇒ Dependent [A'+A] probes: probe needs to find a goal with both fitting features

⇒ Independent [A'][A] probes: the two features can probe independently from each other (& find different goals)

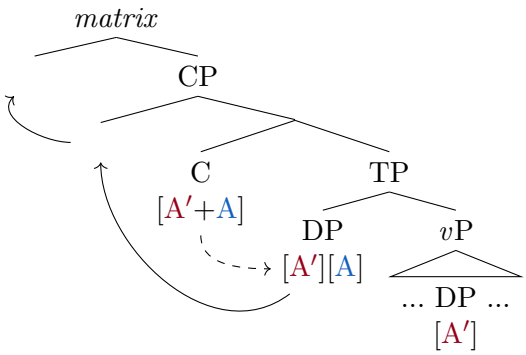
1.5 Roadmap

- Sect. 2: Background - The composite probe hierarchy
- Sect. 3: Data - Correlation between additional A' movement and semantic restrictions in CCA
- Sect. 4: Proposal - feature (in)dependence on composite probes
- Sect. 5: Conclusion
- Sect. 6: Appendix

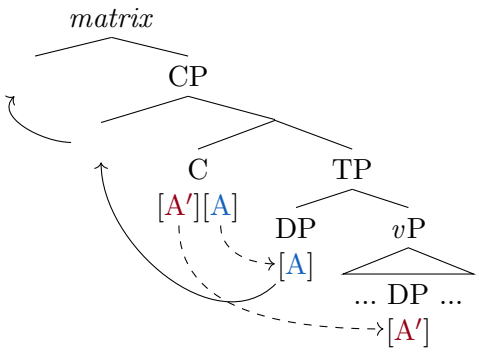
2 The Composite Probe Hierarchy

- Composite A'/A probes come in different forms (Scott 2021)
- They differ in how dependent their features are from each other
- Two types of composite probes:
  - **Dependent [A'+A]**: [A'] and [A] probe for the same goal (carrying both [A'] and [A])
  - **Independent [A'][A]**: [A'] and [A] can probe for two different goals; [A] enables CCA

(6) a. Dependent Probing



b. Independent Probing



2.1 CCA and feature independence

- Lohninger, Kovač, and Wurmbrand 2022: Two types of composite probes are observable in CCA
- Differences in semantic restrictions on CCA.DP
- The two-way split is actually a three-way split but we simplify it here (but see appendix)

2.2 Empirical support: semantic restrictions

- Some languages require a certain discourse-bound interpretation for the DP undergoing CCA
- Topic, a Major Subject, D-linked, source of evidence, ...

(7) Referentiality restriction on CCA.DPs
Keisatu-wa san.nin-no otoko-o [*t* hannin da to] dantei.sita.
police-TOP three.CL-GEN man-ACC [*t* culprit COP COMP] conclude-did
'The police concluded that the three men/three of the men/*three men committed the crime.'
Japanese (conjunctive) [Horn 2008: 233]
⇒ *three men* needs to be definite, otherwise no RtO possible

(8) Evidentiality/Topic restriction on CCA.DPs
Am mirosit (*pe cineva) [că *t* ne minte].
have.1 smelled (*DOM someone) [COMP *t* 1PL.DAT lies]
Int.: 'I/we suspected that someone was lying to us.'
Romanian (dependent) [Alboiu and Hill 2016: 276]
⇒ CCA.DPs must be the source of evidence; *someone* cannot be topicalised & cannot undergo CCA

- Other languages do not impose such requirements; any DP can undergo CCA
- Including weak quantifiers, indefinites, NPIs, idiomatic chunks, ...
- Note that Romanian and Cantonese constitute a minimal pair in both limiting HyR to *predicates* encoding indirect evidence but differing in whether the *CCA.DP* needs to be the source of evidence (Alboiu and Hill 2016; T. T.-M. Lee and Yip 2022)

(9) *No* referentiality restriction on CCA.DPs
Nara khen-iig ch [*t* iree-güi gej] khel-sen.
Nara who-ACC CH [*t* come.PST-NEG COMP] say-PST
'Nara said that nobody came.' Mongolian (independent) [Fong 2019: 8]
⇒ (non-referential) NPIs can participate in CCA

(10) *No* evidentiality/topicality restriction on CCA.DPs
Houdo jan (*ne,) gamgok [waa *t* wui lai].
many person (*TOP) feel.like [COMP *t* will come]
'It is felt that many people will come.' Cantonese (independent) [T. T.-M. Lee and Yip 2022: 18]
⇒ Any DPs can participate in CCA (including those that cannot serve as topics)

- This supports the split into dependent and independent [A'/A]-probes
- [A'] is responsible for discourse-bound interpretation, [A] is repsonsible for establishing CCA
  - **Dependent**: [A'] is involved in CCA, triggers certain semantic interpretation
  - **Independent**: [A'] is not necessarily involved in CCA; [A] alone establishes the CCA configuration, [A'] acts independently

Probing	Dependent	*In*dependent
Semantic restriction on CCA.DP	✔	✘
Languages	Japanese, Korean, Romanian, Tsez, Turkish	Braz. Portuguese, Buryat, Cantonese, Mongolian, Nez Perce, Passamaquoddy, Uyghur, Vietnamese, Zulu

3 A novel typological correlation

- We observe a novel correlation in Dependent and Independent Probing languages.
- The presence/absence of semantic restrictions on CCA.DPs correlates with the possibility of additional A' movement simultaneously to CCA, as stated in (11).
- As will be analyzed in Sect. 4, this correlation is the natural consequence of the feature (in)dependence of [A] and [A'] features on composite probes.

(11) **A typological correlation in languages with CCA**
  a. If a language has semantic restrictions on the CCA.DP (i.e. it is Dependent Probing), *no* A' element may be extracted from the same embedded clauses from which the CCA.DP originates.
  b. If a language does *not* have semantic restrictions on the CCA.DP (i.e. it is Independent Probing), A' elements may be extracted from the same embedded clauses from which the CCA.DP originates.

3.1 Dependent Probing languages

- All the Dependent Probing languages exhibit some sort of semantic restrictions on CCA.DPs:
  - Definiteness/specificity: Japanese (also Major subjects in Korean)
  - Evidentiality: Romanian
  - Topicality: Tsez, Turkish
- All the above languages **disallow** additional A' movement simultaneously to CCA.

Romanian

- The hyperraised object (from embedded subject position) must be a source of evidence (see (8); Alboiu and Hill 2016).
- Long-distance *wh*-movement from the embedded clause is banned with hyperraising.[1]

(12) *** *wh*-movement + Hyperraising** [Alboiu and Hill 2016: 277]
* Ce l-ai simţit pe Ion [că t nu vrea t]?
what him-have.2SG felt DOM Ion [COMP t not wants t]
Int.: 'What did you feel that Ion did not want?'

Japanese

- Japanese imposes a referential requirement on the DP hyperraised to matrix object positions (see (7); Horn 2008).
- The A' elements on the embedded phasal edge, resulting from short A' movement such as topicalisation and focalisation, block HyR to objects.

(13) *** Topicalisation + Hyperraising** [K. Shimamura, p.c.]
* John-wa konkyomonaku [nihongo-wa Bill-o hanas-e-ru-to] omot-ta.
John-TOP without.evidence [Japanese-TOP Bill-ACC speak-can-PRES-REP] think-PAST
Int.: 'John thought without any evidence/reason that as for Japanese, Bill could speak (it).'

(14) *** Focalisation + Hyperraising** [K. Shimamura, p.c.]
* John-wa konkyomonaku [nihongo-sae Bill-o hanas-e-ru-to] omot-ta.
John-TOP without.evidence [Japanese-even Bill-ACC speak-can-PRES-REP] think-PAST
'John thought without any evidence/reason that even Japanese, Bill could speak.'

Tsez

- Tsez has a topic restriction on DPs that undergo LDA across a CP boundary (Polinsky 2001; Polinsky and Potsdam 2001).
- Notice that Tsez bans long-distance movement for independent reasons.
- Still, (short) A' movement in the *embedded* clause such as *wh*-movement and topicalisation are disallowed with LDA.

(15) *** *wh*-movement + LDA** [Polinsky and Potsdam 2001: 634]
* enir [łu micxir b-ok'āk'-ru-łi] b-iyxo
mother [who.ERG money.III.ABS III-steal-PSTPRT-NMLZ] III-knows
Int.: 'The mother knows who stole the money.'

(16) *** Topicalisation + LDA** [Polinsky and Potsdam 2001: 636]
* eni-r [aħ-ā čanaqan-go-gon ziya bišr-er-xosi-łi]
mother-DAT [shepherd-ERG hunter-POSS.ESS-TOP cow.III.ABS feed-CAUS-PRSPRT-NMLZ]$_{IV}$
b-iy-xo.
III-know-PRES
'The mother knows that the hunter, the shepherd made (him) feed the cow.'

Turkish

- Turkish similarly has a topic restriction on DPs that hyperraised to matrix object positions (Şener 2008).
- Long-distance A' movement like relativisation and *wh*-movement cannot co-occur with HyR.

[1] Short *wh*-movement in embedded clauses is allowed, and Alboiu and Hill 2016 attribute it to a lower landing site of *wh*-movement at FocusP (vs. RtoO which targets Spec CP/ForceP as intermediate landing site).

(17) *** Relativisation + Hyperraising** [Şener 2008: 34]
* [(biz-im) [Mert-i t öp-tü diye] duy-duğ-umuz] kızi-∅ hasta-y-mış.
[(we-GEN) [Mert-ACC t kiss-PAST COMP] hear-REL-1PL.POSS] girl-NOM sick-COP-EVID.PAST
Int.: 'The girl that we heard that Mert kissed is sick.'

(18) *** *wh*-movement + Hyperraising** [Şener 2008: 33]
* Pelin [Mert-i kim-e vur-du diye] sor-du/merak et-ti.
Pelin-NOM [Mert-ACC who-DAT hit-PAST COMP] ask-PAST/wonder do-PAST
Int.: 'Pelin asked/wondered who Mert hit.'

3.2 Independent probing

- Independent Probing languages do not impose any semantic restrictions on CCA.DPs.
- Various kinds of elements can participate in CCA, such as NPIs or non-topics.
  - Cantonese, Vietnamese, Mongolian, Brazilian Portuguese, Uyghur, Passamaquoddy
- All the above languages **allow** additional A' movement simultaneously to CCA.

Cantonese

- As mentioned above, Cantonese, despite having the same indirect evidence requirement on the matrix predicates with Romanian, does not impose it on the CCA.DP.
- Weak quantifiers and idiomatic chunks may participate in HyR (see (10); also T. T.-M. Lee and Yip 2022).
- Long-distance A' movement including focalisation, topicalisation, and relativisation is allowed with HyR.

(19) **Focalisation + Hyperraising**
Lin faahung gaan gungsi taipaa [t dou m-wui paai t] .
even bonus CL company seem.fear [t also not-will distribute t]
'It seems that the company will not even distribute the bonus.'

(20) **Topicalisation + Hyperraising**
Gam-do-ceot hei, Aaming gamgok [(waa) t dou m-zungji tai t] .
that.many.CL film Ming feel.like [COMP t all not-like watch t]
'All these many films, it is felt that Ming doesn't like to watch.'

(21) **Relativisation + Hyperraising**
[Go fung gamgok [waa t wui ceoilam t]] ge syu.
[CL wind feel.like [COMP t will blow.down t]] MOD tree
'The tree which it is felt like the wind will blow down.'

- Short A' movement also does not block HyR, even though the A' elements are pronounced on the CP phasal edge.

(22) **Focalisation (embedded) + Hyperraising**
Gaan gungsi taipaa [lin faahung t dou m-wui paai t] .
CL company seem.fear [even bonus t also not-will distribute t]
'It seems that the company will not even distribute the bonus.'

(23) **Topicalisation (embedded) + Hyperraising**
Aaming gamgok [gam-do-ceot hei t dou m-zungji tai t] .
Ming feel.like [that.many.CL film t all not-like watch t]
'It is felt that, all these many films, Ming doesn't like to watch.'

Vietnamese

- Vietnamese, like Cantonese, has an evidential requirement only on matrix predicates but not on CCA.DPs.
- The hyperraised subject can be an idiomatic chunk or a weak quantifier that cannot serve as a topic in (24) (T. T.-M. Lee and Yip 2022).

(24) **No evidentiality/topicality restriction on CCA.DPs** [T. T.-M. Lee and Yip 2022: 18]
Rất nhiều người nghe nói [là t sẽ không đến]
many person hear [COMP t will not come]
'It is heard that many people will not come.'

- Vietnamese also allows additional A' movement to occur with hyperraising, including both long-distance and short movement.[2]

(25) **Focalisation + Hyperraising**
ngay cả sách, anh ta sợ [là t cũng không đoc t]
even at.all book 3SG.M fear [COMP t also not read t]
'It seems that he does not even read books.'

(26) **Focalisation (embedded) + Hyperraising** [T. T.-M. Lee and Yip 2022: 21]
Nó nghe nói [ngay cả sách t cũng không đoc t]
3SG hear [even at.all book t also not read t]
'It is heard that s/he does not even read books.'

(27) **Topicalisation + Hyperraising**
Mấy phim này, Minh sợ [là t đều không thích t] .
movies this Minh fear [COMP t all not like t]
'These movies, it seems that Minh doesn't like (them) all.'

(28) **Relativisation + Hyperraising**
Cái cây [mà trận bão đó sợ [là t sẽ thổi đổ t]].
CL tree [REL CL storm that fear [COMP t will blow.down t]]
'The tree which it seems that that hurricane will blow down.'

Mongolian

- Mongolian also does not have semantic restrictions on CCA.DPs and allow NPIs to hyperraise to matrix object positions (see (9); Fong 2019; Gong 2022).
- Long-distance A' movement may co-occur with HyR, such as topicalization and covert *wh*-movement.

(29) **Topicalisation + Hyperraising** [Fong 2019: 28]
Buuz-iig bol Nara [Dorj(-iig) t id-sen gej] khel-sen.
buuz-ACC TOP Nara.NOM [Dorj(-ACC) t eat-PST COMP] say-PST
'The buuz, Nara said that Dorj ate.'

(30) **Covert *wh*-movement + Hyperraising** [S. Fong, p.c.]
Nara [Bat(-ig) yuu id-sen gej] hel-sen-be?
Nara [Bat(-ACC) what eat COMP] say-PST-WH
'What did Nara say Bat ate?'

[2]Note that short topicalization, unlike short focalisation, is not allowed in Vietnamese HyR sentences. This contrasts with Cantonese which allows both types of short A' movement to co-occur with HyR.

Brazilian Portuguese

- Brazilian Portuguese HyR to subjects allow non-topics and idiomatic chunks to participate (Martins and Nunes 2010), showing no obligatory discourse-bound interpretation.
- Long-distance *wh*-movement is also allowed in HyR contexts.

(31) ***wh*-movement + Hyperraising** [Kobayashi 2020: 18]
Quais livros elas parec-em [que t ler-am t]?
which books they seem-PL [that t read-PL t]
'Which books do they seem to have read?'

Uyghur

- In Uyghur, idiomatic chunks and NPIs may participate in LDA (Shklovsky & Sudo 2014), showing no semantic restrictions.
- Uyghur allows additional long-distance *wh*-movement with LDA.

(32) ***wh*-movement + LDA** [Asarina and Hartman 2011: 8]
men [Ötkür-niŋ qatʃan kel-idi-ʁan-(liq)-i-ni] bil-i-men.
I [Öktür-GEN when come-IMPF-RAN-(LIQ)-3.POSS-ACC] know-IMPF-1SG
'I know when Öktür will come.'

Passamaquoddy

- Passamaquoddy similarly shows a correlation between having no semantic restrictions and allowing additional (short) *wh*-movement.

(33) ***wh*-movement + Hyperraising** [Bruening 2001b: 4]
N-kosiciy-a-k uhuw-ok muwinuw-ok keq kis-temu-htit.
1-know.TA-DIR-3P three-3P bear-3P what PERF-eat-3P.CONJ
'I know what the three bears ate.'

3.3 Typology

- A robust correlation between two types of languages with CCA.
- Whether or not CCA imposes a discourse-bound requirement on participating DPs correlates with whether or not CCA can co-occur with additional A' movement.
- Calls for an explanation, which we build upon the degree of feature independence of composite probes.

Probing	Dependent	*In*dependent
Semantic restriction on CCA.DP	✔	✘
CCA + A'-mvt.	✘	✔
Languages	Japanese, Korean, Romanian, Tsez, Turkish	Braz. Portuguese, Buryat, Cantonese, Mongolian, Nez Perce, Passamaquoddy, Uyghur, Vietnamese, Zulu

4 Analysis: feature (in)dependence on composite probes

- We suggest that the typological correlation can be captured by the Composite Probe Hierarchy in a straightforward fashion (Scott 2021, Lohninger, Kovač, and Wurmbrand 2022).
- The features on probe are systemically organized in terms of their degree of dependence on each other
- We make three major assumptions:
  - **Locality**: CP constitutes a phase such that all movement must pass through the phasal edge (*contra.* the defective CP approach, see appendix).[3]
  - **Multi-Spec**: Multiple specifiers are allowed (e.g. Chomsky 2001).
  - **Feature splitting** (Obata and Epstein 2011): On the higher copy in a movement chain, only the features being probed in that dependency are visible to further operations.

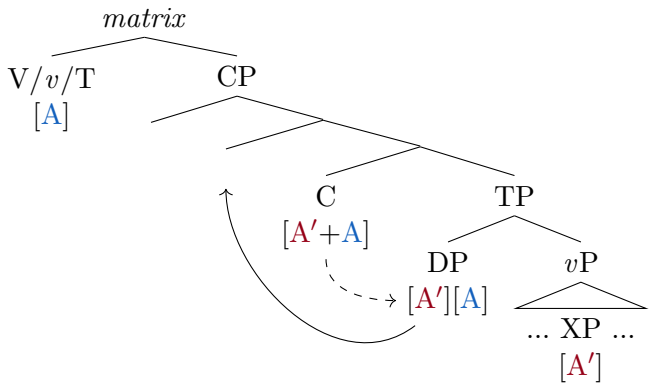
4.1 Dependent vs. independent probing

Dependent Probe [A'+A]

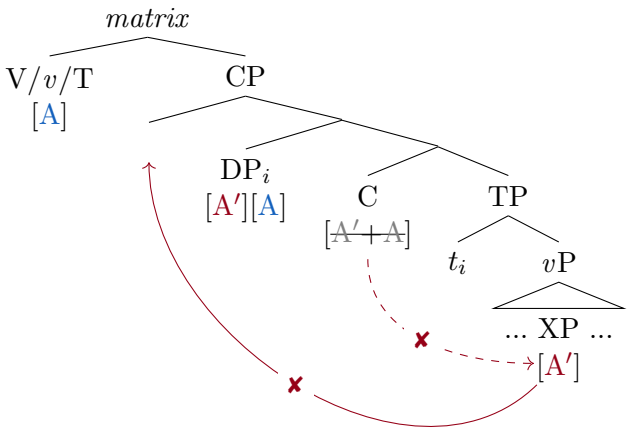
- The embedded C has a feature matrix [A′+A] (e.g. [uEv+uϕ/ACC] in Romanian), where the two features must probe for the same goal
  (either by conjunctive satisfaction, Scott 2021; or by limiting searching domain, Branan 2021)
- In forming CCA, both [A'] and [A] participate and probe for the DP carrying *both* [A'] and [A] features
  ➜ giving rise to discourse-bound interpretation of the CCA.DP
- The probing of [A'] is halted after forming CCA
  ➜ banning further A' movement

(34) **Dependent Probing languages**

a. CCA: [A'] must participate together with [A]



b. Further A' movement banned



Independent Probe [A'][A]

- The embedded C has a feature matrix [A′][A] (e.g. [uEv][uD] in Cantonese), where the two features are independent of each other[4]
- In forming CCA, [A] is the only feature required and [A'] needs not to participate in CCA
  ➜ hence no semantic restrictions on the CCA.DP[5]
- [A'] can probe independently and target a different goal
  ➜ allowing further A' movement

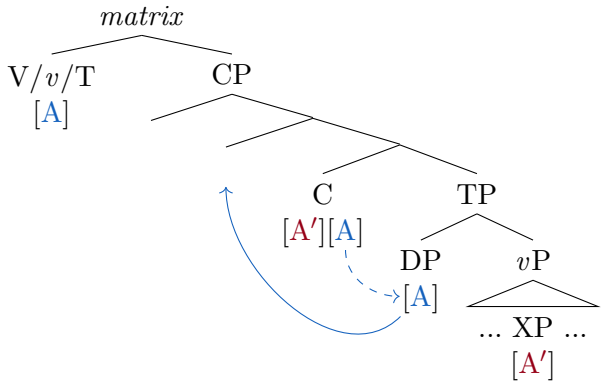
[3] We also assume with Van Urk and Richards 2015 that agreement with phase solely is not enough to deactivate/"unlock" the phasehood. That is, in languages where agreement with CP is a pre-requisite for CCA (e.g. Zulu, Halpert 2019; Cantonese and Vietnamese, T. T.-M. Lee and Yip 2022), the CCA.DP still moves via the CP phasal edge.

[4] An alternative conception is that there are two different probes on the same head. We do not take probes as syntactic primitives. We assume with Chomsky 2000; Chomsky 2001 that a probe is a head that carries relevant (uninterpretable) features triggering Agree.

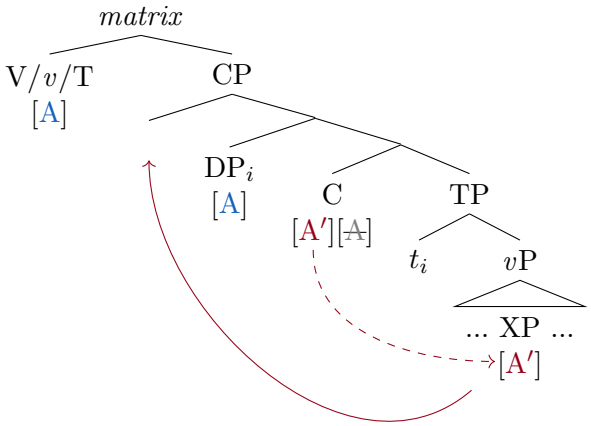
[5] But [A'] *can* participate in CCA and probe together with [A] on the same goal, as will be discussed in Sect. 5.

(35) **Independent Probing languages**

a. CCA: only [A] is required for forming CCA



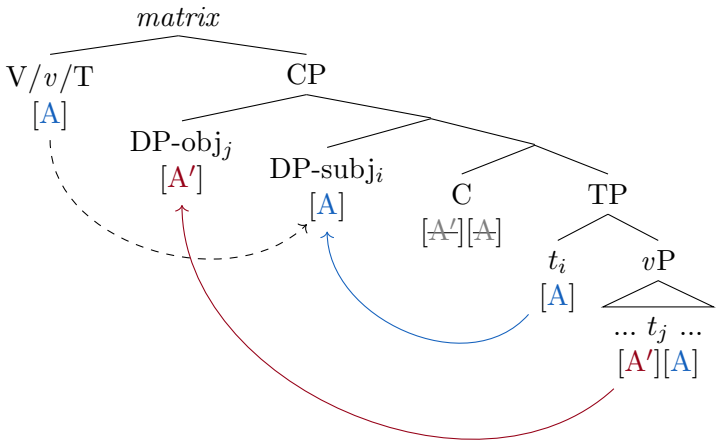
b. Additional A'-movement allowed



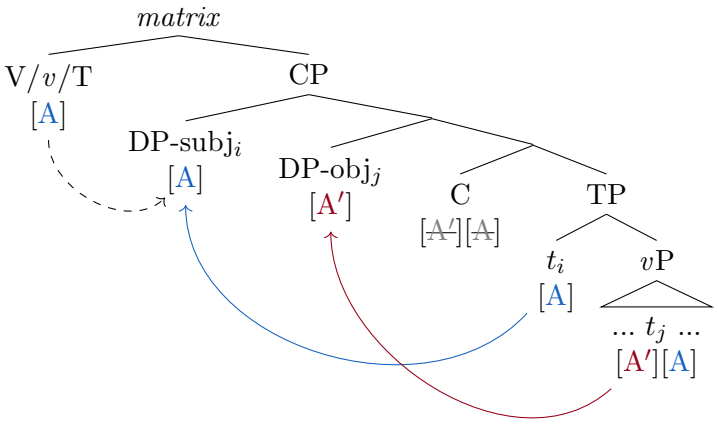
A note on the order of operations

- On an Independent Probe, the probing of [A'] and [A] need not to occur in a fixed order
- We assume with Obata and Epstein 2011 that only features that triggered movement are visible on the moved element, i.e. feature splitting
  - The so-called "A-bar opacity effects" (Rezac 2003; Obata and Epstein 2011; Carstens and Diercks 2013; Safir 2019)
  - For DPs that underwent additional (pure) A' movement (e.g. *wh*-objects) to the phasal edge, only their [A'] but not [A] features are visible to further operations
- CCA.DP is the only element that carries visible [A] on the phasal edge, and hence is always the closest goal to the matrix A probe
  - Regardless of whether it is on the Inner Spec (by [A-probing > A'-probing]), or
  - on the Outer Spec (by [A'-probing > A-probing])

(36) a. A-probing > A'-probing
➜ CCA.DP in Inner Spec



b. A'-probing > A-probing
➜ CCA.DP in Outer Spec

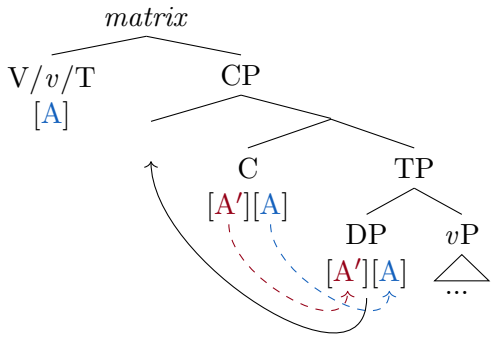


4.2 Conjoined probing in Independent probing languages

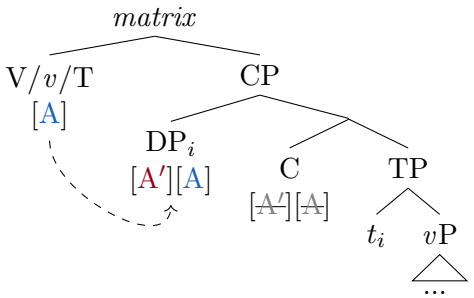
- The two features on Independent Probe, despite being able to probe separately, can also target the same goal carrying [A'][A] features.
- They probe *simultaneously* and find the same element

(37) **Conjoined probing of Independent Probe**

a. Both [A'][A] features probe for the same goal



b. Attracted by matrix A probe



- We predict that LDA and HyR are possible with A-bar arguments in Independent Probing languages, which is borne out below.
- All the configurations below involve an embedded A-bar dependency mixed with CCA.

(38) **Uyghur: LDA with focalised element** [Asarina and Hartman 2011: 101]
[Öktür-iŋ-la kel-gen-lik] χever-i muhim.
[Öktür-GEN-only come-RAN-LIQ] news-3.POSS important
'The news that *only Öktür* came is important.'

(39) **Zulu: Hyperraising with *wh*-element** [Halpert and Zeller 2015: 494]
U-fun-a bani [ukuthi a-sebenz-e e-si-tolo sa-kho kusasa]
2SG-want-FV 1a.who [that 1.SM-work-SUBJ LOC-7-store 7.POSS-2SG tomorrow]
'Who do you want to work in your store tomorrow?'

(40) **Zulu: Hyperraising with focalised element** [Halpert and Zeller 2015: 494]
Ngi-fun-a u-Sipho kuphela [ukuthi a-sebenz-e e-si-tolo sa-mi kusasa]
1SG-want-FV AUG-1a.Sipho only [that 1.SM-work-SUBJ LOC-7-store 7.POSS-1SG tomorrow]
'I want only Sipho to work in my store tomorrow.'

(41) **Cantonese: Hyperraising with focalised element**

a. Lin taaigungsi tengman [t gamnin t *(dou) m-paai faahung]
even big.company hear [t this.year t *(also) not-distribute bonus]
'It is heard that even big companies did not distribute bonuses this year.'

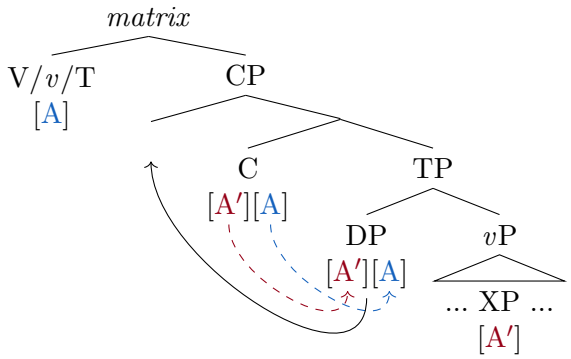
b. cf. tengman [lin taaigungsi gamnin t *(dou) m-paai faahung]
hear [even big.company this.year t *(also) not-distribute bonus]
'It is heard that even big companies did not distribute bonuses this year.'

(42) **Vietnamese: Hyperraising with focalised element**
Đến giáo viên sợ [t là t cũng không biết câu này]
even teacher fear [t COMP t also not know sentence this]
'It seems that even the teachers don't know this question.'

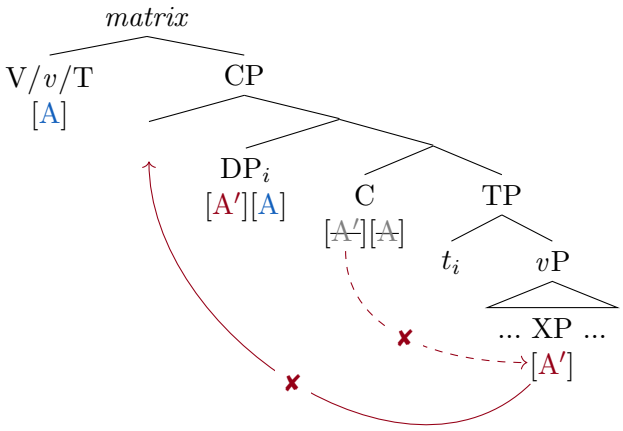
- Moreover, we predict that these mixed CCA-A' dependencies, involving conjoined probing, would disallow a further additional A' movement (i.e. a third dependency that is A-bar in nature).

(43) **Conjoined probing bleeds further A' movement in Independent Probing languages**

a. Both [A'][A] features probe for the same goal



b. Further A' movement banned



- This prediction is borne out.
- When focalised elements undergo HyR, no long-distance relativisation is allowed in Cantonese.

(44) **Cantonese: Relativisation bled by Hyperraising with focalised element**

* Di [Lin taaigungsi tengman [t gamnin t dou m-paai *t*]] ge faahung
CL.PL [even big.company hear [t this.year t also not-distribute *t*]] MOD bonus
'The bonuses x such that it is heard that even big companies did not distribute x this year.'

4.3 Against a two-head analysis

- One may question whether the [A][A'] independence can be attributed to two heads
- The problem with this alternative is **locality**.
- At least three logical possibilities[6]

(45) Assuming $C_{[A]}$ is higher than $C_{[A']}$, i.e.: [$C_{[A]}$ [$C_{[A']}$ [TP ...

a. $C_{[A]}$ is a phasal head, $C_{[A']}$ is not
b. $C_{[A]}$ is not a phasal head, $C_{[A']}$ is
c. Both $C_{[A]}$ and $C_{[A']}$ are phasal heads

- All three logical possibilities suffer from locality issues and cannot derive the co-occurrence between CCA and **long-distance** A' movement.
  - For (45a): $CP_{[A']}$ is the complement of the phase $CP_{[A]}$
    ➜ A' element at Spec $CP_{[A']}$ is blocked by PIC, wrongly banning long-distance A' movement
  - For (45b): $CP_{[A']}$ is the phase
    ➜ Its complement TP is inaccessible to $C_{[A]}$, incorrectly banning CCA
  - For (45c): TP is inaccessible to $C_{[A]}$, and Spec $CP_{[A']}$ is also inaccessible to matrix A' probe
    ➜ Banning both CCA and long-distance A' movement, which is not the case in independent probing languages

[6] We do not entertain another possiblity where both probes are not phasal heads (similar to the defective CP analysis, see appendix).

5 Concluding remarks

- **Empirical**: We uncover a *systematic cross-linguistic variation* of CCA/ Composite probes
  - The presence of **semantic restrictions** on CCA.DPs correlates with the ban on **additional A'-movement**
  - Lack of **semantic restrictions** on CCA.DPs correlates with the allowance on **additional A'-movement**

Probing	Dependent	*In*dependent
Semantic restriction on CCA.DP	✔	✘
CCA + A'-mvt.	✘	✔
Languages	Japanese, Korean, Romanian, Tsez, Turkish	Braz. Portuguese, Buryat, Cantonese, Mongolian, Nez Perce, Passamaquoddy, Uyghur, Vietnamese, Zulu

  ➜ Reflects two types of languages, and that ...
- **Theoretical**: the features on Composite probes are *systemically organized* in at least two ways
  - Difference in the (in)dependence of the two features from each other
  - Dependent vs. independent composite probes (Scott 2021; Lohninger, Kovač, and Wurmbrand 2022)
  - Probing mechanisms determine the *feeding* and *bleeding* relationship with further operations
  - Resonate with a recent body of literature on how feature hierarchies constrain syntactic operations (e.g. Deal 2017, Coon and Keine 2020, Branan 2022)
- Further questions:
  - How general is this dependent vs. independent distinction?
    (see Scott 2021 for discussion, e.g. person-number (in)dependence in Mi'gmaq vs. Aiwoo/Svan)
  - What is the **source** of the difference in feature independence?

6 Appendix

6.1 A broader typology of CCA

- Empirical observation in Lohninger, Kovač, and Wurmbrand 2022: Three-way split of CCA configurations derived by A-Minimality and Semantic restrictions
- Differences in **A-Minimality:**
  - The highest DP in the embedded clause undergoes CCA
  - A lower DP cannot serve as a goal for C-probing
- Three classes emerge:[7], LeSourd 2019; *Puyuma:* Chen and Fukuda 2016, Chen 2018; *Romanian:* Alboiu and Hill 2013; Alboiu and Hill 2016, I. Giurgea, p.c.; *Tsez:* Polinsky 2001; Polinsky 2015, Polinsky and Potsdam 2001; *Turkish:* Şener 2008; Şener 2011, S. Şener, p.c.; *Uyghur:* Shklovsky and Sudo 2014; *Zulu:* Halpert and Zeller 2015, Halpert 2016; Halpert 2019

③	Japanese, Korean	× A-Minimality, ✓ Semantic restrictions
④	Romanian, Tsez, Turkish	✓ A-Minimality, ✓ Semantic restrictions
⑤	Braz. Portuguese, Buryat, Cantonese, Mongolian, Nez Perce, Uyghur, Vietnamese, Zulu, Passamaquoddy?	✓ A-Minimality, × Semantic restrictions

𝔄-configurations		①	②	③	④	⑤
Known as		Prolepsis	HyR, LDA High Topic	Major Subject Object, RtO	HyR, LDA	HyR
A	Restricted matrix predicates (c-/l-selection)	no	yes	yes	yes	yes
B	Movement of DP.𝔄 within embedded clause	no	no	yes	yes	yes
C	A-Minimality (highest A-DP)	no	no	no	yes	yes
D	Semantic restrictions of DP.𝔄	yes	yes	yes	yes	no

[Lohninger, Kovač, and Wurmbrand 2022: 3]

(46) × **A-Minimality in ③**
Na-nun Pwukhansan-ul [mwul-i manhi *t* nanta-ko] sayngkakhanta.
I-TOP Mt. Pwukhan-ACC [water-NOM a.lot *t* flow-COMP] think
'I believe that there are a lot of springs flowing from Mt. Pwukhan.' Korean Hyperraising [Yoon 2007: 618]

(47) ✓ **A-Minimality in ④**
* Am auzit-o pe Mioara [c-a invitat Gelu *t*].
have.1SG heard-her DOM Mioara [that-has invited Gelu *t*]
Int.: 'I heard from Mioara that Gelu invited her.' (paraphrase: Lohninger, Kovač, and Wurmbrand 2022)
Romanian Hyperraising [Alboiu and Hill 2016: 268]

(48) ✓ **A-Minimality in ⑤**
* Houdo syu gamgok [waa Aaming bei-zo *t* Aafan].
many book feel.like [COMP Ming give-PFV *t* Fan]
Int.: 'It is felt that Ming gave many books to Fan.'
Cantonese Hyperraising [T. T.-M. Lee and Yip 2022: 19]

[7]Language data comes from:
Brazilian Portuguese: Nunes 2008, 2009, 2010, Martins and Nunes 2010, Kobayashi 2020, R. Lacerda, p.c.; *Buryat:* Bondarenko 2017a, Bondarenko 2017b; *English:* Davies 2005, J. Bobaljik, p.c.; *Cantonese, Vietnamese*: T. T.-M. Lee and Yip 2022 *German:* Salzmann 2017; *Japanese:* Kitano 1990, Horn 2008, K. Shimamura, p.c.; *Korean:* Yoon 2007, Y. Lee 2016; *Madurese:* Chen 2018; *Mongolian* Fong 2019, Gong 2022; *Nez Perce:* Deal 2017; Deal 2018; *Passamaquoddy:* Bruening 2001a, Bruening2001

6.2 Two types of dependent probes

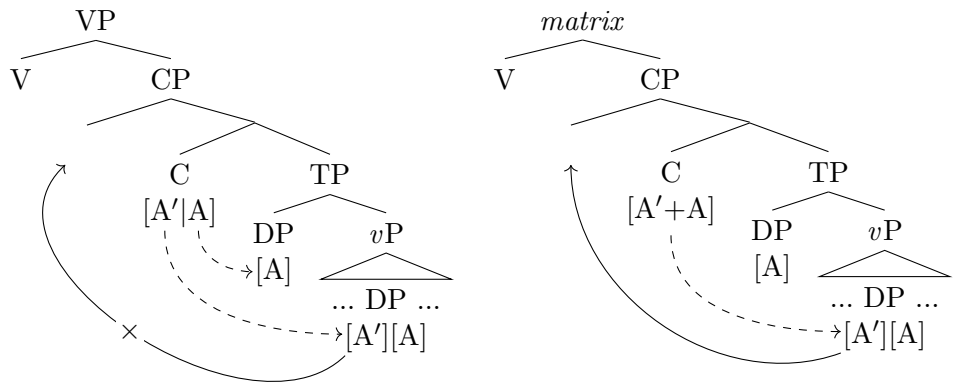
- Dependent probes part into two types, depending on whether partly fitting, intervening goals block further probing
- Differences in A-Minimality are derived via the two types of dependent probes
- See also Lohninger 2022 for non-CCA contexts of the composite probe hierarchy
- **Conjunctive probes:**

  → No A-Minimality
  - *Korean, Japanese*
  - Derivation succeeds iff **the goal satisfies both parts** of the probe
  - Partly fitting, intervening goals **can be skipped**
  - For similar accounts on non-CCA contexts see: van Urk 2015, Colley and Privoznov 2020, Scott 2021, Drummond 2023

- **Dependent probes (narrow):**

  → A-Minimality
  - *Romanian, Tsez, Turkish*
  - [A'] and [A] probe on their own and find fitting goals on their own
  - They are **not strong enough** to trigger agreement independently
  - Partly fitting goals **block further agreement**; derivation crashes
  - Only successful derivation: closest DP carries both features
  - Theoretical options for implementation:
    * Interaction & Satisfaction differences (Deal 2015, Bárány 2023)
    * Contingent Probing (Branan 2021)
    * Feature Hierarchy (Harley and Ritter 2002, Coon, Baier, and Levin 2021, Coon and Keine 2021)
  - For similar accounts on non-CCA contexts see: Aldridge 2017, Douglas 2018, Coon, Baier, and Levin 2021, Erlewine 2018, Branan and Erlewine 2020

(49) a. A-Minimality (dependent, narrow) b. No A-Minimality (conjunctive)



6.3 CP.R and where composite probes come from

- CCA is not a parametric property but a scale
- Prolepsis is one end of the scale
- 4 properties:

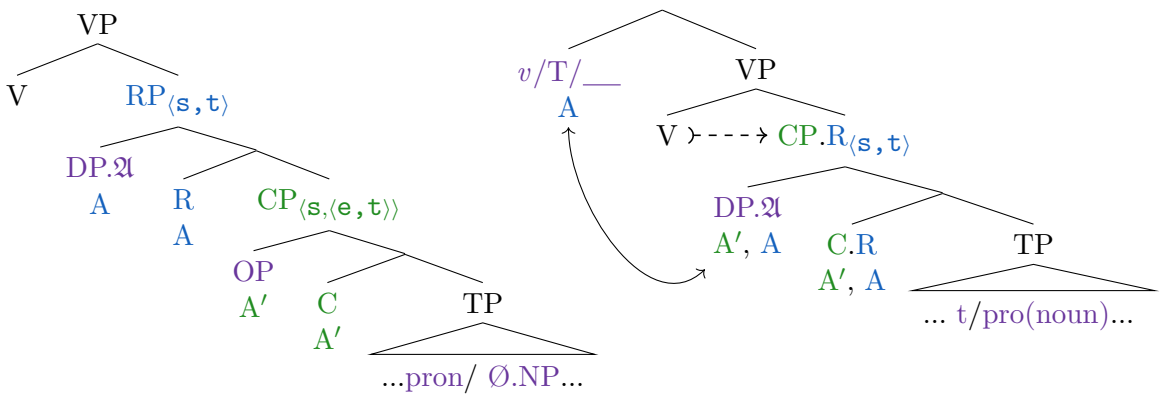
  A) Restriction to certain matrix predicates
  B) Movement of the CCA.DP within the embedded clause (connectivity effects)
  C) A-Minimality of CCA.DP
  D) Semantic restrictions on CCA.DP

𝔄 configurations	①	②	③	④	⑤
Known as	Prolepsis	Hyperraising (RtO or RtS) LDA, High Topic	Major Subject Major Object RtO	Hyperraising (RtO or RtS) LDA	Hyperraising (RtO or RtS)
Restricted matrix predicates (c-/l-selection)	no	yes	yes	yes	yes
Movement of DP.𝔄 within the embedded clause	no	no	yes	yes	yes
A-Minimality (highest A-DP)	no	no	no	yes	yes
Semantic restrictions of DP.𝔄	yes	yes	yes	yes	no
Languages	Buryat Croatian English German Japanese Korean Madurese Mongolian Nez Perce Puyuma Romanian ...	Braz. Portuguese Passamaquoddy	Japanese Korean	Romanian Tsez Turkish	Braz. Portuguese Buryat Mongolian Nez Perce Zulu ?Uyghur

[Lohninger, Kovač, and Wurmbrand 2022: 2]

- CCA is enabled via a certain CP - CP.R - carrying A-features additional to its A'-features
- CP.R arises through fusion of CP with a higher, predicational relator phrase RP
- RP is introduced with [A]
- In Prolepsis, RP sits between the matrix clause and the embedded clause, mediating between the two via establishing a predicational relation and introducing an argument

(50) a. Prolepsis b. CCA

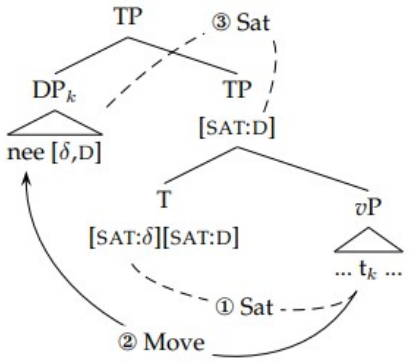


[Lohninger, Kovač, and Wurmbrand 2022: 13]

6.4 Cyclic Agreement analysis for conjoined probing of Independent Probe (Scott 2021)

- Cyclic Agreement (Béjar and Rezac 2003, Rezac 2003)
  - A head bears a probe and initiates an Agree search in its c-command domain
  - If the probe fails to establish an Agree relationship in the first cycle, the head (+ the probe) reprojects
  - After reprojection: c-command domain is the union of the first cycle domain and the second cycle domain of Agree
- Extension of Cyclic Agreement (Scott 2021)
  - Timing of probes: first probe finishes searching, copies back features, moves an element to the specifier, then the second probe begins searching
  - [A'] on embedded C searches and agrees with a focused element (CCA.DP)
  - CCA.DP moves to SpecCP
  - The [A] probe has not initiated its search at this point, it is unsatisfied and reprojects to the new node created by movement of CCA.DP
  - When the [A] probe reprojects, its c-command domain includes the element in the specifier, CCA.DP
  - CCA.DP is then the closest element in the search domain of [A]

(51) Conjoined probing of Independent Probe [Scott 2021: 28]



- Potential conflict with Obata and Epstein 2011
  - If only the features relevant for movement remain visible on DP, and agreement of [A'] and [A] is timed, then Cyclic Agree does not work
  - [A'] probes first and raises DP$_{[A'/A]}$ to SpecXP
  - In Cylcic Agree, [A] reprojects and finds DP$_{[A'/A]}$ in its Spec
  - In Obata and Epstein 2011, [A] on DP is no longer visible after movement, so it cannot serve as a goal for [A]-probing

6.5 Against other accounts (see also Zyman 2023)

6.5.1 Defective CP

- *a.o.* Ferreira 2000, 2009, Nunes 2008 Martins and Nunes 2010
- Case-assigning head (T/Infl) is defective in HyR (lacks Case or ϕ)
- No Case is assigned to the subject, DP remains active
- C selecting a defective T/Infl is not a phase; PIC not active
- OR there is a weak version of PIC; *Delayed Opacity* (Martins and Nunes 2010, Chomsky 2001, Deal 2017): everything c-commanded by C remains accessible until the next head (v) is merged.

- CONTRA: usually, CCA clauses do not show impoverished morphology - they look like regular finite clauses, they also usually show temporal independence (semantic tense)
- CONTRA: How comes that the matrix predicate influences whether CCA is possible?
- CONTRA: Is weak PIC parametrized? (What about non-CCA languages?)
- CONTRA: What to do about case-stacking and the CCA.DP agreeing with both the matrix and the embedded verb (see Lohninger, Kovač, and Wurmbrand 2022)?

6.5.2 Phase Deactivation/ Phase unlocking

- Halpert 2019
- CP is a phase but gets deactivated in CCA environments
- This inactivates PIC and the DP does not have to stop at SpecCP
- If a matrix probe agrees with the whole CP & CP cannot satisfy its ϕ-probe, then CP gets unlocked (Rackowski and Richards 2005, Halpert 2012, Van Urk and Richards 2015)
- CONTRA: Deal 2017: why are there ever CPs that are transparent for Agree? (Nez Perce Complementizer Agreement & CCA do not show the same distribution, which would be predicted)
- CONTRA: How is cross-linguistic variation predicted? CCA vs. non-CCA languages, A-Minimiality, Semantic restrictions, A'-mvt+CCA within the CCA languages?

References

Abels, Klaus (2012). *Phases*. De Gruyter.

Alboiu, Gabriela and Virginia Hill (2013). "The Case of A-bar ECM: Evidence from Romanian". In: *Proceeding of the forty-second annual meeting of the North East Linguistic Society*. Ed. by Stefan Keine and Shayne Sloggett. Vol. 1. UMass: GLSA, pp. 25–39.

— (2016). "Evidentiality and Raising to Object as A′-Movement: A Romanian Case Study". In: *Syntax* 19.3, pp. 256–285.

Aldridge, Edith (2017). "ϕ-feature competition: A unified approach to the Austronesian extraction restriction". In: *Proceedings of the 52nd meeting of the Chicago Linguistic Society (CLS)*. Vol. 52.

Asarina, Alya and Jeremy Hartman (2011). "Genitive subject licensing in Uyghur subordinate clauses". In: *Proceedings of the 7th Workshop on Altaic Formal Linguistic (WAFL)*. Ed. by Andrew Simpson. Cambridge, MA: MIT working papers in linguistics, pp. 17–31.

Bárány, Andras (2023). *Interaction, satisfaction, and (a)symmetric object agreement*. Talk at NELS53. Göttingen, Germany.

Béjar, Susana and Milan Rezac (2003). "Person licensing and the derivation of PCC effects". In: *Amsterdam studies in the theory and history of linguistic science* 4, pp. 49–62.

Bondarenko, Tatiana (2017a). "ECM in Buryat and the optionality of movement". In: *Proceedings of the 12th Workshop on Altaic Formal Linguistics (WAFL12)*. Ed. by Leyla Zidani-Eroğlu, Matthew Ciscel, and Helen Koulidobrova. Vol. 83. Cambridge, MA: MIT Working Papers in Linguistics.

— (2017b). "Passivization of matrix predicates in the light of constructions with accusative subjects: the case of Barguzin Buryat". In: *Ural-Altaic Studies* 3.26, pp. 117–126.

Bošković, Željko (2007). "On the locality and motivation of Move and Agree: An even more minimal theory". In: *Linguistic inquiry* 38.4, pp. 589–644.

Branan, Kenyon (2021). *Conditional opacity and contingent probes*. Ms., ZAS Berlin.

Branan, Kenyon and Michael Yoshitaka Erlewine (2020). *$\bar{A}$-probing for the closest DP*. Ms., National University of Singapore.

Bruening, Benjamin (2001a). *Raising to object and proper movement*. Ms., University of Delaware.

— (2001b). "Syntax at the edge: Cross-clausal phenomena and the syntax of Passamaquoddy". Thesis. MIT.

Carstens, Vicki and Michael Diercks (2013). "Parameterizing case and activity: Hyperraising in Bantu". In: *Proceedings of the 40th annual meeting of the North East Linguistic Society*. Ed. by Seda Kan, Claire Moore-Cantwell, and Robert Staubs. University of Massachusetts, GLSA, pp. 99–118.

Chen, Victoria (2018). "The raising-to-object construction in Puyuma and its implications for a typology of RTO". In: *Glossa: a journal of general linguistics* 3(1).111, pp. 1–34.

Chen, Victoria and Shin Fukuda (2016). "Raising to object out of CP as embedded left dislocations: evidence from three Formosan languages". In: *33rd West Coast Conference on Formal Linguistics*. Cascadilla Proceedings Project, pp. 88–98.

Chomsky, Noam (1973). "Conditions on transformations". In: *A Festschrift for Morris Halle*. Ed. by Stephen Anderson and Paul Kiparsky. New York: Academic Press, pp. 232–286.

— (2000). "Minimalist inquiries: The framework". In: *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, pp. 89–155.

— (2001). "Derivation by phase". In: *Ken Hale: A life in language*. Ed. by Michael Kenstowicz. Cambridge, MA: MIT press, pp. 1–52.

Colley, Justin and Dmitry Privoznov (2020). "On the topic of subjects: composite probes in Khanty". In: *Proceedings of the 50th annual meeting of the North East Linguistic Society (NELS)*. UMass, Amherst: GLSA Publications.

Coon, Jessica, Nico Baier, and Theodore Levin (2021). "Mayan agent focus and the ergative extraction constraint: Facts and fictions revisited". In: *Language* 97.2, pp. 269–332.

Coon, Jessica and Stefan Keine (2021). "Feature gluttony". In: *Linguistic Inquiry* 52.4, pp. 655–710.

Davies, William D (2005). "Madurese prolepsis and its implications for a typology of raising". In: *Language* 81, pp. 645–665.

Deal, Amy Rose (2015). "Interaction and satisfaction in ϕ-agreement". In: *Proceedings of NELS 45*. Ed. by Thuy Bui and Deniz Özyıldız. Vol. 1. GLSA, pp. 179–192.

— (2017). "Covert hyperraising to object". In: *Proceedings of the 47th annual meeting of the North East Linguistic Society*. Ed. by Andrew Lamont and Katerina Tetzloff. University of Massachusetts, GLSA.

— (2018). "Compositional paths to *de re*". In: *Proceedings of the 28th Semantics and Linguistic Theory Conference*. Ed. by Sireemas Maspong et al. Vol. 28, pp. 622–648.

Douglas, Jamie (2018). "Māori subject extraction". In: *Glossa: a journal of general linguistics* 3.1.

Drummond, Emily (2023). *Syntactic ergativity without inversion: A composite probe analysis of ergative extraction*. Poster at NELS53. Göttingen, Germany.

Erlewine, Michael Yoshitaka (2018). "Extraction and licensing in Toba Batak". In: *Language* 94.3, pp. 662–697.

Ferreira, Marcelo (2000). "Argumentos Nulos em Português Brasileiro". MA thesis. Universidade Estadual de Campinas.

— (2009). "Null subjects and finite control in Brazilian Portuguese". In: *Minimalist Essays on Brazilian Portuguese Syntax*. Ed. by Jairo Nunes. Vol. 142. Linguistik Aktuell/Linguistics Today. Amsterdam/Philadelphia: John Benjamins, pp. 17–49.

Fong, Suzana (2019). "Proper movement through Spec-CP: An argument from hyperraising in Mongolian". In: *Glossa: a journal of general linguistics* 4.1, pp. 1–42.

Gong, Zhiyu Mia (2022). "Issues in the Syntax of Movement: Cross-Clausal Dependencies, Reconstruction, and Movement Typology". PhD thesis. Cornell University.

Halpert, Claire (2012). "Argument licensing and agreement in Zulu". PhD thesis. Massachusetts Institute of Technology.

— (2016). "Raising parameters". In: *Proceedings of the 33rd West Coast Conference on Formal Linguistics*. Ed. by Kyeong-min Kim et al. Somerville, MA: Cascadilla Proceedings Project, pp. 186–195.

— (2019). "Raising, unphased". In: *Natural Language & Linguistic Theory* 37.1, pp. 123–165.

Halpert, Claire and Jochen Zeller (2015). "Right dislocation and raising-to-object in Zulu". In: *The Linguistic Review* 32.3, pp. 475–513. ISSN: 1613-3676.

Harley, Heidi and Elizabeth Ritter (2002). "Person and number in pronouns: A feature-geometric analysis". In: *Language*, pp. 482–526.

Horn, Stephen Wright (2008). "Syntax, semantics, and pragmatics of accusative-quotative constructions in Japanese". Thesis. The Ohio State University.

Kitano, Mitsue (1990). "On the raised constituent in subject raising in Japanese". MA thesis. University of Chicago.

Kobayashi, Filipe Hisao (2020). *Proper Interleaving of A- & A'-movement: a Brazilian Portuguese Case Study*. Ms. MIT. Cambridge, MA.

Lasnik, Howard (2001). "A note on the EPP". In: *Linguistic Inquiry* 32.2, pp. 356–362.

Lasnik, Howard and Myung-Kwan Park (2003). "The EPP and the subject condition under sluicing". In: *Linguistic Inquiry*, pp. 649–660.

Lee, Tommy Tsz-Ming and Ka-Fai Yip (2022). *Hyperraising, evidentiality, and phase deactivation*. Ms., University of Southern California and Yale University.

Lee, Yeonju (2016). "A complex null operator analysis to Korean exceptional case marking construction". In: *Proceedings of the 18th Seoul International Conference on Generative Grammar*, pp. 335–353.

LeSourd, Philip (2019). "Raising and long-distance agreement in Passamaquoddy: A unified analysis". In: *Journal of Linguistics* 55.2, pp. 357–405.

Lohninger, Magdalena (2022). *A small typology of composite probes*. Ms., University of Vienna.

Lohninger, Magdalena, Iva Kovač, and Susi Wurmbrand (2022). "From Prolepsis to Hyperraising". In: *Philosophies* 7.2, pp. 1–40. ISSN: 2409-9287. DOI: 10.3390/philosophies7020032.

Martins, Ana Maria and Jairo Nunes (2010). "Apparent Hyper-raising in Brazilian Portuguese: Agreement with topics across a finite CP". In: *The Complementiser Phase: Subjects and Operators*. Ed. by E. Phoevos Panagiotidis. Oxford University Press, pp. 143–163.

Miyagawa, Shigeru (2010). *Why agree? Why move?: Unifying agreement-based and discourse-configurational languages*. MIT Press.

— (2017). *Agreement beyond phi*. Vol. 75. MIT Press.

Mursell, Johannes (2020). "Long distance agreement and information structure". In: *Agree to Agree: Agreement in the Minimalist Programme*. Ed. by Peter W. Smith, Johannes Mursell, and Katharina Hartmann. Language Science Press, pp. 271–305.

Nunes, Jairo (2008). "Inherent case as a licensing condition for A-movement: The case of hyper-raising constructions in Brazilian Portuguese". In: *Journal of Portuguese Linguistics* 7.2, pp. 83–108.

— (2009). "Brazilian Portuguese under minimalist lenses". In: *Minimalist Essays on Brazilian Portuguese Syntax*. Ed. by Jairo Nunes. Vol. 142. Linguistik Aktuell/ Linguistics Today. Amsterdam/ Philadelphia: John Benjamins, pp. 3–14. ISBN: 9027289530.

— (2010). "Relativizing minimality for A-movement: -and θ-relations". In: *Probus* 22, pp. 1–25.

Obata, Miki and Samuel David Epstein (2011). "Feature-Splitting Internal Merge: Improper Movement, Intervention, and the A/A Distinction". In: *Syntax* 14.2, pp. 122–147.

Pesetsky, David and Esther Torrego (2007). "The syntax of valuation and the interpretability of features". In: *Phrasal and clausal architecture*. Ed. by Simin Karimi, Vida Samiian, and Wendy Wilkins. Amsterdam: John Benjamins, pp. 262–294.

Polinsky, Maria (2001). "Information structure and syntax: Topic, discourse-linking, and agreement". In: *Third Workshop on Spoken and Written Texts. Austin: Texas Linguistic Forum*.

— (2015). *Tsez syntax: A description*. Ms. Harvard University. Cambridge, MA.

Polinsky, Maria and Eric Potsdam (2001). "Long distance agreement and topic in Tsez". In: *Natural Language & Linguistic Theory* 19.3, pp. 583–646.

Putnam, Michael T (2009). *Towards a derivational syntax: Survive-minimalism*. Vol. 144. John Benjamins Publishing.

Rackowski, Andrea and Norvin Richards (2005). "Phase edge and extraction: A Tagalog case study". In: *Linguistic Inquiry* 36.4, pp. 565–599.

Rezac, Milan (2003). "The fine structure of cyclic Agree". In: *Syntax* 6.2, pp. 156–182.

Safir, Ken (2019). "The A/Ā distinction as an epiphenomenon". In: *Linguistic Inquiry* 50.2, pp. 285–336.

Salzmann, Martin (2017). "Prolepsis". In: *The Wiley Blackwell Companion to Syntax, Second Edition*, pp. 1–42.

Scott, Tessa (2021). *Formalizing three types of mixed A'/A agreement*. Ms., UC Berkeley. Berkeley, CA.

Şener, Serkan (2008). *Non-canonical case licensing is canonical: Accusative subjects of CPs in Turkish*. University of Connecticut, Storrs.

— (2011). "Cross clausal licensing of accusative case on subjects of CPs in Turkish". In: *Proceedings of the 39th annual meeting of the North East Linguistic Society*. Ed. by Suzi Lima, Kevin Mullin, and Brian Smith. Amherst: University of Massachusetts, GLSA, pp. 679–690.

Shklovsky, Kirill and Yasutada Sudo (2014). "The syntax of monsters". In: *Linguistic Inquiry* 45.3, pp. 381–402.

Stroik, Thomas (1999). "The survive principle". In: *Linguistic Analysis* 29, pp. 278–303.

— (2009). *Locality in minimalist syntax*. MIT Press.

Tanaka, Hidekazu (2002). "Raising to object out of CP". In: *Linguistic Inquiry* 33.4, pp. 637–652.

van Urk, Coppe (2015). "A uniform syntax for phrasal movement: A case study of Dinka Bor". PhD thesis. MIT.

Van Urk, Coppe and Norvin Richards (2015). "Two components of long-distance extraction: Successive cyclicity in Dinka". In: *Linguistic Inquiry* 46.1, pp. 113–155.

Wurmbrand, Susi (2019). "Cross-clausal A-dependencies". In: *Proceedings of the Fifty-Fourth Annual Meeting of the Chicago Linguistic Society (CLS54)*. Ed. by Eszter Ronai, Laura Stigliano, and Yenan Sun. Chicago Linguistic Society, Chicago, Ill, pp. 585–604.

Yoon, James H (2007). "Raising of major arguments in Korean and Japanese". In: *Natural Language & Linguistic Theory* 25.3. Publisher: Springer, pp. 615–653. ISSN: 1573-0859.

Zyman, Erik (2017). "P'urhepecha hyperraising to object: An argument for purely altruistic movement". In: *Proceedings of the Linguistic Society of America*. Ed. by Patrick Farrell. Vol. 53. LSA, pp. 1–15.

— (2018). "On the driving force for syntactic movement". PhD thesis. UC Santa Cruz.

— (2023). "Raising out of Finite Clauses (Hyperraising)". In: *Annual Review of Linguistics* 9, pp. 29–50.