

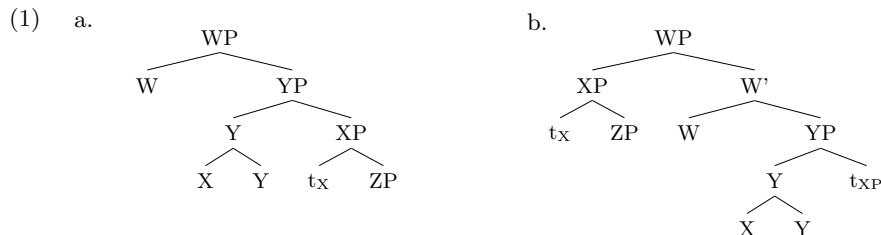
# Headless XP-movement leads to ambiguity

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## 1 Introduction

The trees in (1) illustrate a case of **Headless XP-movement**.



This type of derivation is supposed to be prohibited.

- (2) Takano's Generalization (Takano 2000:146)  
 Remnant movement of  $\alpha$  is impossible if the head of  $\alpha$  has moved out of  $\alpha$ .

The generalization in (2) finds support in the unacceptability of the following sentences.

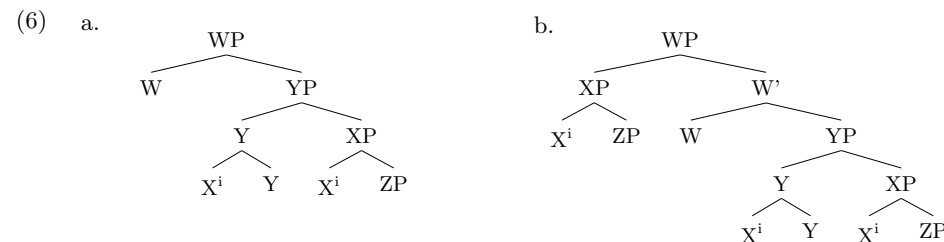
- (3) \*It's [<sub>VP</sub> a book t<sup>i</sup> to Mary]<sup>j</sup> that John gave<sup>i</sup> t<sup>j</sup>. English (Takano 2000:145)  
 (4) \* [<sub>VP</sub> Ihr ein Buch t<sup>i</sup> ]<sup>j</sup> gab<sup>i</sup> Hans t<sup>j</sup>.  
 her a book gave Hans  
 'Hans gave her a book.' German (Haider 1990, as cited in Takano 2000:145)  
 (5) \* [<sub>VP</sub> Het boek aan Marie t<sup>i</sup> ]<sup>j</sup> gaf<sup>i</sup> Jan (waarschijnlijk) t<sup>j</sup>.  
 the book to Marie gave Jan probably  
 'Jan (probably) gave the book to Marie.' Dutch (Takano 2000:145)

Some authors have proposed that narrow syntax cannot generate structures like (1b).

### Takano (2000)

- It is a matter of cyclicity.
- *Attract/Move F* always targets the formal features of a head.
- When remnant movement must apply to XP, X has already left XP.

As Funakoshi (2012) points out, it is not obvious how this explanation holds once *Copy Theory* (Chomsky 1993, 1995) is adopted. As shown in (6), the original (unpronounced) copy of X should be able to move together with its complement to Spec,W.



### Funakoshi (2012)

- It is a matter of locality and economy.
- Once a head X is adjoined to a higher head Y, both X and XP are equally accessible for an attracting Probe W.
- Economy considerations dictate that only X can move.

### In this presentation

- There is no narrow syntactic restriction on Headless XP-movement.
- Headless XP-movement leads to mismatches in the syntax-PF mapping; particularly, it creates ambiguous outputs.
- PF may apply repair mechanisms to solve these mismatches; one of these mechanisms is multiple copy spell-out.

The main empirical domain from which these conclusions are drawn is **emphatic doubling in Rioplatense Spanish**.

## 2 Emphatic doubling in Rioplatense

This construction may be found in *Lunfardo speech*, i.e., Buenos Aires' slang from the early twentieth century.<sup>1</sup> It typically exhibits a V<sup>1</sup>-XP-V<sup>2</sup> pattern.<sup>2</sup>

- (7) V<sup>1</sup> ... arguments/adjuncts ... V<sup>2</sup>

At a pragmatic level, emphatic doubling typically introduces a mirative-like type of interpretation, i.e., the clause expresses information that is supposed to be surprising or unexpected to the hearer.<sup>3</sup>

- (8) a. Los bifes **parecían** aplausos, **parecían**.  
 the slaps seemed claps seemed  
 'The slaps sounded like claps!'

C. Flores, *Biaba*

<sup>1</sup>My impression is that the construction is disappearing as younger speakers (e.g., my own students) do not recognize it.

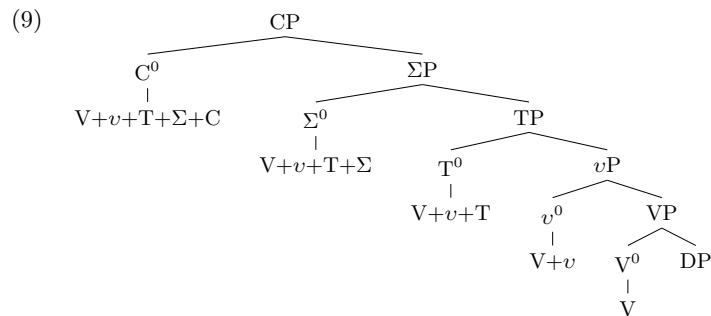
<sup>2</sup>See Jokilehto (2016) for discussion of similar data in Roman Italian.

<sup>3</sup>While mirativity is many times defined with respect to the **speaker's** point of view (e.g., DeLancey 1997), the notion also subsumes cases in which a proposition is surprising or unexpected to an addressee or to a character in a narration (e.g., Aikhenvald 2012).

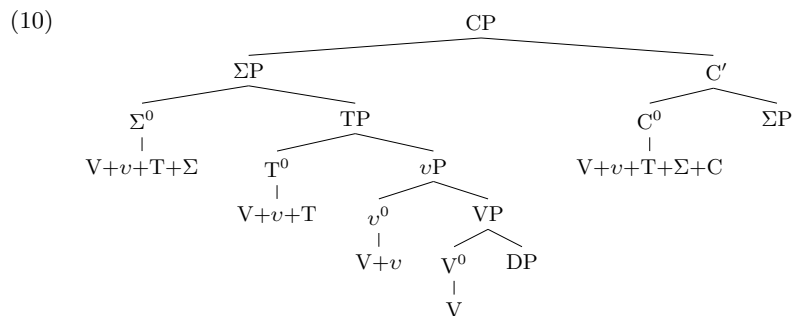
- b. **Son** ocho no más, **son**.  
are.3PL eight not more are.3PL  
'They are eight and nothing more!' R. Güiraldes, *Don Segundo Sombra*
- c. **Lo** atamos con alambre, **lo** atamos.  
it.CL tie.1PL with wire it.CL tie.1PL  
'We tie it with wire!' I. Copani, *Lo atamo' con alambre*
- d. **Compré** el auto gris, **compré**.  
bought.1SG the car grey bought.1SG  
'I bought the grey car!'
- e. ¡**Te** vas de acá, **te** vas!  
CL.2SG go.2SG from here CL.2SG go.2SG  
'Leave!'

## 2.1 Derivation

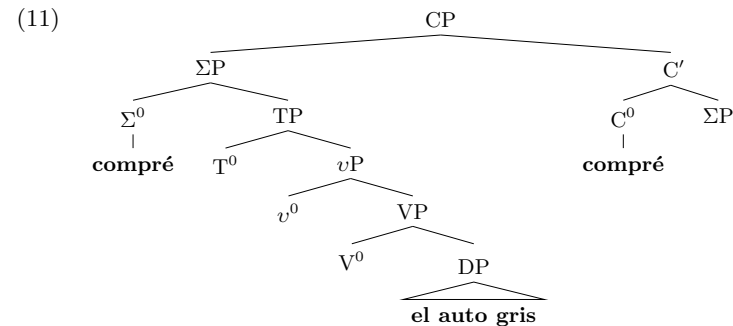
Saab (2011, 2017) advances an analysis of emphatic doubling in terms of remnant movement. As a **first step**, the lexical verb moves to  $C^0$  passing through  $\Sigma^0$  (Laka 1990),  $T^0$  and  $v^0$ , i.e., V-v-T- $\Sigma$ -C movement. For the moment, I ignore matters of chain pronunciation.



**Second**, a copy of  $\Sigma P$  is merged in Spec,C. Notice that the head of  $\Sigma P$  has been already extracted from this constituent, so this derivation involves **Headless XP-movement**.



Under standard circumstances, only the verb in  $C^0$  should be spelled-out. Pronouncing the complex head  $\Sigma^0$  within Spec,C allows deriving the doubling patterns exemplified in (8). I will come back to the reasons for multiple copy pronunciation in section 3. The representation in (11) corresponds to the example in (8d).



While Takano (2000) and Funakoshi (2012), among others, argue that Headless XP-movement is prohibited by Universal Grammar at the narrow syntactic level, there are many reasons to think that Saab's derivation is on the right track.

## 2.2 $V^1$ and $V^2$ are copies

Both verbs seem to be transformationally related copies, as **they must be morphologically identical**.

- (12) a. **Compré** el auto, **compré**.  
bought.1SG the car bought.1SG  
'I bought the car!'
- b. \***Compré** el auto, **comprar**.  
bought.1SG the car to.buy  
'I bought the car!'
- c. \*¡**Comprá** el auto, **comprás**!  
buy.2SG.IMP the car buy.2SG.DECL  
'Buy the car!'

This identity condition also extends to clitics; if a clitic-like element is associated to  $V^1$ , it must also appear in  $V^2$ , and vice versa. This follows straightforwardly from Saab's derivation under the assumption that clitics are incorporated to verbs (e.g., Roberts 2010).

- (13) a. **Se** lo compré a Juan, **se** lo  
CL.3SG.DAT CL.3SG.ACC bought.1SG to Juan CL.3SG.DAT CL.3SG.ACC  
compré.  
bought.1SG  
'I bought it for Juan!'
- b. \*Compré **el auto**, **lo** compré.  
bought.1SG the car CL.3SG.ACC bought.1SG  
'I bought the car!'
- c. \***Se** lo compré a Juan, lo compré.  
CL.3SG.DAT CL.3SG.ACC bought.1SG to Juan CL.3SG.ACC bought.1SG  
'I bought it for Juan!'

Notice that **these identity conditions are much stricter than in *predicate doubling***.<sup>4</sup>

(14) Predicate doubling (aka *VP-fronting*, *VP-cleft*)

- a. Comprar, compré el auto  
to.buy bought.1SG the car  
'As for buying, I bought the car'.
- b. Comprar el auto, lo compré  
to.buy the car CL.3SG.ACC bought.1SG  
'As for buying the car, I bought it'.

Coming back to emphatic doubling, since both verbs occupy positions as high as  $\Sigma^0$ , it is predicted that **negation must appear in both verbal forms**, as shown in (15).

- (15) a. ¡No vas a la fiesta, no vas!  
not go.2SG to the party not go.2SG  
'You are not going to the party!'
- b. No tengo ganas, no tengo.  
not have.1SG desire not have.1SG  
'I'm not in the mood!'
- c. \*No vino Ernesto, vino.  
not came.3SG Ernesto came.3SG  
'Ernesto didn't come!'

## 2.3 No XPs around V<sup>2</sup>

The rightmost verb cannot be accompanied by non-clitic arguments nor adjuncts.

- (16) a. Compré el auto, compré.  
bought.1SG the car bought.1SG  
'I bought the car!'
- b. \*Compré el auto, compré el auto.  
bought.1SG the car bought.1SG the car  
'I bought the car!'
- c. \*Compré el auto, compré ayer.  
bought.1SG the car bought.1SG yesterday  
'I bought the car yesterday!'

These facts follow straightforwardly if the rightmost verb is a stranded head left behind after remnant movement of  $\Sigma P$ .

## 2.4 Ordering restrictions

**All non-clitic constituents must appear “around” the leftmost verb V<sup>1</sup>.** There is an asymmetry, however, depending on whether these elements are in preverbal or postverbal positions. **Postverbally, constituents must be in their basic unmarked order**, e.g., the direct object must precede the indirect object.

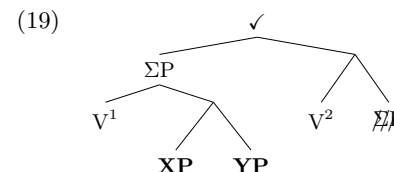
<sup>4</sup>See Vicente (2007, 2009), Saab (2017), Muñoz Pérez (2017), among others, for discussion of this construction in Spanish.

- (17) a. Le compré el auto a María, le compré.  
CL.3SG.DAT bought.1SG the car to María CL.3SG.DAT bought.1SG  
'I bought the car for Mary!'
- b. ?? Le compré a María el auto, le compré.  
CL.3SG.DAT bought.1SG to María the car CL.3SG.DAT bought.1SG  
'I bought the car!'

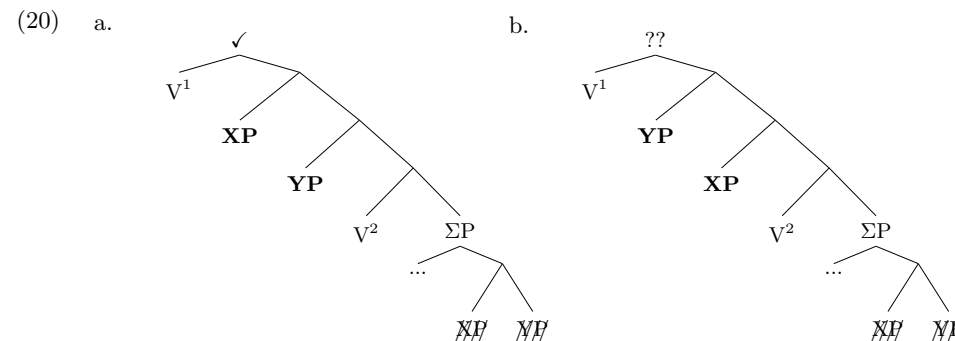
Postverbal subjects are acceptable only with intransitive verbs, or in case other constituents in the VP moved to the left periphery.

- (18) a. Vino Ernesto, vino.  
came.3SG Ernesto came.1SG  
'Ernesto came!'
- b. ?? Compró Juan el auto, compró.  
bought.3SG Juan the car bought.3SG  
'Juan bought the car!'
- c. El auto lo compró Juan, lo compró.  
the car CL.3SG.ACC bought.3SG Juan CL.3SG.ACC bought.3SG  
'Juan bought the car!'

This behaviour is expected if V<sup>1</sup> and the elements to its right form a single constituent, as the remnant movement analysis posits.



Additional assumptions (e.g., *order preservation* à la Fox & Pesetsky 2005) should be adopted to account for these restrictions if the constituents moved to their positions one by one.



On the contrary, **the order of preverbal constituents is much more flexible**, e.g., the subject may precede the indirect object, and the indirect object may precede the subject.

- (21) a. María, a Juan le compró el auto, le compró.  
María to Juan CL.3SG.DAT bought.3SG the car CL.3SG.DAT bought.3SG  
'María bought the car for Juan!'

- b. A Juan, María le compró el auto, le compró.  
 to Juan María CL.3SG.DAT bought.3SG the car CL.3SG.DAT bought.3SG  
 ‘María bought the car for Juan!’

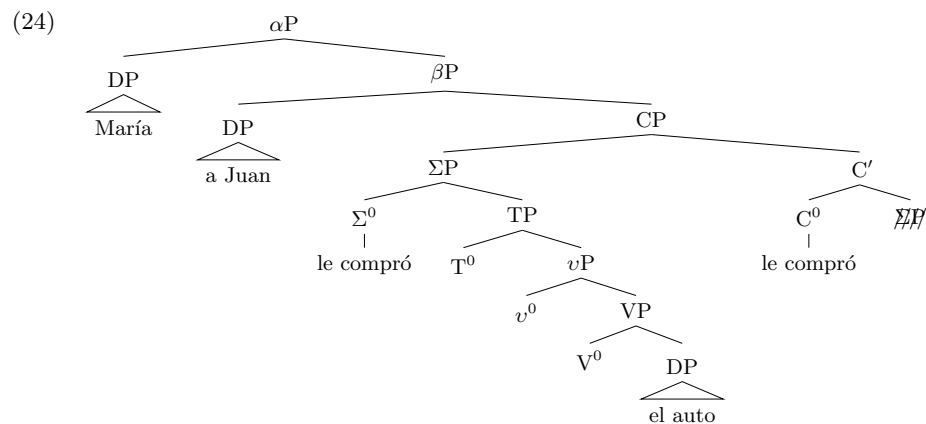
Subject and direct object may both precede the other.

- (22) a. María, el auto se lo compró a Juan, se  
 María the car CL.3SG.DAT CL.3SG.ACC bought.3SG to Juan CL.3SG.DAT  
 lo compró.  
 CL.3SG.ACC bought.3SG  
 ‘María bought the car for Juan!’
- b. El auto, María se lo compró a Juan, se  
 the car María CL.3SG.DAT CL.3SG.ACC bought.3SG to Juan CL.3SG.DAT  
 lo compró.  
 CL.3SG.ACC bought.3SG  
 ‘María bought the car for Juan!’

The same applies for direct and indirect objects.

- (23) a. El auto, a Juan se lo compró María, se  
 the car to Juan CL.3SG.DAT CL.3SG.ACC bought.3SG María CL.3SG.DAT  
 lo compró.  
 CL.3SG.ACC bought.3SG  
 ‘María bought the car for Juan!’
- b. A Juan, el auto se lo compró María, se  
 to Juan the car CL.3SG.DAT CL.3SG.ACC bought.3SG Marí CL.3SG.DAT  
 lo compró.  
 CL.3SG.ACC bought.3SG  
 ‘María bought the car for Juan!’

I take that the asymmetry between the preverbal and postverbal fields regarding order flexibility follows from preverbal constituents being dislocated in the left periphery of the sentence, in positions higher than  $\Sigma P$ .



## 2.5 Intonation

Spanish is a language in which pitch prominence tends to have a fixed position: **nuclear accent is almost always located at the rightmost lexical item of the intonation phrase**, e.g., Sosa (1991), Zubizarreta (1998), Hualde (2005), among many others.

Assume that an intonation phrase in the prosodic representation corresponds to the complement of  $C^0$  in a phrase marker (Selkirk 2011). Saab’s derivation predicts the following.

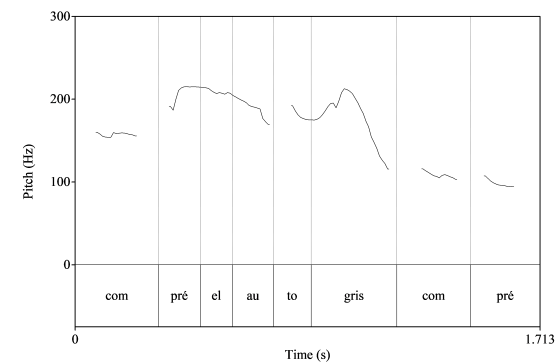
$$(25) \quad [CP \underbrace{[\Sigma P \Sigma^0 [TP \mathbb{T}^0 [vP v^0 [VP \mathbb{V}^0 DP]]]]}_{\text{intonation phrase}}] [C' C^0 \Sigma P]]$$

Consider the distribution of nuclear accents in the following examples.

$$(26) \quad [\Sigma P \text{ Compré el auto gris }], [C' \text{ compré }]$$

bought.1SG the car grey **L%** bought.1SG

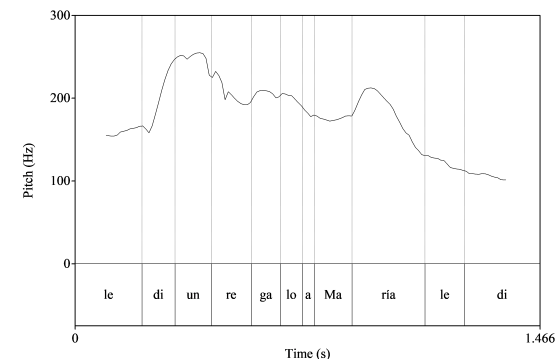
Figure 1: F0 trace for *Compré el auto gris, compré* ‘I bought the grey car!’



$$(27) \quad [\Sigma P \text{ Le di un regalo a María }], [C' \text{ le di }]$$

CL.3SG.DAT gave.1SG a gift to María **L%** CL.3SG.DAT gave.1SG

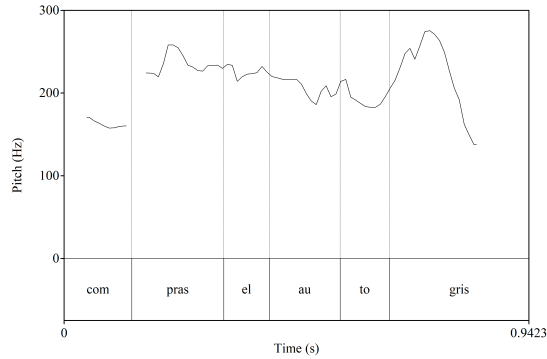
Figure 2: F0 trace for *Le di un regalo a María, le di* ‘I gave María a present!’



The rightmost word within what would be  $\Sigma P$  exhibits a tritonal accent L+H\*+L, followed by an abrupt pitch fall. **I take this pitch lowering to signal a low boundary tone (L%) in the right edge of the intonation phrase.**<sup>5</sup> This is the same type of nuclear accent that Gabriel et al. (2010) report for exclamative statements (28) and narrow focus (29) in Rioplatense Spanish.

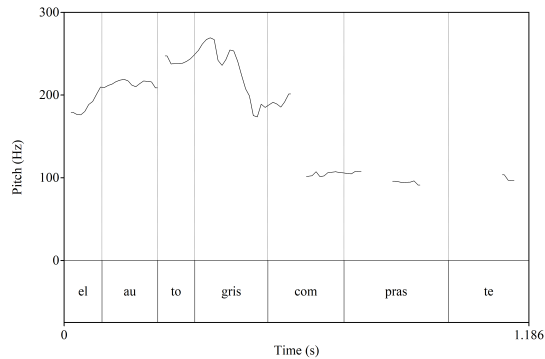
- (28) ¡Compré el auto gris!  
bought.1SG the car grey  
'I bought the grey car!'

Figure 3: F0 trace for *¡Comprás el auto gris!* 'You are buying the grey car!'



- (29) **El auto gris** compraste.  
the grey car bought.2SG  
'THE GREY CAR you bought.'

Figure 4: F0 trace for *El auto gris compraste* 'THE GREY CAR you bought'.



<sup>5</sup>Although the pattern could also be analysed as post-focal deaccentuation as it seems to occur in (29). Notice, however, that the emphatic doubling examples are fully compatible with a broad focus interpretation.

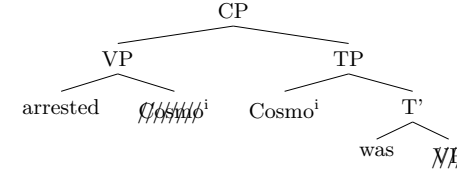
## 2.6 Interim conclusions and where to go from now

- Emphatic doubling in Rioplatense Spanish seems to be derived through the derivation that Takano (2000) and Funakoshi (2012) consider impossible.
- Notice that emphatic doubling does not involve **Headless** XP-movement *per se*, i.e., the head of  $\Sigma P$  is overt.
- Maybe the doubling pattern is responsible of solving whatever problem arises with truly Headless XP-movement.

## 3 Multiple copy spell-out as a repair strategy

Standard cases of remnant movement involve a fronted constituent containing a gap.

- (30) a. ... and arrested Cosmo was.  
b.



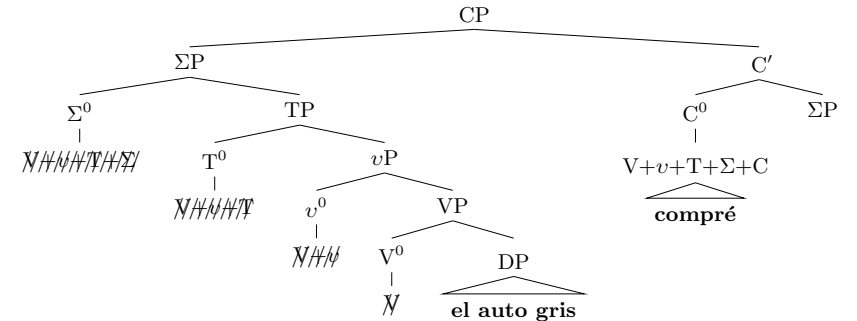
That is, the movement chain  $C = \{\text{Cosmo}^i, \dots, \text{Cosmo}^i\}$  is required to comply with a property I will call *Uniqueness*.

- (31) UNIQUENESS

Given a movement chain  $C = \{\alpha^i, \dots, \alpha^i\}$ , pronounce only one copy of  $\alpha$ .

Under these assumptions, the derivation in (10) should contain a gap in the  $\Sigma^0$  position.

- (32)



This leads to a **PF representation that is identical to the one obtained by fronting a focused constituent**. In other words, two distinct derivations (e.g., (33a) and (33b)) are expected to lead to the same PF-output (e.g., (34)).

- (33) a. [<sub>CP</sub> [<sub>ΣP</sub> ~~compré~~ el auto] [<sub>C'</sub> compré ~~VP~~]] generates (34)  
b. [<sub>CP</sub> [<sub>DP</sub> el auto] [<sub>C'</sub> C<sup>0</sup> [<sub>TP</sub> compré ~~DP~~]] generates (34)

- (34) El auto, compré.  
the car bought.1SG

**Headless XP-movement raises this ambiguity systematically.** Say a Headless phrase  $\alpha$ P moves. The output of such an operation will always look like movement of the complement of (the trace of)  $\alpha$ .

I would like to suggest that **violating Uniqueness is a strategy that Rioplatense Spanish applies to avoid the ambiguous scenario sketched in (33)**, i.e., pronouncing the head  $\Sigma^0$  allows distinguishing the underlying structure in (33a) from the otherwise identical output of the structure in (33b).

This solution subsumes the duplicative pattern in emphatic doubling to cases in which an otherwise empty element receives pronunciation to avoid ambiguity (Bever 1970, Bever & Langendoen 1971, Hankamer 1973, Temperley 2003). Consider the sentences in (37); the pattern of omission of the relative pronoun can be explained as an ambiguity-avoidance strategy: deleting *who* in (37d) leads to ambiguity, so its pronunciation is obligatory.<sup>6</sup>

A similar explanation can be offered for the contrast in (38): pronouncing the complementizer in contexts of CP fronting is obligatory because the PF representation would be otherwise ambiguous.

Let's go back to emphatic doubling. I contend that, at a descriptive level, the relevant condition for pronouncing the otherwise silent head  $\Sigma^0$  may be stated as follows.

Take an emphatic doubling type of derivation in which there is no overt element within  $\Sigma P$ , e.g., a derivation involving the verb *llover* 'rain'.

In this representation, **there is no overt element in the domain of  $\Sigma P$  that may produce the type of ambiguity in (33)**. Therefore, violating the Uniqueness condition becomes unnecessary and no doubling pattern is predicted.

### 3.1 What about contextual or prosodic disambiguation?

### Emphatic doubling and focus ambiguity

<sup>6</sup>While these sentences illustrate cases of *local ambiguity*, the representations in (33) seem to be globally ambiguous.

- (44) *I heard you bought the blue car.*  
 El auto **gris<sub>F</sub>**, compré.  
 the car grey bought.1SG  
 ‘The grey car, I bought (not the blue one).’
- (45) *What did you buy?*  
**El auto gris<sub>F</sub>**, compré.  
 the car grey bought.1SG  
 ‘The grey car, I bought (not the blue one).’

Emphatic doubling is felicitous in these contexts as it may convey basically the same meanings, i.e., contrastive (46) or answer focus (47).

- (46) *I heard you bought the blue car.*  
 Compré el auto **gris<sub>F</sub>**, compré.  
 bought.1SG the car grey bought.1SG  
 ‘I bought the grey car!’
- (47) *What did you buy?*  
 Compré **el auto gris<sub>F</sub>**, compré.  
 bought.1SG the car grey bought.1SG  
 ‘I bought the grey car!’

As the contexts for focus fronting are a subset of those allowing emphatic doubling, **there is no context in which focus fronting can be used unambiguously**. It follows that an independent disambiguating strategy is required.

Some contexts, however, are unambiguous, e.g., focus fronting is incompatible with broad focus.

- (48) *What happened?*  
 a. # **El auto gris, compré<sub>F</sub>**.  
     the car grey bought.1SG  
     ‘The grey car, I bought.’  
 b. **Compré el auto gris<sub>F</sub>**, compré.  
     bought.1SG the car grey bought.1SG  
     ‘I bought the grey car!’

As (48b) shows, **multiple copy pronunciation is applied even in (pragmatically) unambiguous contexts**. This raises a potential problem for the rule in (39).

To account for this, I take that the rule in (39) is not sensitive to pragmatic context, i.e., while resolving the type of ambiguity exemplified from (44) to (47) could have been the origin of this rule, **it is now grammaticalized as part of the *chain resolution mechanism* in Rioplatense Spanish**. Crucially, chain resolution is a process that applies at PF and makes use of information available in that level of representation (Bošković 2002, Nunes 2004, Landau 2006). Maybe, “pragmatic blindness” is a general property of disambiguating spell-out.

- (49) CONJECTURE  
 Once grammaticalized, disambiguating spell-out strategies are triggered by morphosyntactic factors only; they are “blind” to pragmatic context.

This conjecture is supported by examples like (50), which do not seem to be contextually ambiguous but still require applying an obligatory spell-out rule.

- (50) *Is that the man who fired you?*  
 a. No, the man who fired me was very tall.  
 b. \*No, the man ~~who~~ fired me was very tall.

### No prosodic disambiguation

As known, structural ambiguities can be resolved by appealing to prosody.

- (51) a. ( When Roger leaves ) the house is dark.  
 b. ( When Roger leaves the house ) it’s dark.  
Kjelgaard & Speer (1999)
- (52) a. ( Jane didn’t purchase the white blouse ) ( because it was silk ) –and silk is difficult to wash.  
 b. ( Jane didn’t purchase the white blouse because it was silk ) –but because it was white.  
Koizumi & Bradley (2007)

In the same vein, the distinction in (33) could potentially be made by appealing to prosodic disambiguation, e.g., by altering the prosodic phrasing of the sentence. However, this type of strategy is not employed in Rioplatense Spanish: as seen in 2.5, emphatic doubling and focus fronting have basically the same prosody.

## 4 A look into complex prefields in German

As mentioned in the introduction, Takano’s Generalization in (2) is partially based on data from German.

- (53) a. \*<sub>[VP</sub> Ihr ein Buch t<sup>i</sup> ]<sup>j</sup> gab<sup>i</sup> Hans t<sup>j</sup>.  
           her a book gave Hans  
           ‘Hans gave her a book.’  
 b. \*<sub>[VP</sub> Dieses billige Geschenk der Frau t<sup>i</sup> ]<sup>j</sup> sollte main nicht geben.  
           this.ACC cheap present the.DAT woman should one not give  
           ‘One shouldn’t give the woman this cheap present’.

However, corpus studies have shown that these constructions are productive in German (Bildhauer & Cook 2010, Müller In preparation). However, they require quite specific discourse contexts. According to Bildhauer & Cook (2010), *presentational multiple frontings* are used as a topic shift strategy (54).

- (54) *The consecration of the altar also presented a suitable occasion for Msgr. Walter Aichner’s first service as Kematen’s parish priest.*  
 Weiterhin als Pfarrkurator wird Bernhard Deflorian fungieren.  
 further as curate will Bernhard Deflorian function

‘Carrying on as curate will Bernhard Deflorian’.

While *propositional assessment multiple frontings* are used to emphasise evaluative expressions, e.g., “generally an adverb or particle, frequently but not exclusively negation” (Bildhauer & Cook 2010:73).

- (55) *During the last phase of the match, it was clearly visible that the Berlin players were struggling to fight off a debacle in the packed arena.*

[<sub>VP</sub> Dem Speil eine Wende] konnten sie aber nicht mehr geben.  
to.the match a turn could they however not more give

However, they didn’t manage to turn the match around’.

One can sketch an account for these data based on the approach to Headless XP-movement developed here. Just as in Rioplatense Spanish, movement of a headless VP produces ambiguity in German. Crucially, the surface representation is ambiguous with respect to a V2-violating phrase marker (56b).<sup>8</sup>

- (56) a. [<sub>CP</sub> [<sub>VP</sub> [<sub>XP</sub> <sub>YP</sub>] *W*] [<sub>C'</sub> ... V ... *NP*]  
b. [<sub>CP</sub> <sub>XP</sub> [<sub>CP</sub> <sub>YP</sub> [<sub>C'</sub> ... V ... [<sub>VP</sub> [~~*XP*~~] *W*]]]

**German does not disambiguate these representations by applying multiple copy spell-out, but resorts to discourse context.** In contexts where a fronted VP is expected, e.g., (54) and (55), Headless VP-movement is accepted. Otherwise, the ambiguity is resolved in favour of the V2 violating phrase-marker (56b), so unacceptability follows.

This preliminary explanation implicitly relies on the idea that (truly) Headless XP-movement is a **heavily dispreferred parsing option**, i.e., without a specific contextual cue, a form will not be parsed as involving Headless XP-movement. Notice that this property goes beyond ambiguity.

## 5 Concluding remarks

- Current wisdom is that Headless XP-movement should be forbidden by appealing to narrow syntactic constraints (Takano 2000, Funakoshi 2012).
- Emphatic doubling in Rioplatense Spanish employs this type of derivation, showing that the relevant restriction (if there is any) is not narrow syntactic in nature.
- Headless XP-movement produces an ambiguous output: movement of a phrase [<sub>αP</sub>  $\emptyset_{\alpha}$  <sub>XP</sub>] looks like movement of XP.
- Rioplatense Spanish applies multiple copy spell-out to solve this mismatch.

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<sup>8</sup>Notice that this requires assuming that German narrow syntax can generate representations like 56b, but these are filtered by a post-syntactic V2 constraint.