

# Escaping CP

## A typology of Hyperraising

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## Roadmap

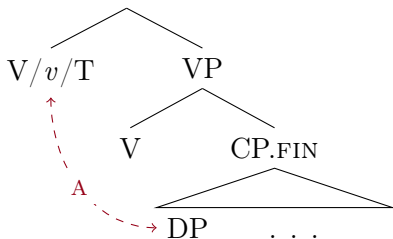
- Hyperraising and cross-clausal A-dependencies
  - The phenomenon
  - Empirical properties
  - A' or A?
- A typological investigation: from Prolepsis to Hyperraising
  - Five types of cross-clausal A-dependencies
  - Properties A-D: Restricted matrix predicates, movement from the embedded clause, A-Minimality, semantic restrictions
  - Teasing constructions apart
- Theoretical Implementation
  - CCA via A'/A composite probes
  - Different probing mechanisms of composite probes
  - Contingent probing versus independent probing

## Cross-clausal A-dependencies [CCA]

**CCA:** An A-dependency between a matrix element  $V/v/T$  and a **DP** inside an embedded (finite) CP complement clause.

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

(1)



## Hyperraising to subject

(2) \* English

a. She seems [ *t* to have won the triathlon].

b. \*She seems [CP **that** *t* won the triathlon]. [Wurmbrand 2019: 1]

(3) ✓ Brazilian Portuguese

a. Os **meninos** parecem [CP **que** *t* fizeram a tarefa ].  
**the boys** seem.3.PL [CP **COMP** *t* did.3.PL the homework ]

‘The boys seem to have done their homework.’ [Nunes 2009: 5]

(4) ✓ Cantonese

a. Coeng **jyu** gangok/tengman [CP **waa** *t* m-wui ting ].  
**CL rain** feel.like/hear [CP **COMP** *t* not-will stop ]

‘It is felt/heard that the rain will not stop.’ [Lee and Yip 2022: 3]

**Also:** *Buryat* (Bondarenko 2017), *Jordanian Arabic* (Farghal 2020), *Lubukusu* (Carstens and Diercks 2013), *Moroccan Arabic* (Harrell 2004), *Vietnamese* (Lee and Yip 2022).

## Hyperraising to object / Hyper-ECM

(5) \* English

- a. I believe [her to have won the triathlon].  
b. \*I believe [CP (her) that (her) won the triathlon]. [Wurmbrand 2019: 1]

(6) ✓ Mongolian

- a. Bat [CP Dulmaa-g nom unsh-n gej ] khel-sen.  
Bat [CP Dulmaa-ACC book read-PAST COMP ] say-PAST  
'Bat said that Dulmaa will read a book tomorrow.' [Fong 2019: 2]

(7) ✓ Romanian

- a. L-am mirosit pe Victor [CP că t e fericit ].  
him-have.1SG smelled DOM Victor [CP COMP t is.3SG happy ]  
'I figured out that Victor is happy.' [Alboiu and Hill 2016: 256]

**Also:** *Buryat* (Bondarenko 2017), *Chamorro* (Davies 2005), *Herero* (Kavari and Marten 2005), *Janitzio P'urhepecha* (Zyman 2017, 2018), *Japanese* (Kitano 1990, Horn 2008, Kobayashi 2020), *Korean* (Yoon 2007), *Tatar* (Podobryaev 2014), *Turkish* (Şener 2008), *Zulu* (Halpert and Zeller 2015).

## Long-distance agreement

(8) \* English

- a. There **seems** [ to be **a man** in the garden]. [Mursell 2020: 2]  
b. There **seem** [ to be **two men** in the garden].  
c. \*There/It **seem** [CP that **two men** are in the garden].

(9) ✓ Tsez

- a. Eni-r [CP už-ā **magalu** b-āc'ru-ḥi ] 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.' [Polinsky 2001: 584]

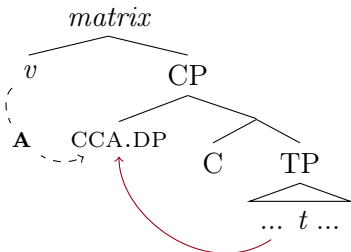
(10) ✓ Uyghur

- a. [CP **men-ij** ket-ken-(liq) ] heqiqet-**im** muhim.  
[CP **I-GEN** leave-RAN-(LIQ) ] fact-**1SG.POSS** important  
'The fact that I left is important.' [Asarina and Hartman 2011: 2]

**Also:** *Hinuq* (Forker 2012), *Khwarshi* (Khalilova 2008), *Passamaquoddy* (?) (Bruening 2001, LeSourd 2019).

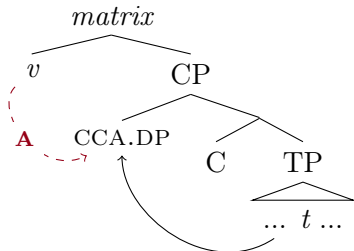
## Empirical properties of CCA

### Empirical properties of CCA configurations (throughout literature)



- 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** (and probably a phase)
- Don't worry, we'll refine some these properties later

## Empirical properties of CCA



- A-dependency stems from the **matrix predicate**



## The A-dependency stems from the matrix predicate

1. The CCA.DP receives an A-dependency (s.a. case assignment) even though the embedded predicate is not able to assign one.

→ Turkish disallows ACC-assignment in **passives**

- (11) Makarna- $\emptyset$ /**\*y<sub>1</sub>** ye-n-di.  
pasta-NOM/**\*ACC** eat-PASS-PST  
'Pasta was eaten.'

[Şener et al. 2011: 2]

→ if a passivized clause is an **argument of a CCA configuration** (Hyper-ECM/HyR to object), ACC-assignment becomes grammatical

- (12) John [ makarna-**y<sub>1</sub>** ye-n-di diye ] duy-du.  
John.NOM [ pasta-**ACC** eat-PASS-PST COMP ] hear-PST  
'John heard that pasta was eaten.'

[Şener et al. 2011: 3]

## The A-dependency stems from the matrix predicate

1. The CCA.DP receives an A-dependency (s.a. case assignment) even though the embedded predicate is not able to assign one.

→ if the **matrix predicate is passivized** but the embedded one is not, CCA is ungrammatical

(13) \*[ Pelin-i Timbuktu-ya gi-ti diye ] bil-in-iyor.  
[ Pelin-ACC Timbuktu-DAT go-PST COMP ] know-PASS-PRS

Int.: 'Pelin is known to have gone to Timbuktu.' [Şener et al. 2011: 3]

## The A-dependency stems from the matrix predicate

2. CCA is only grammatical in complement clauses, not in subject clauses.

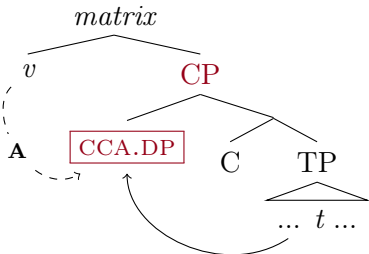
→ Mongolian allows CCA into **complement clauses**

- (14) Bat [ margaash Dulmaa(-g) nom unsh-n gej ] khel-sen.  
Bat [ tomorrow Dulmaa(-ACC) book read-PAST COMP ] say-PAST  
'Bat said that Dulmaa will read a book tomorrow.' [Fong 2019: 2]

→ CCA into **subject clauses** is illicit: the CCA.DP is not c-commanded by the source of the A-dependency (matrix clause)

- (15) [ Bat(\*-iig) chikher id-sen gedge n' ] nama-ig gaikhsh-ruul-san.  
[ Bat(\*-ACC) candy eat-PST COMP POSS.3 ] 1SG-ACC surprise-CAUS-PST  
'That Bat ate candy surprised me.' [Fong 2019: 9]

## Empirical properties of CCA



- ✓ A-dependency stems from the **matrix predicate**
- CCA.DP is base-generated **inside the embedded clause**

## The CCA.DP is base-generated in the embedded clause

### 1. Embedded pronominal subjects are ungrammatical

- (16) *Algum aluno* parecia [ que (**\*ele**) ia viajar ].  
*some student* seemed [ that (**\*he**) went travel ]  
'It seemed that some student was going to travel.'

*Brazilian Portuguese* [Martins and Nunes 2010: 150]

- (17) *Îlk* ştiu *pe Rareşk* [ că e (**\*elk**) om bun ].  
CL.3SG.M.ACC know.1SG DOM *Raresh* [ that is (**\*he**) man good ]  
'I know Raresh to be a good man.'

*Romanian* [Alboiu and Hill 2013: 4]

## The CCA.DP is base-generated in the embedded clause

2. The CCA.DP can only be licensed by embedded negation, not by matrix negation

- (18) a. Nara [ khen(-iig) ch iree-**güi**                    gej    ] khel-sen.  
Nara [ who(-ACC) CH come.PST-**NEG** COMP ] say-PST  
‘Nara said that nobody came.’ *Monoglian* [Fong 2019: 6]
- b. \*Nara [ khen(-iig) ch ir-san            gej    ] khelee-**güi**.  
Nara [ who(-ACC) CH come-PST COMP ] say.PST-**NEG**  
Int.: ‘Nara said that nobody came.’ [ibid.]

## The CCA.DP is base-generated in the embedded clause

3. The CCA.DP, if not moved into the matrix clause, can be preceded by embedded adverbs

- (19) 'Aayat-onm hi-nees-**nek**-se [ **watiisx** **mamay'**ac  
woman-ERG 3SUBJ-O.PL-think-IMPERF [ **1.day.away** **children.NOM**  
hi-pa-paay-no' ]  
3SUBJ-S.PL-arrive-FUT ]

'The woman thinks the children will arrive tomorrow.'

*Nez Perce* [Deal 2017: 6]

- (20) Bat [ **margaash** **Dulmaa-g** nom unsh-n gej ] khel-sen.  
Bat [ **tomorrow** **Dulmaa-ACC** book read-PAST COMP ] say-PAST

'Bat said that Dulmaa will read a book tomorrow.' *Monoglian* [Fong 2019: 2]

## The CCA.DP is base-generated in the embedded clause

### 4. Idiomatic reading with the embedded clause is possible

→ the Uyghur idiom *nine girls' labor pains arrived all at once* (= *times are hard*) is retained in CCA

- (21) Tursun [ **toqquz qiz-ning tolghaq-ni** teng kel-di ] di-di.  
Tursun [ **nine girl-GEN labor-ACC** together arrive-PST.3 ] say-PST.3  
Lit.: 'Tursun said that nine girls' labor pains came all at once.'  
Idiom.: 'Tursun said that times are hard.' [Shklovsky and Sudo 2014: 388]

→ the Zulu idiom *the sun takes fish out of the water* (= *it is very hot*) is retained in CCA

- (22) **I-langa** li-fun-w-a [ ukuthi **t** li-khiph-e i-n-hlanzi  
**AUG-5.sun** 5.SM-want-PASS-FV [ that **t** 5.SM-take-SUBJ AUG-9-fish  
e-manzi-ni ]  
LOC-6.water-LOC ]  
Lit.: 'The sun is wanted to take fish out of the water.'  
Idiom.: 'The people want it to be very hot.' [Halpert and Zeller 2015: 487]

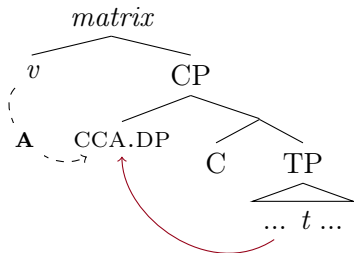


## The CCA.DP is base-generated in the embedded clause

### 5. CCA triggers PBC violations

- PBC: traces must be properly bound (c-commanded)
- Japanese: the CCA.DP (*book*) raised to matrix object position, then the resumptive clause (*Bill bought t*) is extraposed ⇒ ungrammatical
- (23) \*[ **Bill-ga**  $t_i$  **katta-to** ]<sub>j</sub> [ **sono-hon-o**<sub>i</sub> [ **John-ga**  $t_j$  **itta** ]].  
[ **Bill-NOM**  $t_i$  **bought-COMP** ]<sub>j</sub> [ **the-book-ACC**<sub>i</sub> [ **John-NOM**  $t_j$  **said** ]]  
Int.: '[That Bill bought  $t_i$ ]<sub>j</sub>, the book<sub>i</sub>, John said  $t_i$ .' [Tanaka 2002: 639]
- Buryat: the CCA.DP (*Badma*) raised to matrix object position, then the resumptive clause (*t horse take*) is extraposed ⇒ ungrammatical
- (24) \*[  $t_i$  **mor-ijə** **ab-a** **gʒə** ]<sub>k</sub> **sajənə** **badm-ijə**<sub>i</sub> **t<sub>k</sub>** **xʒl-3**.  
[  $t_i$  **horse-ACC** **take-PST** **COMP** ]<sub>k</sub> **Sajana** **Badma-ACC**<sub>i</sub> **t<sub>k</sub>** **say-PST**  
Int.: 'Sajana said that Badma bought a horse.' [Bondarenko 2017: 7]

## Empirical properties of CCA



- ✓ A-dependency stems from the **matrix predicate**
- ✓ CCA.DP is base-generated **inside the embedded clause**
- CCA.DP moves to/through the **embedded left edge**/ high in the embedded clause

## The CCA.DP moves to the embedded left edge

### 1. CCA is island-sensitive (no high base-generation)

#### (25) Complex NP island in Cantonese

- a. \***Aaming** tenggong [ waa [ *t* jiging zau-zo ge siusik ] hai gaa ge ]  
**Ming** hear [ COMP [ *t* already left MOD rumor ] be false SFP ]

Int.: 'It is heard that the rumor that Ming already left is false.'

[Lee and Yip 2022: 15]

#### (26) Adjunct island in Nez Perce (covert HyR, see Deal 2017)

- a. \*'Aayat-onm hi-nees-nek-se [ [ ke-kaa mamay'ac  
woman-ERG 3.SBJ-O.PL-think-IPFV [ [ when children.NOM  
hi-pa-paay-no' ], hi-lloy-no' qiwn ] ].  
3.SBJ-S.PL-arrive-FUT ], 3.SJB-be.happy-FUT old.man.NOM ]

Int.: 'The woman thinks that when the kids arrive, the old man will be happy.'

[Deal 2017: 5]

## The CCA.DP moves to the embedded left edge

2. In languages allowing indexical shift, the CCA.DP cannot shift (its non-CCA counterpart can shift)

→ Indexical shift: embedded indexicals (pronouns) receive an interpretation relative to the matrix clause (not necessarily relative to the discourse)

(27) \* indexical shift in English

a. Leo said that I (=speaker/\*Leo) left. [Wurmbrand 2019: 10]

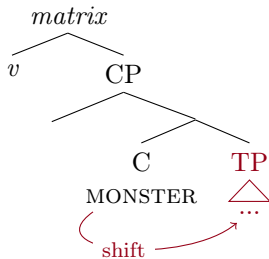
(28) ✓ indexical shift in Buryat

a. saʃənə [ bi tʰrgə ʒmdəl-ʒ-b gʒʒə ] mʒd-ʒ.  
Sajana [ 1SG.NOM cart break-PST-1SG COMP ] know-PST  
'Sajana found out that I (=speaker/ Sajana) broke the cart.'  
[Bondarenko 2017: 19]

## The CCA.DP moves to the embedded left edge

- Common analysis for indexical shift: shifting operator (**MONSTER operator**) in C; shifts everything within its scope

(Anand and Nevins 2004, Anand 2006, Sudo 2012, Sundaresan 2012, 2018, Shklovsky and Sudo 2014, Podobryaev 2014, Messick 2016)



## The CCA.DP moves to the embedded left edge

2. In languages allowing indexical shift, the CCA.DP cannot shift

→ The CCA.DP does not shift (contrary to its non-CCA counterpart)

(29) sajənə [ **bi** tɜrgə ʒmdəl-ʒ-b gʒʒə ] mɜd-ʒ.

Sajana [ **1SG.NOM** cart break-PST-1SG COMP ] know-PST

‘Sajana found out that I (=speaker/ **Sajana**) broke the cart.’

*Buryat* [Bondarenko 2017: 19]

(30) sajənə [ **naməjə** tɜrgə ʒmdəl-ə(\*-b) gʒʒə ] mɜd-ʒ.

Sajana [ **1SG.ACC** cart break-PST(\*-1SG) COMP ] know-PST

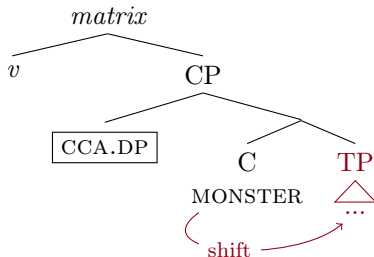
‘Sajana found out that I (=speaker/ **\*Sajana**) broke the cart.’

*Buryat* [ibid.]

## The CCA.DP moves to the embedded left edge

2. In languages allowing indexical shift, the CCA.DP cannot shift

→ The CCA.DP does not shift → it must be above MONSTER → SpecCP



## The CCA.DP moves to the embedded left edge

### 3. CCA.DP is in the binding domain of the matrix subject

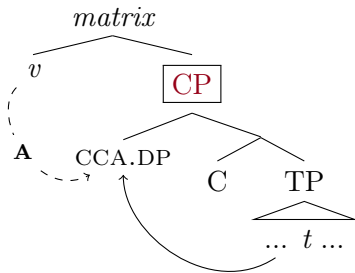
- Uyghur: CCA.DP must be an anaphor (and cannot be a pronoun) if it is co-referent with the matrix subject
- Non-CCA.DP behaves the other way around
- *Condition A*: an anaphor must have a local antecedent
- *Condition B*: a pronoun must be free in its governing category
- The CCA.DP is in the local binding domain of the matrix clause, a non-CCA.DP is not

- (31) a. Men [ peqet **öz-em-ni-la** / \***meni-la** nan ye-men ]  
1SG [ only **REFL-1SG-ACC-only** / \***1SG.ACC-only** bread eat-IPFV.1SG ]  
di-dim.  
say-PST.1SG  
'I said that only I eat bread.' [Shklovsky and Sudo 2014: 391]
- b. Men [ peqet \***öz-em-Ø-la** / **men-la** nan ye-men ]  
1SG [ only \***REFL-1SG.NOM-only** / **1SG.NOM-only** bread eat-IPFV.1SG ]  
di-dim.  
say-PST.1SG  
'I said that only I eat bread.'

[ibid.]



## Empirical properties of CCA



- ✓ A-dependency stems from the **matrix predicate**
- ✓ CCA.DP is base-generated **inside the embedded clause**
- ✓ CCA.DP moves to/through the **embedded left edge**
- Embedded clause is a **full CP** (and probably a phase)

## The CCA.CP is a full CP

1. CCA.CPs are temporally independent from the matrix clause

- (32) **Baan gei camjat** gugai [ waa *t* **gamjat** wui ziu  
CL **flight yesterday** guess [ COMP *t* **today** will as.scheduled  
fei ]  
depart ]  
'Yesterday, the flight is guessed (i.e. estimated) to depart as scheduled  
today.'  
*Cantonese* [Lee and Yip 2022: 21]

## The CCA.CP is a full CP

2. CCA.CPs exhibit the same form, inflectional categories and complementizers as non-CCA.CPs

- (33) Ngi-fun-a [ **ukuthi** **u-Sipho** a-phek-e i-qanda ]  
1SG-want-FV [ **COMP** **AUG-1A.SIPHO** 1.SM-cook-SUBJ AUG-5.egg ]  
'I want Sipho to cook an egg.' *Zulu* [Halpert and Zeller 2015: 477]
- (34) Ngi-ya-m-fun-a **u-Sipho** [ **ukuthi** *t* a-phek-e  
1.SG-DIS-1.OM-want-FV **AUG-1A.Sipho** [ **COMP** *t* 1.SM-cook-SUBJ  
i-qanda ]].  
AUG-5.egg ]  
'I want Sipho to cook an egg.' *Zulu* [Halpert and Zeller 2015: 476]

## The CCA.CP is a full CP

3. CCA.CPs allow regular A'-movement simultaneously to CCA - the CP is only transparent for CCA

→ We will get back to that later in detail

### (35) Cantonese Focalisation + Hyperraising

- a. **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.'

[Lohninger and Yip To appear: 6]

### (36) Mongolian Topicalisation + Hyperraising/ECM

- a. **Buuz-iig bol** Nara [ **Dorj(-iig)** *t* id-sen gej ]  
**buuz-ACC TOP** Nara.NOM [ **Dorj(-ACC)** *t* eat-PST COMP ]  
khel-sen.

say-PST

'The buuz, Nara said that Dorj ate.'

[Fong 2019: 28]

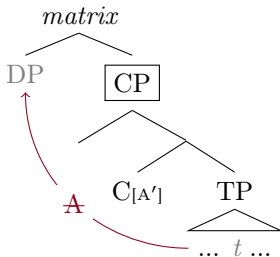
## The A'/A problem

- Why are CCA configurations interesting?
- Because the **Ban on Improper Movement** and the **Phase Impenetrability Condition** should rule them out!

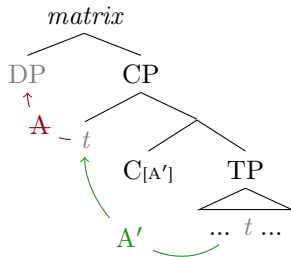
## PIC and BIM

- **Phase Impenetrability Condition [PIC]:** In phase  $\alpha$  with head H, the domain of H is not accessible to operations outside  $\alpha$ , only H and its edge are accessible to such operations. (Chomsky 2000)
- **Ban on Improper Movement [BIM]:** An element may not be moved from an A'- to an A-position. (Chomsky 1973)

### PIC



### BIM



## What kind of movement is CCA?

- CCA is a mixture of A'- and A-movement
  - A'-properties
    - Long-distance (out of a CP complement)
    - Often paired with discourse-dependent interpretation (e.g. topic)
    - Often obligatory reconstruction into the embedded clause
  - A-properties
    - Restricted to nominals
    - Feeds agreement/ has argument status
    - In many languages lacks WCO
    - Often cannot be fed by prior A'-movement

## A featural distinction of the A'/A difference

- Structural A'/A distinction (traditional):
  - A'-movement targets a non-argument position (CP-domain)
  - A-movement targets an argument-position (TP-domain and below)
- Featural A'/A distinction (recent)
  - Obata and Epstein (2011), van Urk (2015)
  - **Feature classes are responsible for the A'/A-distinction, not positions**
  - **A-features:** [ $\Phi$ ], [ $\theta$ ], [D], [n], ([Case])
  - **A'-features:** [wh], [foc], [top], [rel], [ $\delta$ ]
  - A-features trigger movement with A-properties
  - A'-features trigger movement with A'-properties



## A featural A'/A distinction

### ● Assumptions

- Movement always involves a **feature dependency** (valuation, sharing, agreement,...)
- Successive cyclic movement is induced by "intermediate" **[A']-features** (e.g. [wh]) 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)

### ● Implications

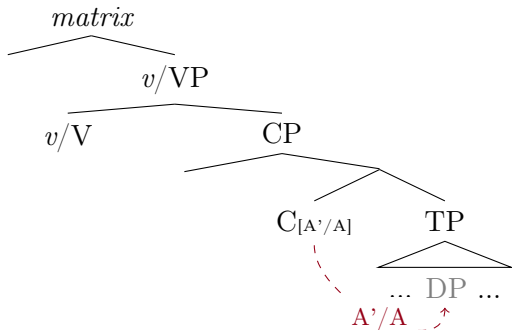
- Features can bundle and form **composite A'/A probes**, triggering mixed A'/A-movement (van Urk 2015)
- An A'/A-chain can **feed an A-chain**; [A] remains visible after A'/A-movement (Obata and Epstein 2011, Longenbaugh 2017)

## A composite probe analysis of CCA

Proposal: An A'/A analysis for CCA

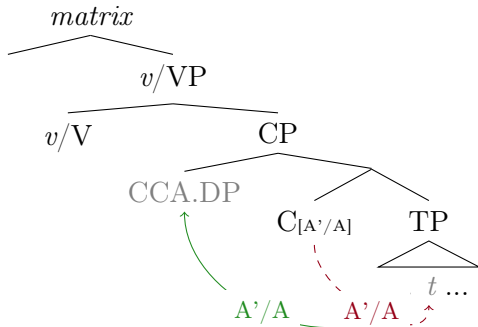
Related ideas in Şener (2008), Alboiu and Hill (2016), Bondarenko (2017), Zyman (2017, 2018), Wurmbrand (2019), Fong (2019), Mursell (2018), Gong (2022), Lohninger et al. (2022)

## A composite probe analysis of CCA



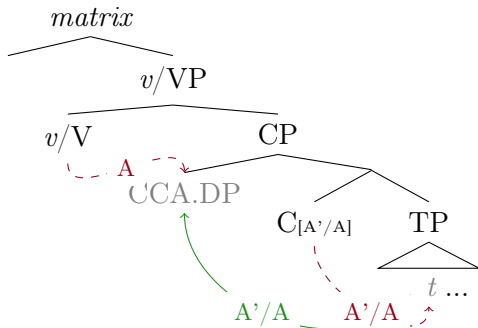
→ CCA is mediated through a composite A'/A probe on embedded C

## A composite probe analysis of CCA



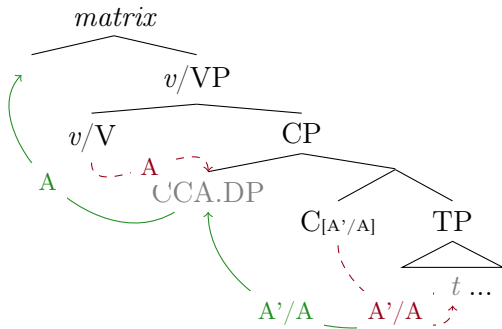
- CCA is mediated through a composite A'/A probe on embedded C
- A'/A probe triggers A'/A-movement of CCA.DP to SpecCP

## A composite probe analysis of CCA



- CCA is mediated through a composite A'/A probe on embedded C
- A'/A probe triggers A'/A-movement of CCA.DP to SpecCP
- From there, it is a visible goal for a matrix A-dependency

## A composite probe analysis of CCA



- CCA is mediated through a composite A'/A probe on embedded C
- A'/A probe triggers A'/A-movement of CCA.DP to SpecCP
- From there, it is a visible goal for a matrix A-dependency
- ... and can undergo further A-movement to the matrix clause (in the case of HyR)

## But this would be too easy

- What about Prolepsis?
  - Defining domain  $\mathfrak{A}$
- The Prolepsis - Hyperraising Scale
  - There are five different types of configurations that look like CCA
  - Methodology (four properties) to disentangle them
- Later: There are also three different types of composite probes

## Prolepsis versus Hyperraising

- Prolepsis

(37) I believe of Nova that \*(she) likes salad.

→ obligatory dependency between a proleptic DP (*Nova*) and an embedded element (pronoun, could be *pro*).

- Hyperraising

(38) Os meninos parecem [ que *t* viajaram ontem ].  
the boys seem.3PL [ that *t* traveled.3PL yesterday ]

‘The boys seem to have traveled yesterday.’ *Braz. Portuguese*  
[Martins and Nunes 2010: 145]



## Definition of the empirical domain $\mathfrak{A}$

Domain  $\mathfrak{A}$  includes configurations in which ...

- a **matrix A-element** (argument (position), Case assigner, agreement head) is in
- an **obligatory dependency** (Agree, movement, binding, predication) with **another element** (operator, argument (position), obligatorily bound pronoun, gap)
- situated in an **embedded finite clause**.

→ Broader than CCA

→ Summarizes Prolepsis and CCA

## The challenge of domain $\mathfrak{A}$

- Superficially similar configurations
- E.g. Prolepsis with *pro*-drop vs. HyR to object in Korean

### (39) Prolepsis

- a. Cheli-nun **Yenghi-lul** [ *pro* yenglihay-ss-ta-ko ] mitnun-ta.  
Cheli-TOP **Yenghi-ACC** [ *pro* smart-PST-DECL-COMP ] believe-DECL  
'Cheli believes of Yenghi that she was smart.'  
[Yoon 2007: 616] (own paraphrase)

### (40) Hyperraising

- a. Cheli-nun **Yenghi-lul** [ *t* yenglihay-ss-ta-ko ] mitnun-ta.  
Cheli-TOP **Yenghi-ACC** [ *t* smart-PST-DECL-COMP ] believe-DECL  
'Cheli believes Yenghi to have been smart.' [ibid.]

→ **What we need:** a tool to disentangle them (Lohninger et al. 2022)

## Disentangling $\mathfrak{A}$ : it's not just Prolepsis vs. CCA

$\mathfrak{A}$ -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-/I-selection)	no	yes	yes	yes	yes
B	Movement of DP. $\mathfrak{A}$ within embedded clause	no	no	yes	yes	yes
C	A-Minimality (highest A-DP)	no	no	no	yes	yes
D	Semantic restrictions of DP. $\mathfrak{A}$	yes	yes	yes	yes	no

- ① Buryat, Croatian, English, German, Japanese, Korean, Madurese, Mongolian, Nez Perce, Puyuma, Romanian...
- ② Brazilian Portuguese, Passamaquoddy
- ③ Japanese, Korean
- ④ Romanian, Tsez, Turkish
- ⑤ Brazilian Portuguese, Buryat, Cantonese, Mongolian, Nez Perce, Vietnamese, Zulu, ?Uyghur

## Distinction A: Productivity

$\mathfrak{A}$ -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-/I-selection)	no	yes	yes	yes	yes

- **Prolepsis ①**: possible in any context where a full propositional CP can occur (cf. Salzmann 2017).
- **CCA ②–⑤**: the class of verbs that allow ②–⑤ is smaller, both within and across languages, than the class of verbs that allow ①.
  - Tendency: restricted to verbs of knowledge, belief, and perception
  - Some languages also allow ②–⑤ configurations with speech verbs

## Example: Romanian RtO ④

- Romanian HyR-constructions: only possible with verbs of knowledge, perception, evidentials

- (41) L-am            **auzit** **pe** **Mihai** [ că    repară casa        ].  
him-have.1SG **heard** **DOM** **Mihai** [ that fixes    house.the ]  
'I've heard that Mihai is fixing the house.'  
CCA [Alboiu and Hill 2016: 256]
- (42) \*L-am            **spus** **pe** **Victor** [ că    e        fericit ].  
him-have.1SG **said** **DOM** **Victor** [ that is.3SG happy ]  
'I said that Victor is happy.'  
CCA [I. Giurgea, p.c.]
- (43) Am            **spus** **despre** **Victor** [ că    e        fericit ].  
have.1SG **said** **about** **Victor** [ that is.3SG happy ]  
'I said about Victor that he is happy.'  
Prolepsis [I. Giurgea, p.c.]

## Distinction B: Movement within the embedded clause

$\mathfrak{A}$ -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. $\mathfrak{A}$ within embedded clause	no	no	yes	yes	yes

- Three base positions for DP. $\mathfrak{A}$

- (44) a.  $V_{matrix}$  DP. $\mathfrak{A}$  [ $CP$  ... *pro(noun)* ... ] ①  
 b.  $V_{matrix}$  [ $CP$  DP. $\mathfrak{A}$  C [ ... *pro(noun)* ... ] ] ②  
 c.  $V_{matrix}$  [ $CP$  C [ DP. $\mathfrak{A}$  ] ] ③–⑤

→ diagnosed via island-sensitivity and connectivity effects

## No island-sensitivity in ① - ②

- (45) I believe **about Atin** that [the story that **she** captured the thief] is untrue. English ① [Davies 2005: 659]
- (46) **Esses carros<sub>i</sub>** parecem [ que [ as pessoas que compraram **pro<sub>i</sub>** ]  
**these cars<sub>i</sub>** seem.3PL [ that [ the people who bought **pro<sub>i</sub>** ]  
se arrependeram ].  
REFL repented ]  
'It seems that people who bought these cars regretted it.'  
Braz. Portuguese ② [Martins and Nunes 2010: 155, fn. 11]

## Island-sensitivity in ③ - ⑤

- (47)? \*Mary-nun **Yeonghi-lul** [[ *t* apeci-ka ha-si-nun ] sa.ep]-i  
 Mary-TOP **Yenghi-ACC** [[ *t* father do-HON-ADNOM ] business]-NOM  
 manghay-ss-ta-ko sayngkakha-n-ta.  
 go.bankrupt-PAST-DECL-COMP think-PRES-DECL  
 Int.: ‘Mary thinks that as for/it is Yeonghi (that) the business her father was running went bankrupt.’  
 Korean ③ [Lee 2016: 9]
- (48) \*Ion o mirosise **pe Maria** [ faptul [ că-și *t* aranja plecarea]].  
 Ion CL smelled **DOM Maria** [ fact.the [ that-REFL *t* arranged departure.the]]  
 Int.: ‘Ion figured out the fact that Maria was arranging her departure.’  
 Romanian ④ [Alboiu and Hill 2013: 7]
- (49) \*’Aayat-onm hi-**nees-nek-se** [[ ke-kaa **mamay’ac**  
 woman-ERG 3.SBJ-O.PL-think-IPFV [[ when **children.NOM**  
 hi-pa-paay-no’ ], hi-lloy-no’ qiiwn ].  
 3SBJ-S.PL-arrive-FUT ], 3.SJB-be.happy-FUT old.man.NOM ]  
 Int.: ‘The woman thinks that when the kids arrive, the old man will be happy.’  
 Nez Perce ⑤ [Deal 2017: 5]



## Connectivity effects

- Connectivity effects vary language-specifically, we saw many of them in the first part of the talk
  - **Embedded pronouns ungrammatical**  
(Brazilian Portuguese, Cantonese, Mongolian, Romanian)
  - **PBC violation**  
(Buryat, Japanese, Korean, Mongolian, Passamaquoddy, Romanian)
  - **Idiomatic construals of DP. $\mathfrak{A}$  with the lower predicate**  
(Brazilian Portuguese, Buryat, Mongolian, Uyghur, Zulu)
  - **Binding**  
(Buryat, Romanian, Zulu)
  - **NPI licensing by embedded negation**  
(Brazilian Portuguese, Japanese, Korean, Mongolian, Uyghur)

## Distinction C: A-Minimality

$\mathfrak{A}$ -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. $\mathfrak{A}$ within embedded clause	no	no	yes	yes	yes
C	A-Minimality (highest A-DP)	no	no	no	yes	yes

(50) [<sub>CP</sub> DP1 [ DP2 ] ]

- Restriction on DP. $\mathfrak{A}$  to be the highest embedded argument
- Structural, not functional restriction: highest argument does not have to be a subject
- It can also be an object relocated via A-movement to a position above the subject

## No A-Minimality in ① - ③

- (51) Sheryl thought **about/of Tim** that the police would never catch **him**.  
English ① [Davies 2005: 654]
- (52) **Esses professores** parecem [ que a Maria gosta **deles** ].  
**these teachers** seem.3PL [ that the Maria likes **of.them** ]  
'It seems that Maria likes these teachers.'  
Brazilian Portuguese ② [Martins and Nunes 2010: 152]
- (53) Na-nun **Pwukhansan-ul** [ mwul-i *t* manhi nanta-ko ]  
I-TOP **Mt. Pwukhan-ACC** [ water-NOM *t* a.lot flow-COMP ]  
sayngkakhanta.  
think  
'I believe that there are a lot of springs flowing from Mt. Pwukhan.'  
Korean ③ [Yoon 2007: 618]

## A-Minimality in ④ - ⑤

- (54) \*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.' (own paraphrase)  
Romanian ④ [Alboiu and Hill 2016: 268]
- (55) \*bi sajən-ar [ badmə *t* xar-a g3žə ] m3də-gd-3-b  
1SG Sajana-INSTR [ Badma *t* see-PST COMP ] know-PASS-PST-1SG  
Expected: 'Sajana found out that Badma saw me.'  
(Lit.: 'I was known by Sajana that Badma saw (me).')  
Buryat ⑤ [Bondarenko 2017: 12]

## Distinction D: Semantic restrictions

$\mathfrak{A}$ -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-/I-selection)	no	yes	yes	yes	yes
B	Movement of DP. $\mathfrak{A}$ within embedded clause	no	no	yes	yes	yes
C	A-Minimality (highest A-DP)	no	no	no	yes	yes
D	Semantic restrictions of DP. $\mathfrak{A}$	yes	yes	yes	yes	no

- The DP. $\mathfrak{A}$  needs to receive a certain interpretation
- The restrictions vary across languages
  - For example: topic requirements, specificity, evidentiality, Major subject requirement

## Semantic restrictions in ① - ④

- (56) a. I know **of firemen** [ that **they** are available ].      ① *only generic*  
b. Nova said **of a secretary** [ that she is looking for **him** ].      ① *only specific*
- (57) \***Algum aluno** parecia [ que **ele** ia viajar ].  
**some student** seemed [ that **he** went travel ]  
'It seemed that some student was going to travel.'  
Brazilian Portuguese ② [Martins and Nunes (2010): 150]
- (58) Ooku-no nihonzin-wa **dareka-o** [ rosiago-ga dekiru to ] omou.  
Many-COP Japanese-TOP **someone-ACC** [ Russian-NOM be.able COMP ] think  
'Lots of Japanese think that someone specific can speak Russian.'  
Japanese ①/③ [Horn 2008: 232; based on Kitano 1990: 23-24]
- (59) \*Am mirosit **pe cineva** [ că ne minte ].  
have.1 smelled **DOM someone** [ that 1PL.DAT lies ]  
Int.: 'I/we suspected that someone was lying to us.'  
Romanian ④ [Alboiu and Hill 2016: 276]

## No semantic restrictions in ⑤

- (60) **Hou**do 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 ⑤ [Lee and Yip 2022: 18]

## The full picture of domain $\mathfrak{A}$

$\mathfrak{A}$ -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-/I-selection)	no	yes	yes	yes	yes
B	Movement of DP. $\mathfrak{A}$ within embedded clause	no	no	yes	yes	yes
C	A-Minimality (highest A-DP)	no	no	no	yes	yes
D	Semantic restrictions of DP. $\mathfrak{A}$	yes	yes	yes	yes	no

- ① Buryat, Croatian, English, German, Japanese, Korean, Madurese, Mongolian, Nez Perce, Puyuma, Romanian...
- ② Brazilian Portuguese, Passamaquoddy
- ③ Japanese, Korean
- ④ Romanian, Tsez, Turkish
- ⑤ Brazilian Portuguese, Buryat, Cantonese, Mongolian, Nez Perce, Zulu, Vietnamese, ?Uyghur



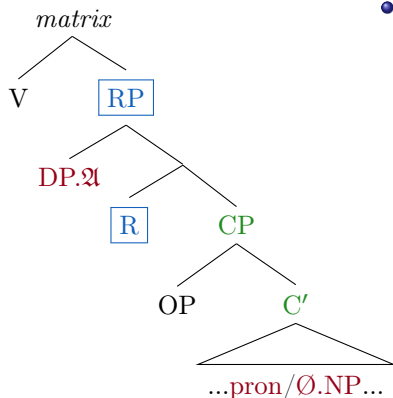
## Two configurations in one language?

- Languages can exhibit **two or more configurations** at the same time
- E.g. **Brazilian Portuguese** allows ② and ⑤
- **Cross-testing** of distinctions A-D gives a clear picture
  - e.g. as soon as an embedded pronoun is allowed (B), there are no A-Minimality restrictions (C)
  - e.g. when a non-topicalizable element serves as CCA.DP (D), we get island-sensitivity (B)
- Ask me about it in the question period!

## The syntax of $\mathcal{A}$

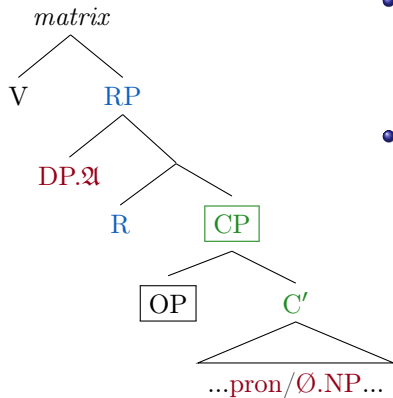
## The syntax of Prolepsis

(61) I believe of Nova that she likes salad.



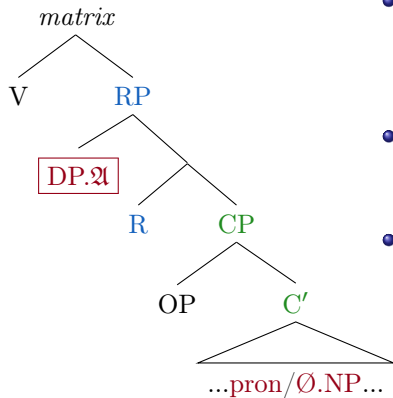
- R(elator) P(hrase) (Den Dikken 2006, 2017): **R** relates Spec,RP (an A-position) and its complement via predication.

## The syntax of Prolepsis



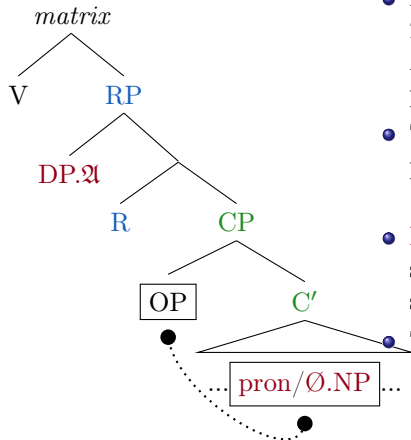
- R(elator) P(hrase) (Den Dikken 2006, 2017): **R** relates Spec,RP (an A-position) and its complement via predication.
- The embedded **CP** is turned into a predicate by an **OP** inserted in Spec,CP (Salzmann 2017).

## The syntax of Prolepsis



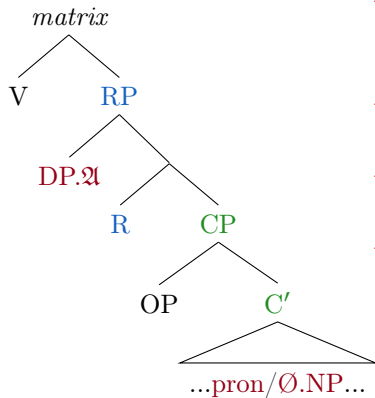
- R(elator) P(hrase) (Den Dikken 2006, 2017): **R** relates Spec,RP (an A-position) and its complement via predication.
- The embedded **CP** is turned into a predicate by an OP inserted in Spec,CP (Salzmann 2017).
- **DP.Ɀ** is base generated in Spec,RP and saturates the CP-predicate—**RP** is a semantic proposition.

## The syntax of Prolepsis



- R(elator) P(hrase) (Den Dikken 2006, 2017): **R** relates Spec,RP (an A-position) and its complement via predication.
- The embedded **CP** is turned into a predicate by an **OP** inserted in Spec,CP (Salzmann 2017).
- **DP.ᶶ** is base generated in Spec,RP and saturates the CP-predicate—**RP** is a semantic proposition.
- The **OP** binds the embedded pronoun

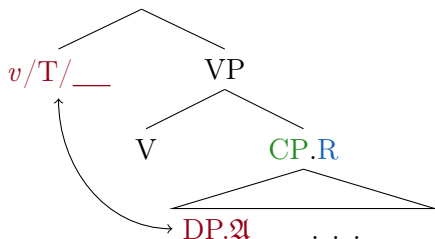
## Deriving A - D in Prolepsis



- **A) Productivity**: any verb that selects a proposition can combine with either RP or a propositional (regular) CP (no OP).
- **B) No embedded movement**: DP.ᵂ in SpecRP, OP in SpecCP base generated.
- **C) No A-Minimality**: any element can be bound
- **D) Semantic restrictions**: via R (cf. Landau 2011); only referential DPs saturate a predicate OR high scope, *de re* reading (Salzmann 2017)

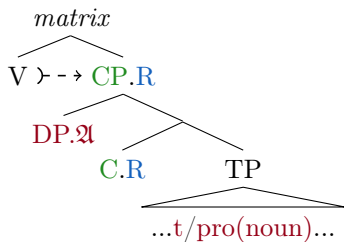
## Cross-clausal A-dependencies [CCA]: ② - ⑤

- CCA: DP.ᵂ is base generated inside the embedded clause (either in the embedded left-edge [high/ hanging topic] or in an embedded argument position)



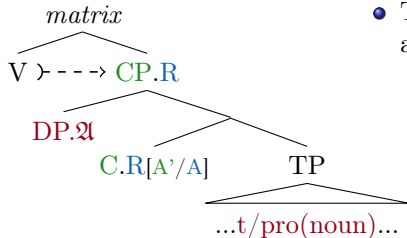


## CP.R: A fused projection



- Fusion of **RP** (A-properties) and **CP** (A'-properties)—a bundled **CP.R**.
- Fused **C.R** is not available in all languages.
  - English: **RP** and **CP** can only occur separately, leading to Prolepsis ①, and disallowing CCA ②–⑤.
  - **CP.R** is similar to a (un)bundled IP, bundling tense, agreement (see Bobaljik and Thráinsson 1998).
- **CP.R** is lexically selected—not all verbs can combine with a **CP.R** complement.

## CP.R: A mixed A'/A projection



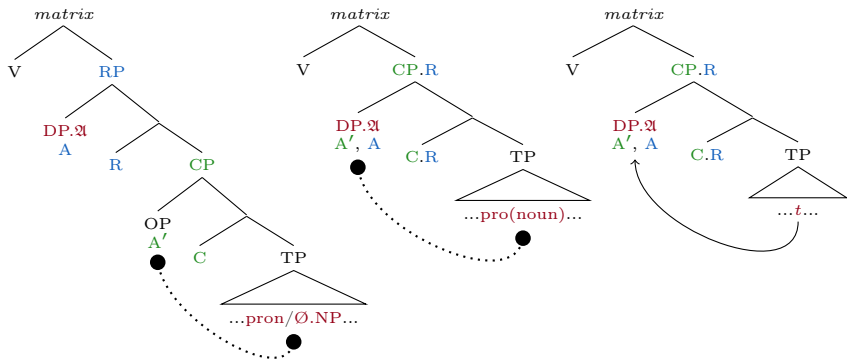
- The combination of **C** (A') and **R** (A) yields a mixed A'/A head - a composite probe
  - **C-part**: may impose A'-flavors (topic, Major Subject, others).
  - **R-part**: establishes a predication relation between the argument in its specifier and its complement, setting up an A-dependency.

## Three syntactic configurations of $\mathcal{A}$

Prolepsis ①

CCA w/o movement ②

CCA w/ movement ③–⑤



[Salzmann 2017, den Dikken 2017]

[Martins and Nunes 2010]

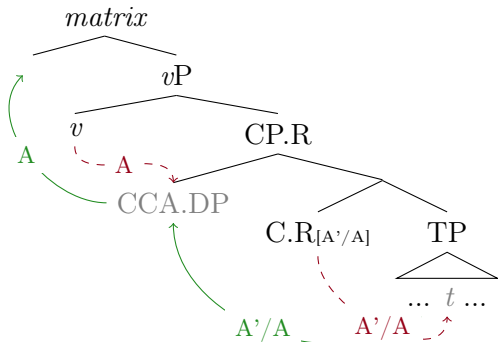
## Deriving configurations ③-⑤

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

- ③ × A-Minimality, ✓ Semantic restrictions
- ④ ✓ A-Minimality, ✓ Semantic restrictions
- ⑤ ✓ A-Minimality, × Semantic restrictions

## Three types of "classical" CCA

Remember? These were the ones we started with!



... how do we get a three-way split, though?

## A composite probe on C.R

- Recap: A'/A-distinction is related to features rather than structural positions (van Urk 2015).
- Features can bundle, a single head can carry A'- & A-features at the same time (= composite probe).
  - See also Aldridge (2004, 2008, 2017), Legate (2014), van Urk (2015), Erlewine (2018), Bossi and Diercks (2019), Branan and Erlewine (2020), Branan (2022), Scott (2021b), Coon et al. (2021)
- **RP** [A] and **CP** [A'] fuse and render a composite probe [A'/A] on **C.R.**
  - [A] enables the CCA.DP to take part in a matrix A-dependency.
  - [A'] is responsible for semantic restrictions s.a. topic requirements.

## But still: where does the three-way split come from?

- Not all composite probes exhibit the same probing mechanism
- They differ in **how dependent** their subparts/ features are from each other
  - ... or, as we will see later, in what direction their features are contingent on each other
- And in their ability to act **independently of each other**
- Differences in probing mechanisms have been proposed...
- ...for **composite  $\Phi$ -probes**: *a.o.* Bobaljik and Thráinsson (1998), Béjar and Rezac (2003), Coon and Bale (2014), Preminger (2014), Deal (2015), Coon and Keine (2020), ...
- ...for **composite A'/A probes**: Scott (2021b), Lohninger et al. (2022)

## Different types of composite probes

- Composite A'/A probes differ in...
  - i. ... how they treat **partly fitting goals** → **A-Minimality**
  - ii. ... whether their features can **probe independently** from each other → **Semantic restrictions**

	Partly fitting goal intervenes	Independent probing possible	
③	×	×	× A-Minimality ✓ Sem. restr.
④	✓	×	✓ A-Minimality ✓ Sem. restr.
⑤	N/A	✓	✓ A-Minimality × Sem. restr.

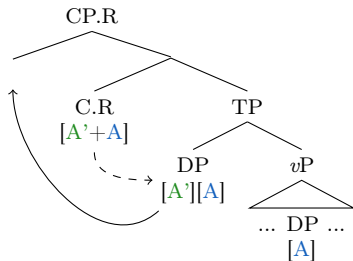


## Different types of composite probes

- Three types of A'/A probes:

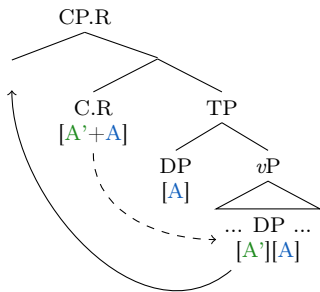
- ③ **Conjunctive Probe** [A'+A]: the composite probe only agrees with a goal with both fitting features; partly fitting goals are **skipped**
- ④ **Dependent Probe** [A'/A]: the composite probe only agrees with a goal with both fitting features; partly fitting goals **cannot be skipped**
- ⑤ **Independent Probe** [A']<sub>i</sub>[A]<sub>j</sub>: the two parts of the probe can establish **agreement on their own** (theoretically with two different goals); [A'] is not tied to [A] (and can fail; Preminger 2009)

### ③ Conjunctive Probe $[A'+A]$



- Conjunctive probe only finds goals with both matching features
- All partly fitting goals are ignored

### ③ Conjunctive Probe [A'+A]

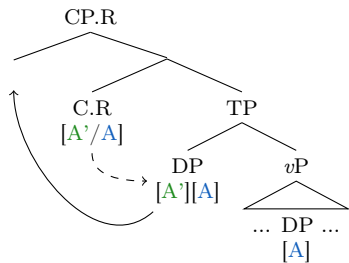


× **A-Minimality**: a closer DP can be skipped if it does not carry the relevant [A']-features but only a subset of matching features.

✓ **Semantic restrictions**: the CCA.DP has to carry [A']-features which are responsible for the semantic restrictions.

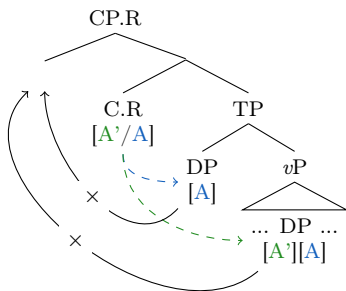
See also: van Urk (2015),  
Colley and Privoznov (2020),  
Scott (2021b), Drummond (2023)

## ④ Dependent Probe [A'/A]



- Dependent probe can only agree with a goal with both matching features
- Partly fitting goals block further probing

## ④ Dependent Probe [A'/A]

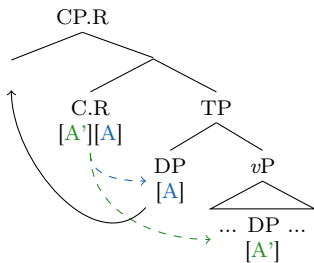


✓ **A-Minimality**: if there is a closer partly matching goal, it blocks agreement with a lower goal.

✓ **Semantic restrictions**: the probe can only agree with a goal that carries both [A'] and [A]. The only felicitous configuration is such, that the highest DP carries [A] and [A']-features.

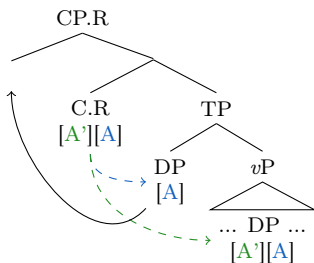
See also: Legate (2014), Aldridge (2017), Douglas (2018), Erlewine (2018), Branan and Erlewine (2020)

## ⑤ Independent Probe [A'] [A]



- The two parts of the composite probe probe independently of each other and are able to establish agreement and trigger movement on their own
- The two probes can agree with two separate goals

## ⑤ Independent Probe [A'] [A]



✓ **A-Minimality:** The [A]-probe finds the closest DP with [A]-features and attracts it.

× **Semantic restrictions:** Whether the goal of [A] carries [A']-features or not is irrelevant for the CCA configuration

See also: Scott (2021b),  
Lohninger and Yip (To appear)

## What about the A'-probe?

- In independent probing, the [A']-part of the composite probe can find a goal on its own
  - It can agree with this goal and trigger movement
- Prediction: CCA and A'-movement can occur out of the same clause

### (62) Focalisation + Hyperraising in Cantonese

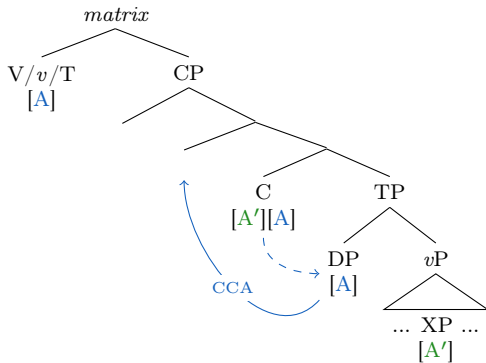
- a. Lin faahung gaan gungsi taipaa [ t dou m-wui paai t ] .  
even bonus CL company seem.fear [ t also not-will distribute t ]

‘It seems that the company will not even distribute the bonus.’

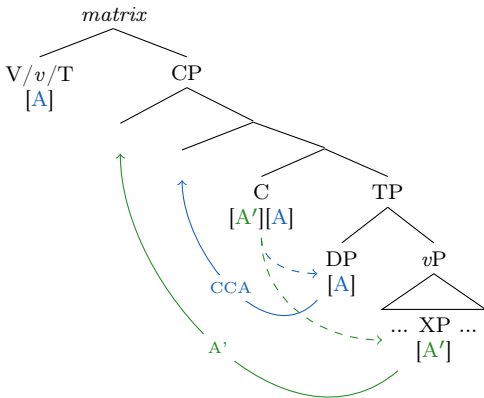
[Lohninger and Yip (To appear): 6]



## CCA + A'-movement



## CCA + A'-movement



## Towards a CCA + A'-Generalisation

... what about conjunctive and dependent probing then?

- A typological correlation in languages with CCA

[Lohninger and Yip To appear]

i. **Conjunctive/dependent probing**: If a language has semantic restrictions on the CCA.DP, *no* A' element may be extracted from the same embedded clauses from which the CCA.DP originates.

→ × **CCA + A'-movement**

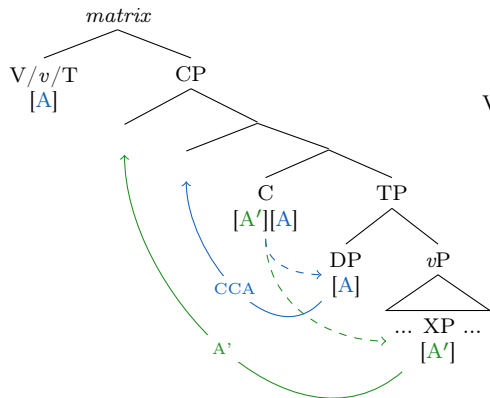
ii. **Independent probing**: If a language does *not* have semantic restrictions on the CCA.DP, A' elements may be extracted from the same embedded clauses from which the CCA.DP originates.

→ ✓ **CCA + A'-movement**

## CCA + A'-Generalisation

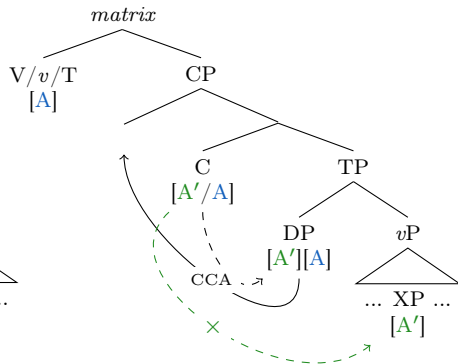
i. Independent probe

✓ CCA + A'-mvt



ii. Dependent probe

× CCA + A'-mvt



## Independent probe: ✓ CCA + A'-mvt

### ● Mongolian

#### (63) No semantic restriction on CCA.DP

- a. 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.' [Fong 2019: 8]  
⇒ (non-referential) NPIs can participate in CCA

#### (64) Topicalisation + Hyperraising

- a. 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.' [Fong 2019: 28]

→ Same in: *Braz. Portuguese (HyR), Cantonese (see above), Nez Perce, Passamaquoddy, Uyghur, Vietnamese, Zulu*

## Dependent probe: $\times$ CCA + A'-mvt

### • Romanian

#### (65) Semantic restriction on CCA.DP (evidentiality/topic)

- a. 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.'

[Alboiu and Hill 2016: 276]

⇒ CCA.DPs must be the source of evidence;

*someone* cannot be topicalised & cannot undergo CCA

#### (66) \* *wh*-movement + Hyperraising

- a. \*Ce l-ai simțit 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?'

[Alboiu and Hill 2016: 277]

→ Same in: *Japanese, Korean, Romanian, Tsez, Turkish*

## Joint probing of independent probe

### ● Cantonese

#### (67) 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.'  
[Lohninger and Yip To appear: 8]

#### (68) Relativisation bled by Hyperraising with focalised element

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

## An implementational sketch of composite probes

- Composite probes: fusion of RP [A] with CP [A']
- Why do they exhibit different probing manners?
- Conjunctive and dependent: **contingent probes** (Branan 2022)
- Independent: **head movement** (?)



## Contingent Probes

- Branan (2022)
- The [A'] and [A] probe are **contingent on each other**
- They **restrict each others search domain**
  - The two parts of the composite probe probe one after another
  - The goal of the first probe defines the domain of probing for the second probe
- Agree consist of a series of more **primitive operations**
- They are **ordered**; their **outputs** feed one another

Probe(F,START:) → search the tree for F, and then do something else if F is found; START determines where the search starts

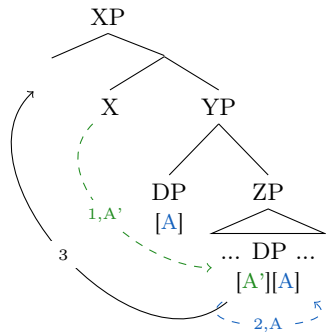
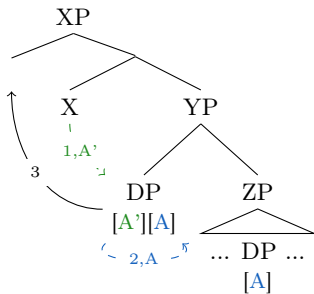
Copy(F,FP) copy a feature or phrase to where search started

End() stop probing

## Contingent Conjunctive: $A' \rightarrow A$

- A is contingent on A'

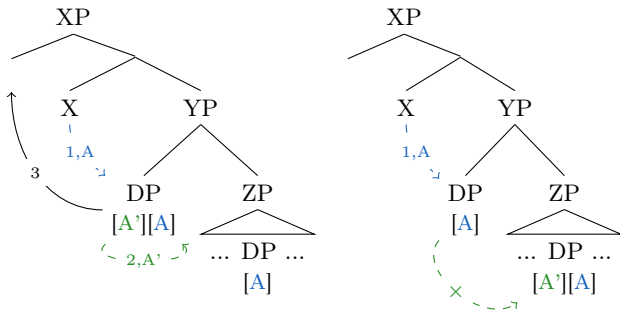
1 Probe(A', START:X) → 2 Probe(A, START:goal) → 3 Copy(goal)  
 End()



## Contingent Dependent: A → A'

- A' is contingent on A (Branan 2022: 11,12)

1 Probe(A, START:X) → 2 Probe(A', START:goal) → 3 Copy(goal)  
 End()



## (Non) Contingent Probes: Independent

1a Probe(A,START:X) →

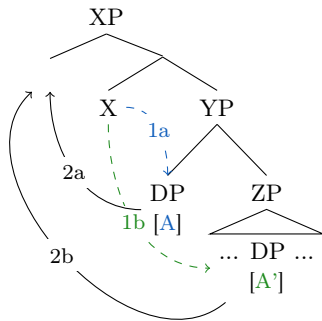
2a Copy(goal)

End()

1b Probe(A',START:X) →

2b Copy(goal)

End()



## Conjunctive & Dependent versus Independent

- **Conjunctive & dependent probes** arise through a fusion of RP and CP
- They behave like one single probe
  - if one of its parts fails, the whole derivation fails
- **Independent probes** arise through head movement from C to R
- They behave like two probes on one head
- They are not contingent on each other
  - if one of its parts fails, the other part can still probe
- Open for further research: Why do languages behave differently wrt. to fusion?

## Summary & conclusion

- **Empirical properties** of HyR and LDA (CCA)
  - ⇒ Matrix A-dependency, low base-generation, movement through CP, PIC and BIM
- **Teasing apart** domain  $\mathfrak{A}$  configurations
  - ⇒ constructions that look similar surface should not be mistaken for one configuration
  - ⇒ there are (at least) five different configurations (domain  $\mathfrak{A}$ )
  - ⇒ Prolepsis, high topic HyR, three types of CCA
- **Three types of composite probes** in CCA
  - ⇒ **Conjunctive**: No A-Minimality, semantic restrictions
  - ⇒ **Dependent**: A-Minimality, semantic restrictions
  - ⇒ **Independent**: A-Minimality, no semantic restrictions; allows CCA + other A'-movement
- Conjunctive and dependent probes can be implemented via **contingent probes**

Thank you!

## Brazilian Portuguese: two configurations

- (69) **Os meninos** parecem [ que *t* viajaram ontem ].  
 the boys seem.3PL [ that *t* traveled.3PL yesterday ]  
 ‘The boys seem to have traveled yesterday.’

⑤ [Martins and Nunes 2010: 145]

- (70) **Os meninos** parecem [ que **eles** viajaram ontem ].  
 the boys seem.3PL [ that **they** traveled.3PL yesterday ]  
 ‘The boys seem to have traveled yesterday.’

② [Ibid.: 145]

Property	High Topic ②	HyR ⑤
DP.2 can correspond to overt pronoun	yes	no
DP.2 allows idiomatic construals	no	yes
DP.2 requires a topic interpretation	yes	no
Island-sensitivity	no	yes



## How to keep the configurations apart?

Property	High Topic ②	HyR ⑤
DP.ᵗ can correspond to overt pronoun	yes	no
DP.ᵗ allows idiomatic construals	no	yes
DP.ᵗ requires a topic interpretation	yes	no
Island-sensitivity	no	yes

- Combine two properties
- Properties of ② are incompatible with those of ⑤
- *Anything goes* disappears

## Idioms & pronouns

- Either idiomatic interpretation (5), or overt pronoun (2) possible
- But not both simultaneously
- If the pronoun is used, only a literal interpretation is possible

(71) A vaca parece [ que t foi pro brejo ].  
the cow seems [ that t went to.the swamp ]

Lit.: 'It seems that the cow went to the swamp.'

Idiomatic: 'It seems that things went bad'

\*②, ⑤

\*②, ⑤

[Martins and Nunes 2010: 146]

(72) A vaca parece [ que ela foi pro brejo ].  
the cow seems [ that it went to-the swamp ]

Lit.: 'It seems that the cow went to the swamp.'

\*Idiomatic: 'It seems that things went bad'

②, \*⑤

\*②, \*⑤

[Martins and Nunes 2010: 150, (13)]

## Island-sensitivity & topic interpretation

- Either not island-sensitive (no movement) ②, or non-topic DP.ᵂ possible ⑤
- But not both simultaneously
- If DP.ᵂ is not a topic, it is moved

(73) *Esses carros<sub>i</sub> parecem [ que [ as pessoas que compraram *pro<sub>i</sub>* ] se  
these cars<sub>i</sub> seem.3PL [ that [ the people who bought *pro<sub>i</sub>* ] REFL  
arrependeram ].*  
repented ]  
'It seems that people who bought these cars regretted it.' ②, \*⑤  
[Martins and Nunes 2010: 155, fn. 11, (ib)]

(74) \**Só três carros<sub>i</sub> parecem [ que [ as pessoas que compraram *pro<sub>i</sub>* ]  
only three cars<sub>i</sub> seem.3PL [ that [ the people who bought *pro<sub>i</sub>* ]  
se arrependeram ].*  
REFL repented ]  
'It seems that people who bought these cars regretted it.' \*②, \*⑤

## Topic interpretation & pronouns

- Either a non-topic DP.2, (5), or an overt pronoun (2)
- But not both simultaneously
- If the pronoun is used, only topic DP.2s are possible.

(75) *Algun aluno* parecia [ que *t* ia viajar ].  
*some student* seemed [ that *t* went travel ]  
'It seemed that some student was going to travel.' \* (2), (5)  
[Martins and Nunes 2010: 150]

(76) \**Algun aluno* parecia [ que *ele* ia viajar ].  
*some student* seemed [ that *he* went travel ]  
'It seemed that some student was going to travel.' \* (2), \* (5)  
[Martins and Nunes 2010: 150]

## A-Minimality & topic interpretation (& pronoun)

- Either no A-Minimality ②, or non-topic DP.ᵂ ⑤
- But not both simultaneously
- If DP.ᵂ is not a topic, it undergoes A-movement.

(77) *Esses professores* parecem [ que a Maria gosta *deles* ].  
*these teachers* seem.3PL [ that the Maria likes *them* ]  
'It seems that Maria likes these teachers.' ②, \*⑤  
[Martins and Nunes 2010: 152]

(78) \**Alguém* parece [ que a aluna viu *t* ].  
*someone* seems [ that the student saw *t* ]  
Int.: 'It seems that the student saw someone.' \*②, \*⑤  
[Kobayashi 2020: 6]

## Summary

$\lambda$ -configurations		②	⑤
Known as		High Topic HyR	HyR
B	Movement of DP. $\lambda$ within embedded clause	no	yes
C	A-Minimality (highest A-DP)	no	yes
D	Semantic restrictions of DP. $\lambda$	yes	no

- BP: (at least) two constructions
- They cannot be subsumed under one configuration: mixing and matching of the properties is not possible
- Combined testing allows to tease the configurations apart

## Interaction & Satisfaction

- Probes come with Interaction and Satisfaction conditions [Deal 2015, 2022]
  - Interaction [INT]**: goal can value the probe
  - Satisfaction [SAT]**: probing is halted
  - Probing stops when [SAT] is found or nothing is left
- Composite probes: different Interaction and Satisfaction conditions [Scott 2021b, Bárány 2023]

	SAT: A, SAT: A'	SAT: A <b>and</b> A'	SAT: A <b>or</b> A'
INT: A,A'	independent	conjunctive	dependent?

Difference in Satisfaction [Scott 2021a]

	SAT: A	SAT: A'
INT: A	$\Phi$ -agreement	×
INT: A,A'	dependent?	conjunctive

Difference in Interaction [Bárány 2023]

## Why not different Satisfaction conditions?

- Different Satisfaction conditions derive independent and conjunctive probing well
- They do not *per se* derive dependent probes (SAT: A' or A)
- Additional assumptions needed:
  - If highest goal carries just [A], then it satisfies the probe (disjoint satisfaction; A' or A)
  - But this is not what we observe; [A'] needs to be involved in dependent probing!
  - Stipulated: obligatory EPP on SpecCP
  - [SAT: A or A'] probe only moves elements with [A'] [Scott 2021a: 13]
- we need an additional constraint that all of the interaction conditions need to be met
  - [A'] is not be able to move  $DP_{[A]}$
  - EPP not satisfied → crash



## Why not different Interaction conditions?

- INT conditions need to be obligatory
- Note: in the original framework, they are not
- Goal needs to fulfill both INT conditions for a successful outcome
- How does this ever derive independent probing?
- Via possible failure of one of the INT conditions?
- How can they first be obligatory and then fail? → Last resort option?

## Dynamic Interaction

- The interaction condition can change in the course of agreement
- Once the probe has agreed with a goal with a certain feature (e.g. [PART]), it can further only agree with an argument that also carries this feature
- i.e. interaction with one goal copies the features of the goal into the interaction specification of the probe (to something more specific)
- The interaction condition of the first round of probing is different than the interaction condition of the second round
- Example (for PCC)
  - Probe round 1: [INT:  $\phi$ , SAT: -]
  - agrees with DO with [PART]; [PART] is copied into the interaction condition
  - Probe round 2: [INT: PART, SAT: -]
  - Gives us configurations like: when IO is 3rd person, it can only be agreed with if the higher DO lacks [PART]

## Problems for Dynamic Interaction

*General problems for an A'/A adaption:*

- Problem 1 - Hierarchy
  - We would need a containment hierarchy between A' and A for this to work
  - One of the two would need to be the subset of the other one for the INT to become more specific
  - This sounds very stipulative
- Problem 2 - False Predictions
  - Do we ever see any trace of interaction if the agreed-with goal is not the highest one (e.g. in conjunctive probing)?
  - What about intervening pure A'-elements?

## Problems for Dynamic Interaction

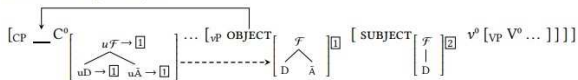


- Idea:  $F$  combines  $A'$  and  $A$  symmetrically (see also Coon et al. 2021)
- **Conjunctive:**
  - ① [INT:F, SAT:A'] → interacts with DP[A] on the way down, copies [A] into INT; is not satisfied
  - ② [INT:A, SAT:A'] can now find the lower DP[A'/A]
  - Problem: How do we exclude that a pure  $A'$ -goal in the way halts probing and fulfills the probe?
  - We don't really need dynamic probing here, we can also just use [SAT: A' and A]
- **Dependent:**
  - ① [INT:F, SAT:-] → encounters the closest DP with (only) [A], copies [A] back into INT
  - ② [INT:A, SAT:-]
  - How do we now make sure the goal also carries [A']?
  - Basic problem remains: we need an additional constraint on interaction that says that all interaction conditions need to be met

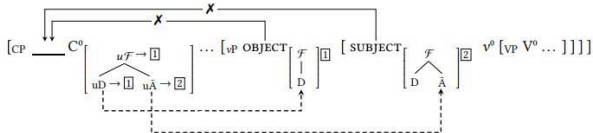
## A'/A Feature Hierarchy

- Coon and Keine (2020), Coon et al. (2021)
- [A'] and [A] are in a **hierarchical relation** [cf. Harley and Ritter 2002]
- *Feature Gluttony* [Coon and Keine 2020]
  - Segments of a feature hierarchy can probe on their own
  - Probing does not stop when a partly fitting goal is found
  - When a lower, better fitting goal is found, the probe has too much to agree with  
 → crash

$\bar{A}$ -movement of the object



$\bar{A}$ -feature located on subject → gluttony



[Coon et al. 2021: 20,21]

## Why not a Feature Hierarchy?

- Dependent probes:  $A \rightarrow A'$  hierarchy
- Conjunctive probes: no hierarchy, same strength?  $\rightarrow$  stipulative
- Dependent: crash because the probe has too much to agree with
- Movement restriction: Only one element can be moved
- Problem with independent probing?

## More data

- Japanese imposes a referential requirement on the DP hyperraised to matrix object positions (see Horn 2008).

(79) \* **Topicalisation + Hyperraising** [K. Shimamura, p.c.]

a. \*John-wa konkyomonaku [ nihongo-wa Bill-o hanas-e-ru-to  
John-TOP without.evidence [ Japanese-TOP Bill-ACC speak-can-PRES-REP  
] omot-ta.  
] think-PAST

Int.: 'John thought without any evidence/reason that as for Japanese, Bill could speak (it).'

(80) \* **Focalisation + Hyperraising** [K. Shimamura, p.c.]

a. \*John-wa konkyomonaku [ nihongo-sae Bill-o hanas-e-ru-to  
John-TOP without.evidence [ Japanese-even Bill-ACC speak-can-PRES-REP  
] omot-ta.  
] think-PAST

'John thought without any evidence/reason that even Japanese, Bill could speak.'

## More data

- 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.

(81) \* ***wh*-movement + LDA** [Polinsky and Potsdam 2001: 634]

a. \*enir [ hu micixir b-ok'āk'-ru-li ] b-iyxo  
mother [ who.ERG money.III.ABS III-steal-PSTPRT-NMLZ ] III-knows  
Int.: 'The mother knows who stole the money.'

(82) \* **Topicalisation + LDA** [Polinsky and Potsdam 2001: 636]

a. \*eni-r [ aħ-ā čanaqan-go-gon ziya  
mother-DAT [ shepherd-ERG hunter-POSS.ESS-TOP cow.III.ABS  
bišr-er-xosi-li ] b-iy-xo.  
feed-CAUS-PRSPRT-NMLZ ]<sub>IV</sub> III-know-PRES

'The mother knows that the hunter, the shepherd made (him) feed the cow.'



## More data

- Turkish similarly has a topic restriction on DPs that hyperraised to matrix object positions (Şener 2008).

(83) \* **Relativisation + Hyperraising** [Şener 2008: 34]

a. \* [ (biz-im) [ Mert-i t öp-tü diye ] duy-duğ-umuz ] kızı-Ø  
 [ (we-GEN) [ Mert-ACC t kiss-PAST COMP ] hear-REL-1PL.POSS ] girl-NOM  
hasta-y-mış.  
sick-COP-EVID.PAST

Int.: 'The girl that we heard that Mert kissed is sick.'

(84) \* **wh-movement + Hyperraising** [Şener 2008: 33]

a. \*Pelin [ Mert-i kim-e vur-du diye ] sor-du/merak  
Pelin-NOM [ Mert-ACC who-DAT hit-PAST COMP ] ask-PAST/wonder  
et-ti.  
do-PAST

Int.: 'Pelin asked/wondered who Mert hit.'

## More data

- In Vietnamese, the hyperraised subject can be an idiomatic chunk or a weak quantifier.

(85) **Focalisation + Hyperraising** [K.F. Yip, p.c.]

a. ngay ca sách, anh ta s [ là t cũng không đọc t ]  
even at.all book 3SG.M fear [ COMP t also not read t ]

‘It seems that he does not even read books.’

(86) **Topicalisation + Hyperraising** [K.F. Yip, p.c.]

a. May phim này, Minh s [ là t đu không thích t ] .  
movies this Minh fear [ COMP t all not like t ]

‘These movies, it seems that Minh doesn’t like (them) all.’

## More data

- 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.

(87) *wh*-movement + Hyperraising [Kobayashi 2020: 18]

- a. 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?'

## More data

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

(88) *wh*-movement + LDA [Asarina and Hartman 2011: 8]

a. men [ Ötkür-niŋ qatʃan kel-idi-ɞan-(liq)-i-ni ]  
I [ Öktür-GEN when come-IMPF-RAN-(LIQ)-3.POSS-ACC ]

bil-i-men.

know-IMPF-1SG

‘I know when Öktür will come.’

## More data

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

(89) *wh*-movement + Hyperraising [Bruening 2001: 4]

a. 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.’

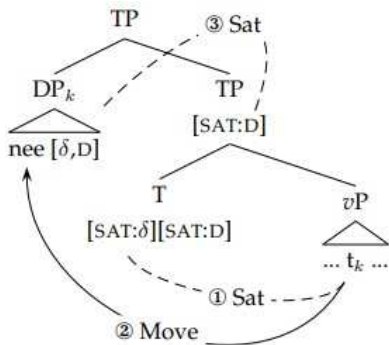
## Conjoined probing: Cyclic Agreement

- 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

## Cyclic Agreement of A'/A Probes

- Extension of Cyclic Agreement (Scott 2021b)
- 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]

## Cyclic Agreement of A'/A Probes



[Scott 2021b: 28]



## Why [A'] and [A] cannot be on two heads

- Problem: Locality
  - At least three logical possibilities
- (90) Assuming  $C_{[A]}$  is higher than  $C_{[A']}$ , i.e.:  $[C_{[A]} [C_{[A']} [TP \dots$
- 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
- For a.:  $CP_{[A']}$  is the complement of the phase  $CP_{[A]}$   
→ A' element at  $\text{Spec}CP_{[A']}$  is blocked by PIC, wrongly banning long-distance A' movement
  - For b.:  $CP_{[A']}$  is the phase  
→ Its complement TP is inaccessible to  $C_{[A]}$ , incorrectly banning CCA
  - For c.: TP is inaccessible to  $C_{[A]}$ , and  $\text{Spec} CP_{[A']}$  is also inaccessible to matrix A' probe  
→ Banning both CCA and long-distance A' movement, which is not the case in independent probing languages

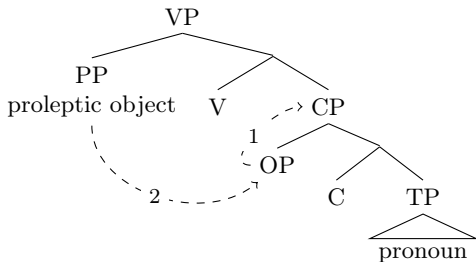
## Against a defective CP

- Ferreira (2000), 2009, Nunes (2008) Martins and Nunes (2010)
  - **Case-assigning head** (T/Infl) is **defective** in HyR (lacks Case or  $\phi$ )
  - No Case is assigned to the subject, DP remains active (Activity Condition)
  - C selecting a defective T/Infl is **not a phase**
- PIC not active
- Or **weak version of PIC**, *Delayed Opacity*: everything c-commanded by C remains accessible until the next head ( $v$ ) is merged (Chomsky 2001, Martins and Nunes 2010, Deal 2017)
- Issues
  - CCA clauses do not show **impoverished** morphology - they look like regular finite clauses, they also usually show **temporal independence** (semantic tense)
  - How comes that the **matrix predicate** influences whether CCA is possible?
  - Is weak PIC **parametrized**? (what about non-CCA languages?)
  - What to do about case-stacking and the CCA.DP agreeing with both the matrix and the embedded verb (see Lohninger et al. 2022)?

## Against phase deactivation

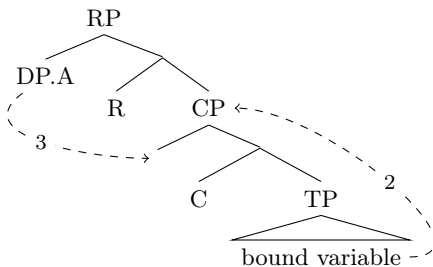
- Matrix  $v$  agrees with **the whole CP**. CP cannot satisfy its  $\phi$ -probe, then CP gets **unlocked/unphased** (Rackowski and Richards 2005)
- CCA:  $v$  agrees with CP, deactivates its phasehood, CCA.DP moves right to the matrix clause **without intermediate step at SpecCP** (Nunes 2008, Halpert 2016, 2019, Lee and Yip 2022)
- (In principle, phase deactivation and CCA via A'/A could combine)
- Issues
- Van Urk and Richards (2015): Agreement between  $v$  and CP is **not enough to dissolve phasehood**, elements still move through SpecCP
- Deal (2017): why are there CPs that are transparent for Agree but not **other operations** at the same time? (Nez Perce Complementizer Agreement & CCA do not show the same distribution (Deal 2017), CCA clause is still a barrier for other A-movement (Lohninger and Yip To appear))
- How is **cross-linguistic variation** predicted? CCA vs. non-CCA languages, A-Minimality, Semantic restrictions, A'-mvt+CCA within the CCA languages?
- Why do CCA.CPs and regular CPs **look the same** (even though one has  $[\Phi]$  whereas the other doesn't)?

## Salzmann 2017: Prolepsis



- 1 OP is base-generated in SpecCP, turns CP into a predicate
- 2 Proleptic object satisfies the open slot of the predicate
- 3 Proleptic object is licensed via predication (not a thematic argument of the matrix clause)

## den Dikken 2006, 2017: Relator Phrase



- 1 DP.A is base-generated in Spec of a predicative relator phrase
- 2 CP contains a bound variable (pronoun); it turns the complement clause (CP) into a predicative RP
- 3 DP.A satisfies the argument slot of the predicate and can A-move into the matrix clause
- 4 There is no OP

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