

Representational economy and interpretability constrain the shape of chains

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1 Introduction

Copy Theory (Chomsky 1993) is the hypothesis that chains are composed by **non-distinct** constituents; movement is what we get from how PF deals with these chains.

(1) $[_{XP} \alpha \dots [_{YP} \alpha \dots [_{ZP} \alpha \dots]]]$

Non-distinctiveness is taken to involve **lexico-syntactic identity**, which is usually introduced in the system through a copying procedure (e.g., Nunes 1995, 2004).

(2) a. $K = [_{TP} \text{ was } [_{VP} \text{ arrested } [_{DP} \text{ Cosmo}]]]$
b. Copy
 $K = [_{TP} \text{ was } [_{VP} \text{ arrested } \text{Cosmo}]]$
 $L = [_{DP} \text{ Cosmo}]$
c. Merge
 $K = [_{TP} [_{DP} \text{ Cosmo}] [_{T'} \text{ was } [_{VP} \text{ arrested } [_{DP} \text{ Cosmo}]]]$

These assumptions are supported by **reconstruction phenomena**, i.e., cases in which a movement gap displays effects of isomorphism with respect to its filler.

(3) * $[_{DP^1} \text{ Which picture of Cosmo}_i] \text{ did he}_i \text{ buy } [_{DP^2} \text{ which picture of Cosmo}_i]?$

Anti-reconstruction effects do not find a straightforward account in this framework. The sentence in (4) is wrongly predicted to violate Condition C if DP^1 and DP^2 are taken to be isomorphic.

(4) $[_{DP^1} \text{ The claim that Cosmo}_i \text{ was asleep}] \text{ seems to him}_i \text{ to be } DP^2 \text{ correct.}$

I suggest that anti-reconstruction phenomena provide evidence for the approach to syntactic movement sketched in (5).

(5) There is no rule of formation of copies or remerge. (Chomsky 2007:10)

The main objective of this talk is to explore the predictions (and costs) of a system based on this idea. The empirical domain to be discussed are some well-known patterns of reconstruction and anti-reconstruction.

Some characteristics of the system we will explore today:

- No copying procedures: movement dependencies are formed from base-generated constituents that are computed as pertaining to a single chain.
- The conditions according to which two (or more) elements form a movement chain are independent from lexico-syntactic isomorphism; they are based on a comparison of the features of the labels of two (or more) constituents.
- The lexico-syntactic structure of movement gaps is constrained by (i) representational economy and (ii) interpretability requirements.
- What ultimately differentiates syntactic movement from anaphoric construal is non-distinctiveness.

2 A classic problem: distinguishing copies and repetitions

Copy Theory should be able to distinguish between copies (i.e., elements pertaining to the same chain) and (transformationally) unrelated repetitions of the same constituent.¹

- (6) a. $\text{Cosmo}^1 \text{ was arrested } \text{Cosmo}^2.$
b. $\text{Cosmo}^1 \text{ arrested Cosmo}^2.$

In previous work (Muñoz Pérez 2017, 2018), I have argued that this distinction can be derived from three assumptions:

- i. Syntactic objects are sets of features; phonological matrices are introduced at PF (e.g., Halle & Marantz 1993).
- ii. Features are ordered pairs $\langle \text{Atr}, \text{VAL} \rangle$ formed by an Attribute and a corresponding VALUE (Gazdar et al. 1985, Adger & Svenonius 2011).
- iii. There are activity features for both A and A'-dependencies, i.e., κ and ω -features, respectively.

According to these assumptions, the label of a DP like *which neighbour* looks like (7).²

$$(7) \quad [_{DP} \text{ which neighbour}] = \begin{cases} \langle \kappa, \emptyset \rangle & \text{abstract Case} \\ \langle \omega, \emptyset \rangle & \text{left-peripheral activity} \\ \langle \text{Quant}, \text{WH} \rangle & \text{wh-feature} \\ \langle \text{Cat}, \text{D} \rangle & \text{category} \\ \langle \text{Num}, \text{SG} \rangle & \text{number} \\ \dots & \text{other features} \end{cases}$$

The basic intuition is that we can know whether two constituents are “the same”, i.e., part of the same chain, by looking at their features.

- (8) Non-distinctiveness
A constituent β is non-distinct from a constituent α if for every feature-value of β there is an identical feature-value in α .

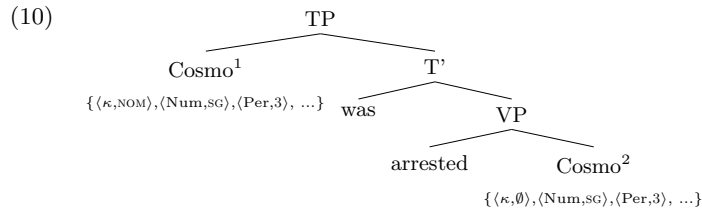
The definition of Non-distinctiveness in (8) supposes a representational algorithm of chain recognition as the following.

¹See Collins & Groat (2018) for relevant discussion.

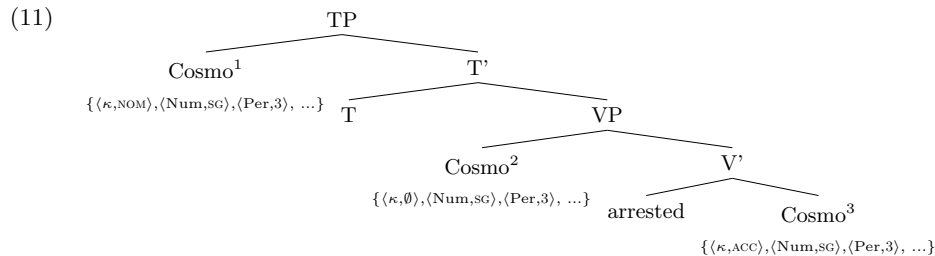
²I tentatively follow Rizzi (2004) in assuming that wh-features pertain to the Quantificational class.

- (9) Two constituents α and β are part of the same chain if:
- α c-commands β ,
 - β is non-distinct from α ,
 - there is no δ between α and β such as β is non-distinct from δ , or δ is non-distinct from α .

In (6a) both occurrences of *Cosmo* should form a single chain $CH = \{\text{Cosmo}^1, \text{Cosmo}^2\}$.



While in (6b), the overt occurrences of *Cosmo* pertain to different chains $CH_1 = \{\text{Cosmo}_1, \text{Cosmo}^2\}$ and $C_2 = \{\text{Cosmo}^3\}$.



For the purposes of this presentation, I need you to remember the following.

(12) Traits of this system

- Given $[_{XP} \alpha \dots [_{YP} \beta \dots]]$, in which α and β form a chain $CH = \{\alpha, \beta\}$,
- the internal structure of α and β is irrelevant for chain recognition,
 - β may be underspecified with respect to α .

3 What if we abandon the Copy operation?

There are two immediate main consequences of abandoning the Copy operation:

- Chains must be computed from base-generated constituents.
- Isomorphism between chain-members is no longer a primitive of movement dependencies.

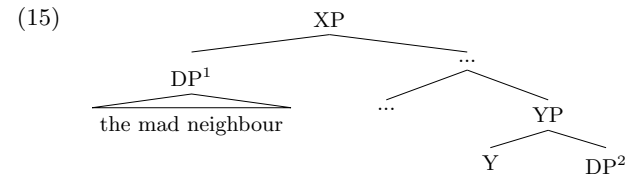
The conditions on chain recognition in (9) do not constrain the lexico-syntactic form of chain-members; they just look at features. Without the Copy operation, the representation in (13) would yield the chain $CH = \{\text{DP}^1, \text{DP}^2\}$.

- (13) $[_{TP} [_{DP^1} \text{The neighbour}] [_{T'} \text{was} [_{VP} \text{arrested} [_{DP^2} \text{the neighbour that I met when I moved to my new place}]]]]]$

This unwanted result may be filtered by appealing to **representational economy**. Following and adapting the account of Condition C in Schlenker (2005), I take that the distribution of restrictors in DPs is regulated by a principle of non-redundancy. Unlike Schlenker's *Minimize Restrictors!*, I assume that (i) the relevant principle applies under c-command, and (ii) extends to any type of DP, not only definite descriptions.³

- (14) Given a DP^1 that c-commands an anaphorically dependent DP^2 , the restrictor in DP^2 must be as little redundant **as possible** with respect to the restrictor in DP^1 .

This principle introduces a **competition between DPs that may function anaphorically with respect to a DP^1** . The set of competing DPs to occupy a position DP^2 in a chain $CH = \{\text{DP}^1, \text{DP}^2\}$ is constrained by the algorithm in (9). Take the example in (15).



According to (14), DP^1 determines the internal structure of DP^2 . The potential candidates to occupy the DP^2 position can be ranked.

- (16) Ranking of minimization of restrictors
- Bare $\text{D}^{\text{min/max}}$ (no restrictor)
[_{DP} D]
 - Pronoun (φ -features as restrictor)
[_{DP} D_φ]
 - Noun phrase
[_{DP} D NP_{⟨e,t⟩}]
 - Noun phrase + optional modifiers
[_{DP} D [NP NP_{⟨e,t⟩} ADJ_{⟨e,t⟩}]]

The constituent DP^2 in (13) is a bad pick to function as DP^1 's gap for the same reasons.

- (17) Alternatives for DP^2 in (13)
[_{DP} the] > [_{DP} he] > [_{DP} the neighbour] > [_{DP} the neighbour that I met...]

Independently motivated economy principles also constrain the shape of gaps. Notice that (13) violates the *Full Interpretation Principle*.

- (18) Full Interpretation (Chomsky 1986:98)
Every element of PF and LF must receive an appropriate interpretation. None can simply be disregarded. At the level of PF, each phonetic element must be licensed by some physical interpretation.

Since none of the constituents within the relative clause in (13) satisfies Full Interpretation, the representation should be ruled-out.⁴ **The relevant consequence of adopting (18) is that the lexical material that may be interpreted in a gap position is restricted to what appears in the filler.**

³Applying this type of principle to chain-members entails an unification of movement and construal relations that I will not discuss now.

⁴A similar kind of prediction could also be obtained by appealing to *conditions on recoverability of deletion*.

⁷Notice that both DPs in (25a) have the same feature-values. This issue is discussed in section A.1.

- (28) a.
- b. *For what x , x an argument that Cosmo_i made, he_i believed **the argument x***

On the contrary, the transitive variant of *argument* in (26b) selects a complement CP, i.e., the “smallest” NP formed with this N does contain the CP.

- (29) Alternatives for DP² in (26b)
- ... > [DP what_φ] > [DP which argument that Cosmo is a genius]
- * THIS ONE!

Since the complement is required to be part of the gap, it triggers Condition C violations.

- (30) a.
- b. ** For what x , x an argument that Cosmo_i is a genius, he_i believed **the argument x that Cosmo_i is a genius***

4.4 Optional reconstruction in gaps of A-movement

Accounting for A'-reconstruction involves positing “rigid” conditions to predict that A'-gaps **always reconstruct** in certain positions. On the contrary, dealing with reconstruction in A-movement requires taking **optionality** into consideration.

Consider the following example taken from Lebeaux (2009:47).

- (31) [_{DP1} His_i picture of the president_k] seemed to every man_i $\overline{\text{DP}}^2$ to be seen by him_k $\overline{\text{DP}}^3$ to be a real intrusion.

In this sentence, the NP *picture of the president* must not reconstruct in DP³, but the pronoun *his* must do so in DP² to be bound by the quantifier *every man*. I assume that prenominal possessors involve a DP structure like the one sketched in (32).⁸

- (32) a.
- b.

I take that **DPs headed by D_{POSS} can only form chains with other DPs headed by D_{POSS}**.⁹ As a consequence, there are only two options for the DP² position.

- (33) Alternatives for DP² with respect to DP¹ in (31)
- [DP D_{POSS}] > [DP his picture of the president]
- OK ALLOWS BINDING *his*

As pointed out by Schlenker (2005), **violations of the minimization principle are allowed if they introduce new semantic effects**. Therefore, picking a redundant occurrence of *his picture of the president* in the DP² position is allowed in this case.

In contrast, there is no interpretative difference whether a full occurrence of *his picture of the president* appears in DP³ or not. Therefore, D_{POSS} should be preferred:

- (34) Alternatives for DP³ with respect to DP² in (31)
- [DP D_{POSS}] > [DP his picture of the president]
- THIS ONE!

So the resulting representation is the one sketched in (35).

- (35)

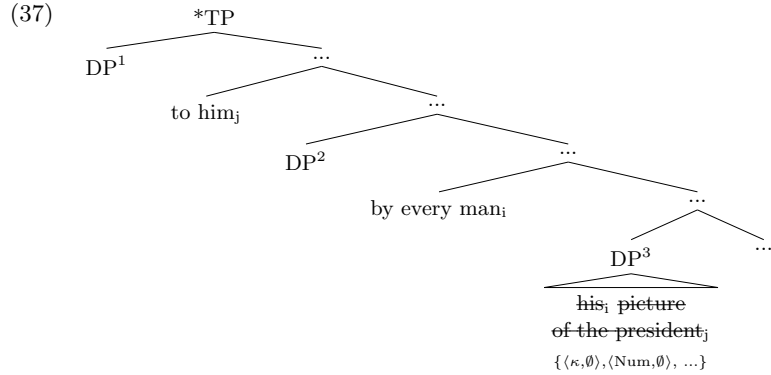
Exactly the same assumptions allow to explain the unacceptability of the sentence in (36), also from Lebeaux (2009):

- (36) * [_{DP1} His_i picture of the president_k] seemed to him_k $\overline{\text{DP}}^2$ to be seen by every man_i $\overline{\text{DP}}^3$ to be a real accomplishment.

⁸As discussed in Alexiadou et al. (2007), there are a number of alternatives to maintain that the possessor is generated below D⁰. I remain agnostic regarding the details of the analysis.

⁹This follows from the conditions in (9) under different assumptions, e.g., suppose that [_{D0} has an unvalued feature ⟨Atr, θ⟩ that attracts an NP to Spec, D_{POSS}, while other elements of the determiner type (i.e., the definite determiner *the*, pronouns, etc.) have a by-default valued version of the same feature ⟨Atr, DEF⟩.

In this case, the whole DP *his picture of the president* must appear in the position DP³ for the pronoun *his* to be bound by *every man*. However, this causes a Condition C violation as the pronoun *him* c-commands the R-expression *the president*.



As a last example, take a case of optional reconstruction for narrow scope as the one exemplified in (38). This sentence is ambiguous regarding the scope of the indefinite.

(38) A Russian seems to have won the race. $(\exists \succ \text{seem}; \text{seem} \succ \exists)$

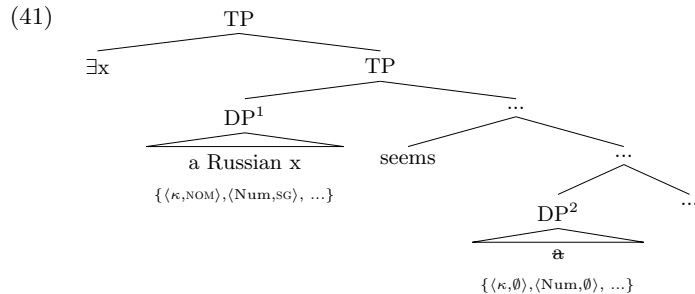
This ambiguity finds a straightforward explanation under the assumption that indefinite DPs are variables that get bound through existential closure (Heim 1982). Assume first that an existential quantifier is introduced at the level of the matrix clause, so the indefinite DP¹ gets bound by it.

(39) $\exists x$ [_{DP1} A Russian x] seems DP^2 to have won the race.

Since DP¹ is the element of the chain $\text{CH} = \{\text{DP}^1, \text{DP}^2\}$ that is interpreted as a variable, there is no use in DP² having internal structure.

(40) Alternatives for DP² in (39)
 $\underbrace{[\text{DP } a]}_{\text{THIS ONE!}} > [\text{DP } a \text{ Russian}]$

The resulting representation should be similar to the one sketched in (41).



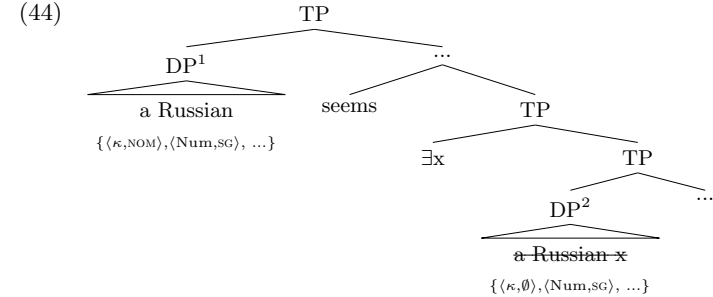
However, things may be different if the existential is introduced in the subordinate clause below *seems*, as sketched in (42).

(42) [_{DP1} A Russian] seems [_{TP} $\exists x$ DP^2 to have won the race].

In this configuration, including an NP restrictor in DP² introduces a new semantic effect, i.e., the existential can be interpreted in the scope of *seems*.

(43) Alternatives for DP² in (42)
 $\underbrace{[\text{DP } a]}_{\text{OK}} > \underbrace{[\text{DP } a \text{ Russian}]}_{\text{ALLOWS seem} \succ \exists}$

The basic representation for this interpretation is as follows.



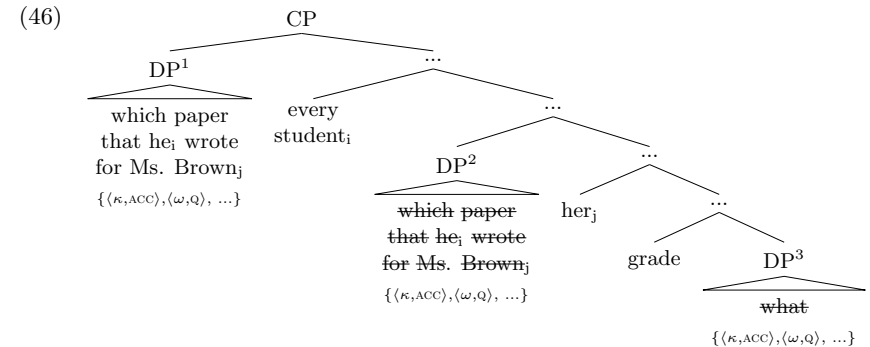
5 Rethinking interpretability conditions for wh-gaps

I tend to understand this system as **a framework for the study of reconstruction**, i.e., it provides **the means** to account for reconstruction phenomena in a principled manner; **the proper nature of the interpretability conditions that regulate reconstruction must still be worked out**.

While I have adopted the idea that wh-gaps must be able to be interpreted as anaphoric definite descriptions through Trace Conversion (23), such a requisite does not seem to apply for every single wh-gap. Consider the following pair from Fox (1999:174–175)

(45) a. [_{DP1} Which paper that he_i wrote for Ms. Brown $_j$] did every student $_i$ DP^2 get he_{rj} to grade DP^3 ?
 b. * [_{DP1} Which paper that he_i wrote for Ms. Brown $_j$] did she_j DP^2 get every student $_i$ to revise DP^3 ?

The acceptability of the example (45a) depends on the wh-phrase not being in DP³. Our definition of Non-Distinctiveness allows a wh-pronoun to occupy this position.



However, this just shows that the system is flexible enough to account for anti-reconstruction. As far as I know, there is no articulated proposal explaining the distribution of isomorphism effects in wh-chains.¹⁰ Anti-reconstruction effects in wh-movement are far from being exceptional. The following example is from Huang (1993). While Huang judges it slightly degraded, Thoms (2010) considers it good.

- (47) $[_{DP^1}$ How many pictures John_i] do you think \bar{DP}^2 he_i will like DP^3 ?

As Thoms (2010) observes, **there seems to be no reconstruction in the base position of a wh-chain.**

- (48) No reconstruction in DP^4
- ? $[_{DP^1}$ Which picture of George_i] did Elaine say DP^2 that Carol thinks DP^3 that he_i saw DP^4 ?
 - * $[_{DP^1}$ Which picture of George_i] did Elaine say DP^2 that he_i thinks DP^3 that Carol saw DP^4 ?
- (49) No reconstruction in DP^3 (Thoms (2010))
- * Morag helped him_i with most of Tam's_i homework.
 - * $[_{DP^1}$ Which of Tam's_i assignments] did Morag \bar{DP}^2 help him_i with \bar{DP}^3 ?
- (50) No reconstruction in DP^3 (Thoms (2010))
- * I introduced him_i to four of Tam's_i friends.
 - $[_{DP^1}$ Which of Tam's_i friends] did you \bar{DP}^2 introduced him_i to \bar{DP}^3 ?

I take these patterns to provide further evidence that gaps are not copies of a moved constituent, but may be structurally simpler as predicted by the algorithm in (9). For the moment, we can attempt to describe these facts under a single generalization.

- (51) Observation
Given a clause C containing the foot of a wh-chain CH, the highest/leftmost gap of CH in C must be an anaphorical definite description.

6 Binding and chains

The principle in (14) refers to anaphoric DPs, no matter they pertain to movement chains or not. Therefore, we should be able to account for the distribution of anaphoric elements other than gaps.

As Schlenker (2005) originally intended, the minimization principle in (14) allows to account for Condition C.

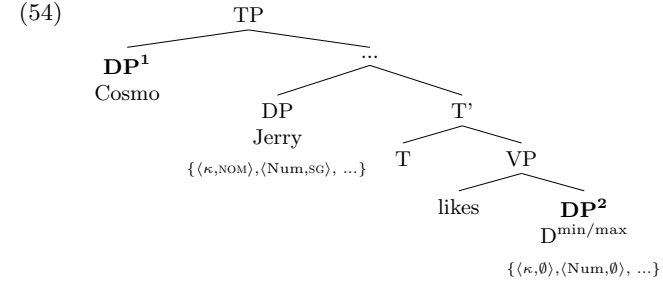
- (52) a. * $[_{DP^1}$ Cosmo_i] says that Jerry likes $[_{DP^2}$ Cosmo_i].
b. $[_{DP^1}$ Cosmo_i] says that Jerry likes $[_{DP^2}$ him_i].

This pattern is the product of a competition between a $D^{\min/\max}$, a pronoun and the DP *Cosmo* for occupying the DP^2 position.

- (53) Alternatives for DP^2 in (52)
 $\underbrace{[_{DP} D^{\min/\max}] > [_{DP} D_\varphi]}_{*} > [_{DP} \text{Cosmo}]$
THIS ONE!

¹⁰Although, see Thoms (2010) for a proposal.

Notice that $D^{\min/\max}$ cannot occupy this position as it is not able to receive Case; without accusative Case, DP^2 would be able to form a chain with the DP *Jerry*, which would yield a rather different interpretation.¹¹



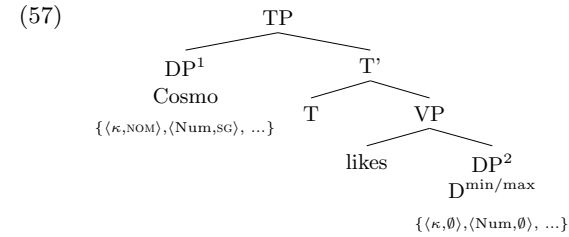
In a similar way, we would like (14) to derive the fact that pronouns do not allow expressing reflexivity.

- (55) * $[_{DP^1}$ Cosmo_i] likes $[_{DP^2}$ him_i].

The way in which (14) could predict this is by proposing that a $D^{\min/\max}$ is a better candidate for the position DP^2 than a pronoun.

- (56) Alternatives for DP^2 in (55)
 $\underbrace{[_{DP} D^{\min/\max}] > [_{DP} D_\varphi]}_{\text{THIS ONE!}} > [_{DP} \text{Cosmo}]$

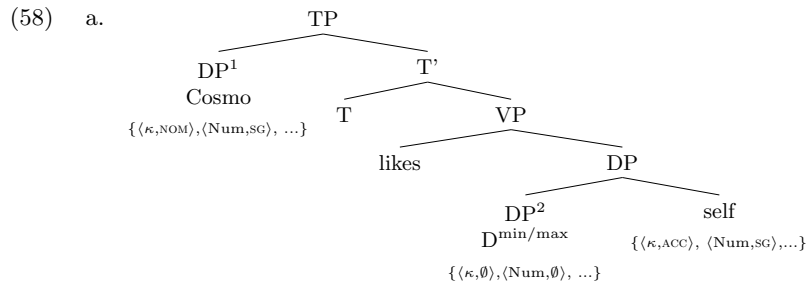
In this configuration, DP^1 and DP^2 form a chain $CH = \{DP^1, DP^2\}$.



The idea that reflexivity involves an A-chain has been already advanced by Hornstein (2001) and Boeckx et al. (2009), among others.

One of the main challenges to this hypothesis is accounting for morphologically complex reflexives as *himself*. As a tentative solution, I adopt the analysis advanced in Boeckx et al. (2009) with certain modifications. Basically, *self* adjoins to DP^2 , and receives accusative Case; as a consequence, it is spelled-out as himself.

¹¹The embedded predicate *like* would be interpreted as reflexive. See discussion with respect to (55).



b. $[_{DP^1} \text{Cosmo}]_i$ likes $[_{DP^2} \text{D}^{\text{min/max}}]_i$ himself.

Evidence for the idea that complex reflexives are a sort of adjunct: they seem to be sensitive to weak islands. The following data is from Hornstein (2001:163)

- (59) a. It's himselfⁱ that I said that Bill amuses tⁱ with card tricks
 b. ? It was John that I wondered why Bill amuses tⁱ.
 c. * It was himself that I wondered why Bill amuses tⁱ.

Alternative analyses could be advanced.¹² Crucially, this approach does not imply **reducing** reflexivity to A-movement. The prediction seems to be that **A-chains are a component of reflexivity**, not necessarily reflexivity itself.

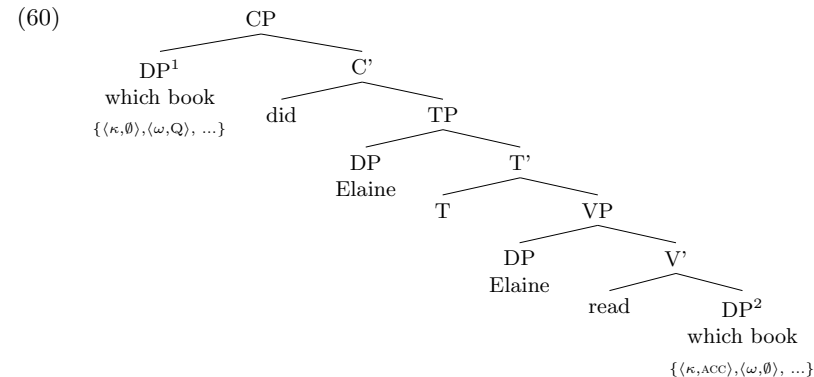
7 Concluding remarks

- Non-distinctiveness can be defined through a comparison of the feature-values of two constituents; such a definition does not enforce any type of isomorphism between chain-members.
- I argued that isomorphism and non-isomorphism between chain-members is the result of a tension between representational economy and interpretability: movement gaps are the smallest possible syntactic objects unless additional material is required for interpretation/convergence.
- The approach was shown to be able to capture a number of reconstruction and anti-reconstruction patterns.
- The proposal unifies the behaviour of construal relations and movement in a promising way.

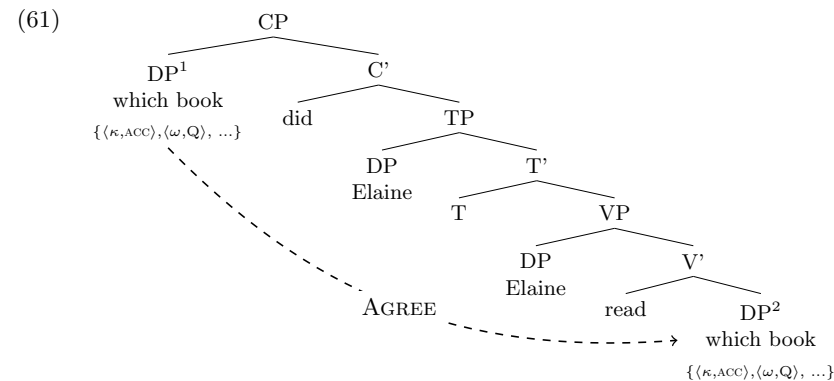
A Appendix: constraining the system

A.1 Base-generating elements in Spec,C

A base-generated wh-phrase in the specifier of an interrogative complementizer can satisfy its ω -feature, but its κ -feature remains unvalued.



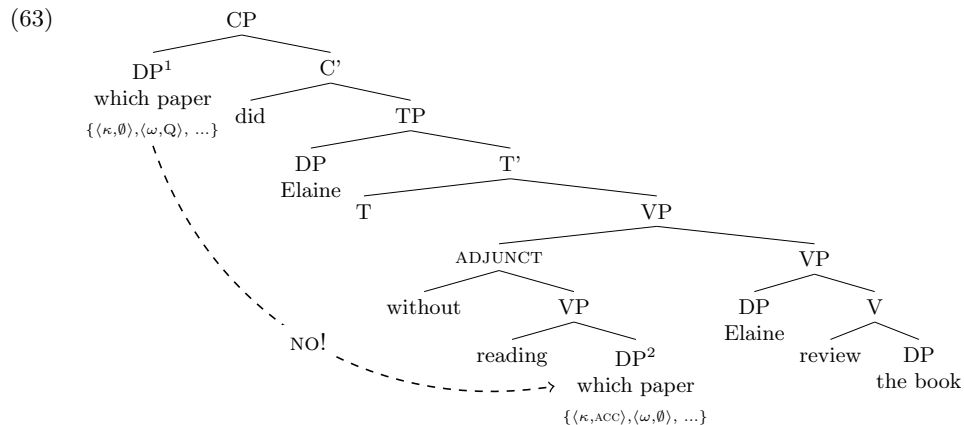
The κ -feature of DP¹ in (60) may be satisfied through Agree with DP², as in (61). This way, both DPs get a value for their remaining activity-features, i.e., DP¹ gets a value for its $\langle \kappa, \emptyset \rangle$ and DP² for its $\langle \omega, \emptyset \rangle$.



This predicts an interesting behaviour with respect to strong islands. If DP² is inside an island, the Probe DP¹ cannot reach it. Therefore, a sentence like the one exemplified in (62) is unacceptable due to an unvalued κ -feature in DP¹.

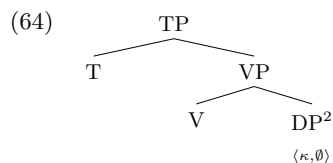
- (62) * $[_{DP^1} \text{Which paper}]$ did Elaine review the book $[_{\text{ADJUNCT}} \text{without reading } DP^2]$?

¹²For instance, the current proposal could be used to complement Reinhart & Reuland's (1993) system: their coindexing requirement could be reduced to an A-chain, the principle in (14) could replace their *chain condition*, and introducing a reflexive like *himself* as an adjunct would be a way to license the reflexive reading of a non-inherent reflexive verb.

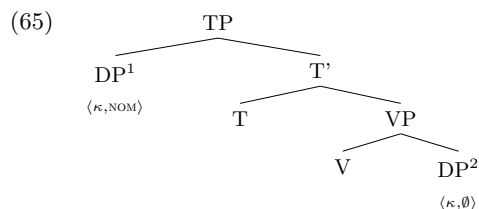


A.2 Assumptions about agreement and the EPP

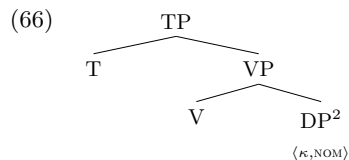
This system requires Agree to apply in two configurations: either the Probe c-commands the Goal, or they are in a Spec-Head relation. Consider the derivation of an unaccusative structure.



In this configuration, either DP² and T agree, or they do not. Assume they do not. In this case, a DP¹ must be merged as late as in Spec,T to value the features on T and receive nominative Case (65). In this scenario, DP¹ and DP² form a chain.

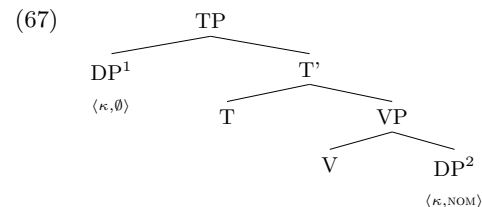


The EPP may be understood as a requirement for establishing Spec-Head Agree, as sketched in the structure in (65). Suppose now that T and DP2 do agree in (64), so DP² receives nominative Case.



Derivations following the lines of (66) account for post-verbal subjects in languages like Spanish.

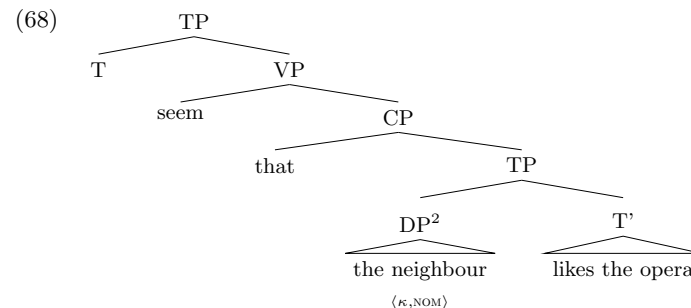
Notice that T would not be able to agree with a potential specifier DP¹ as T's φ -features are already valued. Moreover, DP¹ will not form a chain with DP² as they do not comply with (9).



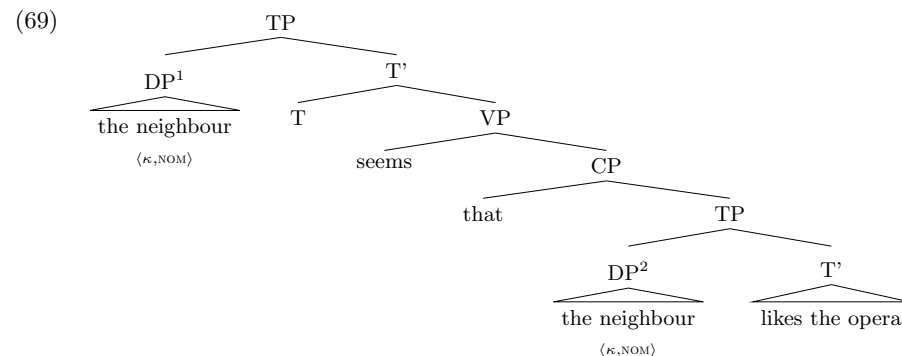
As DP¹ and DP² do not form a chain, DP¹ does not receive a theta-role. Therefore, it violates the Full Interpretation Principle in a similar way as the DP *John* would do so in a sentence like *John rains*.

A.3 Avoiding “unnecessary” movement, e.g., hyper-raising

Take a representation like (68).



According to my assumptions, it should be possible merging a DP¹ in Spec,T. This DP would receive nominative Case and form a chain with DP².



Such a derivation leads to an unacceptable outcome.

(70) *The neighbour seems that likes the opera.

This unwanted result could be avoided by incorporating an additional condition to the mechanism of chain recognition in (9).

(71) The head of a chain CH must properly include the values of the next chain-member in CH.

References

- Adger, David & Peter Svenonius. 2011. Features in minimalist syntax. In Cedric Boeckx (ed.), *The Oxford handbook of linguistic minimalism*, 27–51. Oxford: Oxford University Press.
- Alexiadou, Artemis, Liliane Haegeman & Melita Stavrou. 2007. *Noun phrase in the generative perspective* (Studies in Generative Grammar 71). Berlin: Mouton de Gruyter.
- Boeckx, Cedric, Norbert Hornstein & Jairo Nunes. 2009. Copy-reflexive and copy-control constructions: A movement analysis. *Linguistic Variation Yearbook* 8. 61–100. doi:10.1075/livy.8.03boe.
- Chomsky, Noam. 1986. *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In Kenneth Halle & Samuel Keyser (eds.), *The view from building 20*, 1–52. Cambridge, MA: The MIT Press.
- Chomsky, Noam. 2007. Approaching UG from below. In Uli Sauerland & Hans-Martin Gärtner (eds.), *Interfaces + Recursion = Language?: Chomsky's minimalism and the view from syntax-semantics*, chap. 1, 1–29. Berlin: Mouton de Gruyter.
- Collins, Chris & Erich Groat. 2018. Copies and repetitions. *Ms*.
- Fox, Danny. 1999. Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry* 30(2). 157–196. doi:10.1162/002438999554020.
- Fox, Danny. 2002. Antecedent-contained deletion and the copy theory of movement. *Linguistic Inquiry* 33(1). 63–96. doi:10.1162/002438902317382189.
- Freidin, Robert. 1986. Fundamental issues in the theory of binding. In Barbara Lust (ed.), *Studies in the acquisition of anaphora*, 151–188. Dordrecht: Reidel.
- Gazdar, Gerald, Ewan H. Klein, Geoffrey K. Pullum & Ivan Sag. 1985. *Generalized phrase structure grammar*. Cambridge, MA: Harvard University Press.
- Halle, Morris & Alec Marantz. 1993. Distributed morphology. In Kenneth L. Hale & Samuel Jau Keyser (eds.), *The view from Building 20: essays in linguistics in honor of Sylvain Bromberger*, 111–176. Cambridge, MA: The MIT Press.
- Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases*: University of Massachusetts dissertation.
- Hornstein, Norbert. 2001. *Move! a minimalist theory of construal*. Malden, MA: Blackwell.
- Huang, C.T. James. 1993. Reconstruction and the structure of VP: some theoretical consequences. *Linguistic Inquiry* 24(1). 103–138.
- Lebeaux, David. 1988. *Language acquisition and the form of the grammar*. Amherst, MA.: University of Massachusetts dissertation.
- Lebeaux, David. 2009. *Where does binding theory apply?* Cambridge, MA: MIT Press.
- Muñoz Pérez, Carlos. 2017. *Cadenas e interfaces*. Buenos Aires: University of Buenos Aires dissertation.
- Muñoz Pérez, Carlos. 2018. Recognizing copies: On the definition of non-distinctiveness. *Glossa: a journal of general linguistics* 3(1). 1–29. doi:10.5334/gjgl.271.
- Nunes, Jairo. 1995. *The copy theory of movement and linearization of chains in the minimalist program*. College Park: The University of Maryland dissertation.
- Nunes, Jairo. 2004. *Linearization of chains and sideward movement*. Cambridge, MA: The MIT Press.
- Reinhart, Tanya & Eric Reuland. 1993. Reflexivity. *Linguistic Inquiry* 24(4). 657–720.
- Rizzi, Luigi. 2004. Locality and left periphery. In Adriana Belletti (ed.), *Structures and beyond: The cartography of syntactic structures*, vol. 3, chap. 7, 223–251. Oxford: Oxford University Press.
- Schlenker, Philippe. 2005. Minimize restrictors! (notes on definite descriptions, condition C and epithets). In Emar Maier, Corien Bary & Janneke Huitink (eds.), *Proceedings of Sinn und Bedeutung 9*. 385–416. Nijmegen: NCS.
- Takahashi, Shoichi & Sarah Hulsey. 2009. Wholesale late merger: Beyond the A/ \bar{A} distinction. *Linguistic Inquiry* 40(3). 387–426. doi:10.1162/ling.2009.40.3.387.
- Thoms, Gary. 2010. Syntactic reconstruction and scope economy. In *Glow 33*. Wrocław: University of Wrocław. Handout.
- van Riemsdijk, Henk & Edwin Williams. 1981. NP-structure. *The Linguistic Review* 1(2). 171–217. doi:10.1515/tlir.1981.1.2.171.