



# Article On the Nature of Verbal Non-Local Doubling in Patagonian Spanish

José Silva Garcés <sup>1,\*,†</sup> and Gonzalo Espinosa <sup>2,†</sup>

- <sup>1</sup> Faculty of Humanities, Universidad Nacional del Comahue, Neuquen 8300, Patagonia, Argentina
  - Faculty of Languages, Universidad Nacional del Comahue, General Roca/Fvskv Menuko,
- Neuquen 8332, Patagonia, Argentina; gonzalo.espinosa@fadel.uncoma.edu.ar
- Correspondence: jose.silva@fahu.uncoma.edu.ar

<sup>†</sup> These authors contributed equally to this work.

**Abstract:** The main objective in this study is to describe and offer an account of verbal non-local doubling in Patagonian Spanish (PatSp), an understudied non-standard variety of Spanish in Argentina. We focus on data in which there are duplicated verbs surrounding an XP that bears the nuclear accent of the phrase (XP<sup>NA</sup>). First, our analysis describes the prosodic, semantic, and morphosyntactic behaviour of the data gathered. Second, we present the problems and challenges that doubling phenomena in PatSp pose for approaches that have tried to explain similar data in other Spanish varieties and other languages, such as the copy theory or prosodic cloning. Third, this work explores a biclausal analysis of verbal non-local doubling in PatSp in which each duplicate originates in a different clause, CP1 and CP2. In this approach, duplicated verbs (V1 and V2, according to their linear distribution) are not derivationally related. We also argue that the XP<sup>NA</sup> moves to the left periphery of CP2. This movement would account for the three typical traits of verbal duplication in PatSp: the mandatory adjacency between the nuclear accent and V2, the non-locality between verbal duplicates, and the semantic value of mirativity.

Keywords: verbal non-local doubling; biclausal approach; mirative focus; Patagonian Spanish

# 1. Introduction

Non-local doubling can be considered a crosslinguistic phenomenon in which one element seems to occur twice in the same sentence, as shown in the underlined elements in (1)-(6).

 European Portuguese (Martins 2007, p. 81)
 O João comprou o carro, comprou the João bought the car bought

'John did buy the car.'

(2) Italian (Jokilehto 2016, p. 151) <u>Te scerca</u> CL.2SG.ACC seek.3SG John <u>CL.2SG.ACC seek.3SG</u>

'John is looking for you.'

 (3) Rioplatense Spanish (Saab 2017, p. 2)
 <u>Vino</u> Juan, <u>vino</u> came John came
 'John came!'



Citation: Silva Garcés, José, and Gonzalo Espinosa. 2023. On the Nature of Verbal Non-Local Doubling in Patagonian Spanish. *Languages* 8: 255. https://doi.org/10.3390/ languages8040255

Academic Editor: Enrique Pato

Received: 16 August 2023 Revised: 9 October 2023 Accepted: 19 October 2023 Published: 26 October 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/).

- (4) Nupe (Kandybowicz 2008, p. 7) Musa à gi bise gi Musa FUT eat hen eat
  'Musa will in fact eat a hen!'
- (5) Greek (Göksel et al. 2013, p. 188)
   <u>O γjánis</u> xtípise tin maría <u>o γjánis</u> DET John-NOM hit-PAST.3SG DET Mary-ACC DET John-NOM
   'John hit Mary!'
- (6) Turkish (Göksel et al. 2013, p. 189) <u>Ali</u> köy-e gid-ecek <u>Ali</u> Ali village-DAT go-FUT Ali
  - 'Ali will go to the village.'

As can be observed, in non-local doubling, an element (a verbal or nominal phrase) is duplicated with some linguistic material in between.<sup>1</sup> Most scholars recognise that this phenomenon is associated with particular syntactic, prosodic, and semantic-pragmatic behaviours. In addition, several proposals agree on the fact that the duplicated elements are the materialisation of copies of the same syntactic object. From this perspective, non-local doubling involves the extraction or escape of an element, followed by a remnant movement of  $\Sigma P$  (Saab 2017) or TP (Cvejanov and Druetta 2020), creating the structural conditions for preventing the deletion of one of the copies. Both movements are shown in (8):

- (7) *Rioplatense Spanish Vino Juan, vino* came John came
- (8) a. Escape of second duplicate from TP/ΣP domain [XP X° vino [TP/ΣP \$\$\$ Juan]

Cases of non-local doubling, then, would be considered instances of multiple copy spell-outs (Nunes 2004), which would give empirical support to the copy theory of movement (see Martins 2007; Jokilehto 2016; Saab 2017; inter alia).

In the current study, we analyse verbal non-local doubling in a non-standard Spanish variety spoken in Patagonia, Argentina, that we refer to as Patagonian Spanish (henceforth, PatSp); see Acuña and Menegotto (1996) and Virkel (2004) for a general description of this variety. PatSp has barely been described from a generative perspective (see Menegotto 2006). In particular, verbal non-local doubling has only been addressed by Silva Garcés (2019).<sup>2</sup> Some examples are shown below.

(9) <u>Se fueron</u> por BARILOCHE <u>se fueron</u> los chicos REFL.3 go.PST.3PL by Bariloche REFL.3 go.PST.3PL the guys

'The guys went by Bariloche!'

'We used to tame herds!'

As in the data in (1)–(6), examples in (9) and (10) exhibit that the duplicated verbs (V1 and V2, according to their linear disposition) are not adjacent because the XP that carries the nuclear accent (henceforth, XP<sup>NA</sup>, indicated in small capitals in the examples) takes place in between. In addition, in PatSp, non-local doubling triggers a special meaning related to surprise, which is indicated with '!' in glosses.

The data in this study show behaviours that cannot be accounted for in the same terms as other similar constructions that have been explained for Rioplatense Spanish and other Romance languages. For example, an XP can occur after the second duplicate, as in (9). The presence of this XP is unexpected given that the remnant movement of TP/ $\Sigma$ P implies the deletion of all material in the post-V2 area, as shown in (8). In adition, duplicated elements can share all or some morphological features, as in (10), an unexpected behaviour if V1 and V2 were copies.

Our analysis of non-local doubling in PatSp differs from the explanations offered in the literature. Instead, we hypothesise that non-local doubling in this Spanish variety involves two different clauses (i.e., CP1 and CP2), similarly to right dislocation in Germanic languages (Ott and de Vries 2016), Romance languages (Fernández-Sánchez 2020), and Cantonese (Cheung 2015), inter alia. Accordingly, each duplicate is part of a different independent clause. Additionally, we argue that a focus fronting movement takes place in CP2, which triggers a special semantic import. The structure proposed, then, for verbal non-local doubling in PatSp is shown in (11).

# (11) [<sub>CP1</sub> ... V1...] [<sub>CP2</sub> $XP^{NA}_i V2 t_i$ ]

This work is organised as follows. Section 2 shows the methodology of the corpus collection. Section 3 provides a basic description of verbal non-local doubling in PatSp in prosodic, semantic, and morphosyntactic terms. Section 4 develops a biclausal analysis for our data, supported by morphosyntactic, semantic, and prosodic evidence. Final remarks are presented in Section 5.

# 2. Methodology

The data presented in the current study have been taken from different field trips to the Southern Region of the Province of Río Negro, Argentina, particularly to the Somuncurá area. This is a volcanic rock plateau of approximately 20,000 square kilometres in Río Negro and Chubut provinces in Patagonia, Argentina (41°–43° S and 66°–68° W). The altitude ranges from 500 to 1600 metres above sea level. The highest region corresponds to the volcanic plateau, where living conditions are hostile and there are very few inhabitants. The land is mainly arid, with scarce rains along the year and high temperatures in summer and low ones in winter. The lowest areas have more water reservoirs, allowing for better life conditions. This plateau represents one of the areas with the lowest population density in the country, with inhabitants living in smallholdings several kilometres apart. It is possible to reach most houses by special vehicles through winding and steep gravel roads, but in some areas, the only means of transport is horses. In the inner parts of the plateau, there is no electricity supply or telephone signal. Most inhabitants have radios powered by batteries, which constitute their main source of information (Masera 1998). The environmental features of this region probably explain the lack of population masses.

The data analysed in this study were taken from 19 interviews conducted with people who were born and raised in the Southern Region. The authors of this study conducted 13 of these interviews during different field trips. The remaining six interviews were conducted with local women as part of the development of a community project aimed at retrieving and revalorising life stories by women. In 2017 and 2018, this project was promoted by social workers from hospitals of the cities of Los Menucos, Maquinchao, and Jacobacci, and

teachers and students from the region also participated. One of its outcomes is the book Mujeres del viento. Historias de vida de mujeres de la Línea Sur de Río Negro (Women of the wind. Life stories of women from the Línea Sur of Río Negro).<sup>3</sup> During the arranged visits, speakers were asked to participate in interviews in which they were free to talk about life in the plateau, their families, childhood, or personal anecdotes. In relation to their mother tongue, all 19 interviewees reported to speak Spanish as their only first language. However, in some cases, they claimed to have parents or grandparents who spoke Mapuzungun as a first language. This means that our participants might have been exposed to some other languages apart from Spanish during their childhood. Another aboriginal language that had been spoken in the plateau was Günün a iajüch, which belonged to the Günün a küne people (Malvestitti 2009). This language was not familiar to our informants, according to their reports. Participants' ages range from 35 to 80. Their occupations consist mainly of rural activities related to agriculture and raising animals such as goats, cows, and horses. Some of them have attended rural primary schools for some years, and most of them have not had any formal education at all. Given that most inhabitants, especially the older ones, do not know how to write, PatSp is mainly a spoken language. Because of the very low population density, we believe that the number of participants in this study is significant. In addition, due to the fact that PatSp speakers have not been influenced by standard Spanish, our data represent a variety that is far from being conditioned by normative restrictions.

All interviews were conducted in participants' places with a portable battery-powered recorder, obtaining WAV files of 24 bit and 96 kHz. Out of the 20 h corpus, 68 instances of non-local doubling were registered in 75 intonational phrases. These instances were analysed perceptually and acoustically by means of Praat (Boersma and Weenink 2023). The phonological analysis is based on autosegmental-metrical (AM) theory (Ladd 2008; Pierrehumbert 1980), following the conventions of Tones and Break Indices in order to transcribe and analyse intonation. In short, this notation employs two levels of pitch accents and boundary tones: H (high) and L (low). Boundary tones can be of two types: they can refer to an intonational phrase (IP) with a level-4 break index (H% and L%) or to an intermediate phrase (ip) with a level-3 break index (H- and L-). For the Spanish intonation, a third pitch level has been proposed in the literature, M (mid) (Beckman et al. 2002; Estebas Vilaplana and Prieto 2008). This level represents a fundamental frequency that is at a midpoint in a speaker's pitch height, which seems to be phonologically contrastive in Spanish. In our study, the contributions for Rioplatense Spanish (spoken around the River Plate and in central Argentina; henceforth RSp) by Gabriel et al. (2010, 2013) and Labastía (2018) have been considered as a starting point in the analysis of PatSp.

The ungrammatical sequences and other data constructed ad hoc for the current research have been corroborated by native speakers of the studied Spanish variety.

#### 3. Data Description

The main objective of this section is to provide a detailed description of the doubling phenomenon in PatSp. First, we offer a prosodic characterisation of the data in our corpus. Second, we offer an account of the morphosyntactic behaviours, and, third, we show our data from a semantic point of view. In order to systematise the information, an outline of this three-angled description is provided.

# 3.1. Prosody

In relation to intonation and phrasing in PatSp, and from an impressionistic point of view, this variety of Spanish has been described in the literature as having a particular intonational pattern that can be easily imitated (Malvestitti 1993, p. 138). This intonation has been equated to a particular "melody" that differs from other regions in the country (Muñoz and Musci 2007, p. 32; Stell 1987, p. 81; Virkel 2004, p. 185). According to the perceptual analysis by Acuña and Menegotto (1996, p. 251), PatSp can be associated with Chilean speakers who, in turn, have been in contact with Mapuzungun, whose specific pronunciation features can be found in some vowels and consonants and in some intonation

patterns. Given that the prosodic studies on PatSp are merely perceptual, the analysis in the current study means a significant contribution to this variety of Spanish in this respect.

As mentioned before, we have analysed the intonation and phrasing of verbal nonlocal doubling in PatSp following the AM theory. In general terms, the great majority of sequences with non-local doubling have a falling intonation, L%, which is related to the fact that these constructions occur in statements with concluding information; only a small percentage of sentences (5 percent) have been produced with a rising intonation, indicating that the speakers have not finished conveying their message (cfr. Labastía 2018 for more details on the interface between prosody and information in Spanish).

To begin with a more exhaustive prosodic analysis, the registered prosodic patterns of RSp found in Gabriel et al. (2010) and Labastía (2018) were considered as a first attempt to describe PatSp. However, some intonational contours encountered in the perceptual and acoustic analysis of our data did not match the inventoried intonation in the consulted bibliography. Specifically, the pitch accent L+H\* is not found in nuclear position in RSp when there is a falling intonation, but we propose such a contour for PatSp because L+H\* seems to be representative of the melody in the plateau. Our decision is partly based also on the fact that the contour H+L\* L-, which is typical of RSp, is found only once in our data. This could suggest that L+H\* L- and H+L\* L- are phonologically contrastive in PatSp, but further research is necessary. Figure 1 shows the total number of instances of non-local doubling with their corresponding prosodic analysis.

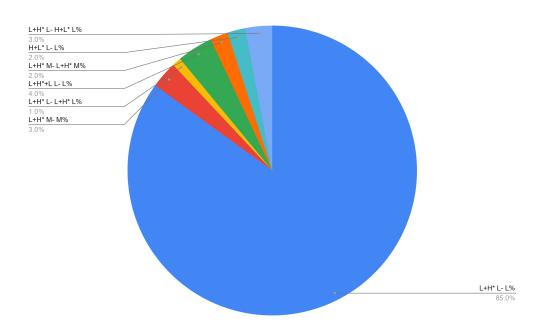
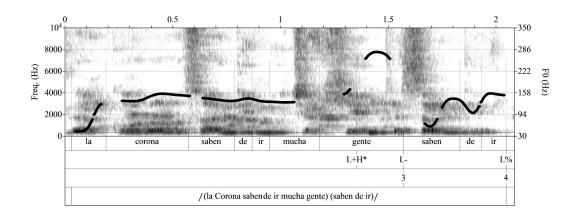


Figure 1. Prosodic analysis of non-local doubling constructions in PatSp out of 68 cases.

As Figure 1 shows, the most typical intonational contour in PatSp is  $/(L+H^* L-)(L^{()})/.$ In this notation, there is one IP signalled by slashes and two ip represented by round brackets. In other words, the two ip make up one IP. The first ip,  $(L+H^* L-)$ , is composed of the pitch accent L+H\* followed by the boundary tone L-. The second ip does not have pitch accents due to deaccentuation (i.e., there is a lack of pitch accents), and it also ends with a falling boundary tone, L%. The division between the two ip is not signalled by an actual short cease of phonation, as could be expected in a level-3 break, but by an abrupt decrease in the fundamental frequency that is represented in our proposal by L-<sup>4</sup> in the first boundary tone. This is illustrated in the spectrographic evidence in Figure 2.



**Figure 2.** Spectrogram of the sentence *La Corona saben de ir mucha* GENTE *saben de ir '*Many people usually go to the Corona!'.

The example in Figure 2 clearly shows that the first ip, *La Corona saben de ir mucha* GENTE 'Many people usually go to the Corona!', contains the first duplicate and the nuclear accent (NA) on GENTE, indicated with small capital letters. This ip is produced with the following nuclear tonal configuration: L+H\* L-. The second duplicate, *saben de ir* '(they) usually go', lacks a prominently accented syllable and ends in a falling intonation, L%. These contours can be seen as fully manifested because there are post-tonic syllables. When there is no relevant linguistic material after the tonic syllable, we still implement the same prosodic annotation because the perceptual impression remains the same. The example in Figure 3 shows a case in which the contour /(L+H\* L-)(L%)/ cannot be fully realised due to the fact that there is less material after the tonic syllable.<sup>5</sup>

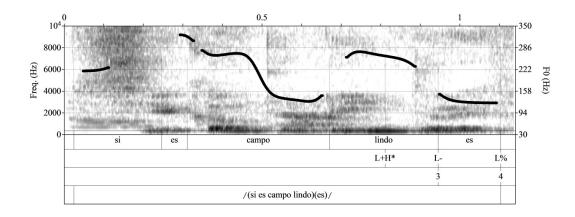


Figure 3. Spectrogram of the sentence Si es campo LINDO es 'It's nice land!'.

In relation to phrasing, our data indicate that the second duplicate categorically occurs in an ip that is adjacent to the NA. In other words, these two elements are never disrupted with a level-4 break, i.e., they do not form two independent IP. This enables us to state that, in the data of PatSp, the NA and the second duplicate should appear in the same IP. This is why a case such as (12) is ungrammatical, because these elements are separated with a level-4 break (signalled with slashes).

(12) \*/ tiene CHIVAS / tiene / have.3SG goats have.3SG 'She/he has goats!' The prosodic relationship between the first duplicate and the NA is somehow different. These two elements can appear in a different IP, as the level-4 breaks indicate in (13).

(13)	a.	/( ahora está en ) /( RAMOS ) ( está ) / now be.3SG in Ramos be.3SG
		'Now (s)he is in Ramos!'
	b.	/( acá también que tengo es una ) /( GALLINA ) ( también ) here also that have.1SG is a chicken also
		'Also, I have a chicken also here!'
	c.	/( tiene un ) /( terreno LIMPIO ) ( tiene ) / have.35G a clean land plot have.35G
		'She/he has a clean land plot!'
	d.	/( eso dan linda )/( BRASA )( dan viste ) that produce.3PL good embers produce.3PL you see
		'They produce good embers, you know!'
	e.	/( yo era ) /( muy apegado a PAPÁ ) ( era ) / I was very attached to father was
		'I was very attached to my father!'

The examples in (13) demonstrate, then, that speakers can insert pauses before the NA, but they can never do so after it due to the adjacency requirement mentioned above. We can conclude that the second duplicate does not target an independent IP. On the contrary, this element is embedded within a major IP that includes the NA.

In synthesis, from a prosodic point of view, non-local doubling in PatSp shows the following behaviour:

- rising pitch accent L+H\*;
- one IP with two ip;
- the first ip has the contour L+H\*L-, while the second ip does not have pitch accents due to deaccentuation and ends with a falling boundary tone, L%;
- unlike the first duplicate, the second duplicate and the NA are never disrupted with a level-4 break (i.e., two independent IP are not possible).

So far, the structure of non-local doubling in PatSp is shown in (14).

In the following section, we offer a description of this structure in morphosyntactic terms.

#### 3.2. Sintactic Behaviours

Non-local verbal duplicates in PatSp show particular syntactic behaviours, which are described below.

# 3.2.1. Non-Adjacency between V1 and V2

In verbal doubling from PatSp, duplicates are not adjacent. This means that constructions are anomalous if V1 and V2 are contiguous, as (15b) shows.

/

/

(15) a. Nos fuimos en VERANO nos fuimos a Chile us went.1PL in summer us went.1PL to Chile 'We went to Chile in summer!'

b. \* *Nos fuimos nos fuimos a Chile en* VERANO us went.1PL us went.1PL to Chile in summer

In addition to this, there is another condition for the above-mentioned lack of adjacency: the XP<sup>NA</sup> is always between V1 and V2. This is illustrated when the constituents in (15a) are altered. For instance, even when duplicates are not adjacent, the sequences in (16) remain anomalous because the constituent between V1 and V2 does not bear the NA.

- (16) a. \* *Nos fuimos a Chile nos fuimos en* VERANO us went.1PL to Chile us went.1PL in summer
  - b. \* *En* VERANO *nos fuimos a Chile nos fuimos* in summer us went.1PL to Chile us went.1PL
- (17) a. *La Corona sabe de ir mucha* GENTE *sabe de ir* the Corona know.PRS.3SG of go.INF many people know.PRS.3SG of go.INF

'Many people usually go to the Corona!'

- b. \* *Sabe de ir (a) la Corona sabe de ir mucha* know.PRS.3SG of go.INF (to) the Corona know.PRS.3SG of go.INF many GENTE people
- (18) a. *Elvio levantó varias* CASAS *levantó* Elvio built.3SG many houses built.3SG

'Elvio built many houses!'

b. \* Varias CASAS levantó levantó Elvio many houses built.3SG built.3SG Elvio

As can be observed, our data show that the syntactic function of the XP between V1 and V2 is not relevant: it can be an adjunct (16a), a subject (17a), or a direct object (18a). What matters is that the XP carries the NA.

3.2.2. XP(s) on the Right of V2

In non-local verbal doublings of RSp, V2 is necessarily placed on the right margin of the sequence. In Saab's (2013, p. 240) words, "another relevant property of *capicúas*<sup>6</sup> is that V2 should always occur in final position. This happens with all types of constituents". The following data illustrate this behaviour.

- (19) *RSp* (Saab 2013, his examples (35, 37, and 38))
  - a. \* *Limpié la casa, limpié hoy* cleaned.1SG the house cleaned.1SG today

Int. 'Today, I cleaned the house!'

b. \* *Le gusta mucho, le gusta su casa* to.him/her like.3SG a lot to.him/her like.3.SG his/her house

Int. '(S)he loves his/her house!'

 c. \* La besó hoy, la besó a María her kissed.3SG today her kissed.3SG to Maria
 Int. 'Today (s)he kissed Maria!'

The behaviour of Saab's (2013) data clearly differs from the one found in non-local verbal doubling in PatSp. Concretely, V2 is not always the rightmost element of the sequence, as our previously shown examples demonstrate (16a). Additionally, it is worth highlighting that whether the XP on the right is an argument (20) or not (21) is not relevant.

(20) a. *Tenía queso* RALLADO *tenía la tarta* had.3SG cheese grated had.3SG the pie

'The pie had grated cheese!'

- b. *Se crio* ACÁ *se crio la Mabel* REFL.3 grew up here REFL.3 grew up the Mabel 'Mabel grew up here!'
- (21) a. *Sabe de ir mucha* GENTE *sabe de ir a la* know.PRS.3SG of go.INF many people know.PRS.3SG of go.INF to the *Corona* Corona

'Many people usually go to the Corona!'

b. *Llegaban hasta los* GUANACOS *llegaban ahí* arrived.3SG even the guanacos arrived.3SG there

'Even the guanacos arrived there!'

As it can be observed, the examples from RSp (19) analysed in Saab (2013) would be well-formed sequences in PatSp.

3.2.3. Differences between V1 and V2

The examples in (22) indicate another characteristic of verbal non-local doubling in PatSp: duplicated elements can share all or some morphological features.

(22) a. *Tenían* ARROYO *tienen ahí* have.IMFV.PST.3PL brook have.PRS.3PL there

'They had a brook (and still have) there!'

b. *Sabíamos amansar* TROPILLAS *amansábamos en el campo* know.PST.IPFV.1PL tame.INF herds tame.PST.IPFV.1PL in the countryside

'We used to tame herds in the countryside!'

In (22a), we can observe that in PatSp, the duplicated elements can display the same root and non-identical morphological features because the duplicated verbs do not have the same tense inflection. In (22b), the same set of syntactic-semantic features (1PL, imperfective and habituality) can be identified, but it is differently materialised: while V1 is a periphrastic form, V2 is a synthetic one.

In addition, V1 and V2 can show lexical differences, as the following data prove.

- (23) a. *Entraban* hasta las CULEBRAS llegaban ahí get inside.IPFV.PST.3PL even the snakes arrive.IPFV.PST.3PL there 'Even the snakes used to get inside (or arrived) there!'
  - b. *Tiene cuarenta y* OCHO *va a cumplir* have.PRS.3SG fourty and eight go.PRS.3SG to turn

'(S)he is 48 years old (actually, go to turn)!'

- (24) a. V1 = entraban, V2 = llegaban
  - b. V1 = tiene, V2 = va a cumplir

The fact that there are morphological and even lexical differences between V1 and V2 is controversial. Can we still refer to data such as (22) and (23) as instances of doublings? To what extent can V1 and V2 be different? To answer these questions, the contexts in which these data were obtained should be considered. In this respect, (22a) was produced in a conversation about crops in the area of Somuncurá, Patagonia. Given that this landscape is dry and rains and watercourses are scarce (see Masera 1998 and Section 2), the interviewer asked how fields were irrigated in the past.

(25) A: ¿Y cómo regaban?

'And how did they irrigate (the land)?'

B: *Tenían* ARROYO *tienen ahí* have.IMFV.PST.3PL brook have.PRS.3PL

In (25B), V1 refers to an action in the past, while V2 corresponds to an action in the present. In this particular context, then, the tense in V2 implies a clarification or even a correction with respect to the temporal information in V1. In other words, in the past, there was a stream, but actually it still exists today.

In addition to temporal information, we have found instances of verbal doublings in which V1 and V2 differ in terms of person, as in (26), in which V1 refers to 1SG and V2 to 1PL.

(26) *Traje tres* PERCAS *trajimos esa vuelta* brought.1SG three perches brought.1PL that time

Again, we claim that the features of 1PL in V2 rectify the information in V1. A possible paraphrase of (26) would be to use the discourse marker *mejor dicho*<sup>7</sup> 'rather', as in (27).

(27) Traje tres percas esa vuelta. Mejor dicho, trajimos (porque éramos dos personas)

'I brought three perches that time. Or rather, we brought (because we were two guys)'

In cases of non-local doublings with different roots, V2 also has an explanatory discursive value. The example in (23a) can be paraphrased as shown in (28).

(28) Entraban hasta las culebras, es decir, llegaban ahí

'Even the snakes used to get inside, I mean, arrived there!'

In cases such as (23a), an argumental resctriction applies: duplicated verbs select the same number of arguments and assign the same thematic roles. For instance, in (29), the verbs *entrar* and *llegar* are monadic and assign the role of *theme* to their only one argument.

(29) a. *entrar*  $\rightarrow$   $\langle$ theme $\rangle$  get inside b. *llegar*  $\rightarrow$   $\langle$ theme $\rangle$  arrive

If the duplicated verbs did not assign the same argumental information, such as *entrar* 'get inside' and *cazar* 'catch' in (30), the resulting duplicated construction would not be possible.

(30) \* *Entraban* hasta las CULEBRAS cazábamos get inside.IPFV.PST.3PL even the snakes catch.IPFV.PST.3PL

(31) a. *entrar*  $\rightarrow$   $\langle$  theme $\rangle$  get inside b. *cazar*  $\rightarrow$   $\langle$  agent, theme $\rangle$  catch

# 3.2.4. Agreement Relations in V2

As discussed above, V1 and V2 can be identical or they can present some lexical or morphosyntactic differences. This can be observed in the following examples.

(32)	a.	Traje	tres	PERCAS	traje	esa	vuelta
		brought.1SG	three	perches	brought.1SG	that	time
	b.	<i>Traje</i> brought.1SG			<i>trajimos</i> brought.1PL		

In (32b), V1 and V2 have different person and number features.

(33) a. V1 = 
$$traje \rightarrow 1$$
SG brought.1SG

```
b. V2 = trajimos \rightarrow 1PL
brought.1PL
```

Now, if the information for 1PL appears on the right, coded by the pronoun *nosotros* 'we' (see discussion in Section 3.2.2), V1 and V2 cannot be identical anymore (34).

(34)	a.	Traje	tres	PERCAS	trajimos	nosotros	esa v	puelta
		brought.1SG	three	perchs	brought.1PL	we	that t	ime
	b.	* Traje	tres	PERCA	s traje	nosotre	os esa	vuelta
		brought.15	G three	e perchs	brought.1s	G we	that	time

This behaviour seems to indicate that V1 and V2 establish morphosyntactic relations in independent domains.

# 3.2.5. Adjacency between the NA and V2

In Section 3.1, we indicated that there is a difference between V1 and V2 with respect to how they relate to the NA. Precisely, while there can be a 4-level break between V1 and the NA, the adjacency between the NA and V2 cannot be interrupted by such a break.

(35) a. / ahora está en / RAMOS está / now is in Ramos is
b. \* / ahora está en RAMOS / está / now is in Ramos is

This asymetry between verbal duplicates has a syntactic counterpart. In this respect, as it is shown in (36), it is possible to add one constituent between V1 and the NA. However, (37) shows that the same constituent cannot interrupt the adjacency between the NA and V2.

- (36) a. Se fueron l<sub>AdvP</sub> ayer ] por BARILOCHE se fueron REFL.3 went.3PL yesterday by Bariloche REFL.3 went.3PL b. Entraban [<sub>SP</sub> a la casa ] hasta las **CULEBRAS** to the house get into.IPFV.PST.3PL even the snakes llegaban arrive.IPFV.PST.3PL
- (37) a. \* Se fueron por BARILOCHE [AdvP ayer ] se fueron REFL.3 went.3PL by Bariloche yesterday REFL.3 went.3PL hasta las CULEBRAS [SP a b. \* Entraban 1 la casa get into.IPFV.PST.3PL even the snakes to the house llegaban arrive.IPFV.PST.3PL

There is another similar behaviour. This is related to the combination of a non-local verbal doubling with the counterexpectation particle *si*, which is typical in PatSp (Pellejero and Silva Garcés 2015). From a semantic point of view, counterexpectation particle *si* eliminates a potential conversational implicature coming from the interlocutor. From a syntactic angle, a key feature of this discursive particle is its adjacent position to the XP<sup>NA</sup>, as shown in the following data.

(38) ¿Salimos a caminar?

'Do you want to go for a walk?'

- B1. *Está <u>frío</u> si afuera* is cold *si* outside 'But it is cold outside!'
- B2. \* *Está <u>frío</u> afuera* **si** is cold outside si
- B3. \* *Está* si <u>frío</u> afuera is si cold outside
- (39) Al final Juan no quedó seleccionado para ese trabajo...

'In the end, John did not get the job...'

a. ... *lo llamaron de <u>otro</u> si* him called.3PL from other *si* 

'But they called him for another job'

b. \* ... *lo llamaron* si de <u>otro</u> him called.3PL si from other If the adjacency between the NA and V2 cannot be interrupted, it follows that verbal duplicates in PatSp and the counterexpectation *si* are not compatible together. This is evidenced by the impossibility of constructions such as (40).

(40)	a.	*	Se fueron p	bor BARILO	DCHE <i>si</i> se		fueron
			REFL.3 went.3PL b	by Bariloc	he <i>si</i> REI	FL.3	went.3PL
	b.	*	Sabíamos	amansar	TROPILLAS	si a	imansábamos
			know.PST.IPFV.1PL	tame.INF	herds	si t	ame.PST.IPFV.1PL

3.2.6. Incompatibility with Subordination

Non-local verbal doubling in PatSp is not compatible with subordination. This behaviour is found with factive (41), communication (42), and perceptual (43) predicates.

(41) a. *Éramos* ARISCAS *éramos* be.IMFV.PST.1PL unsociable.F.PL be.IMFV.PST.1PL

'We were unsociable!'

- b. \* *A mi hermana le molesta [haber sido* ARISCAS *haber sido]* to my sister to.her bother [to have been unsociable to have been]
- (42) a. *Tenía* un campo LINDO tenía have.IMFV.PST.3SG a land beautiful have.IMFV.PST.3SG '(S)he had a beautiful land!'
  - b. \* *Contó que tenía un campo* LINDO *tenía* say.PST.3SG that have.IMFV.PST.3SG a land beautiful have.IMFV.PST.3SG
- (43) a. Venían de ROCA venían come.IMFV.PST.3PL from Roca come.IMFV.PST.3PL

'They came from Roca!'

b. \* *Escuché que venían de* ROCA *venían* hear.PST.1SG that come.IMFV.PST.3PL from Roca come.IMFV.PST.3PL

However, V2 can appear in subordinate constructions. In these cases, the subordinating verbs (*creo* 'I believe' in (44a) and *parece* 'it seems' in (44b)) mitigate the speaker's commitment to his/her proposition. As (44a) shows, the subordinating verb can inflect for 1SG.

- (44) a. Tenía un campo LINDO creo que tenía have.IMFV.PST.3SG a land beautiful believe.1SG that have.IMFV.PST.3SG 'I believe that (s)he had a beautiful land!'
  - b. *Venían de* ROCA *parece que venían* come.IMFV.PST.3PL from Roca seem.3SG that come.IMFV.PST.3PL

'It seems that they came from Roca!'

3.2.7. Incompatibility with Questions and Wish Clauses

Non-local verbal doublings in PatSp are not possible in cases of questions and of clauses that express desire. This is evidenced in the ungrammatical constructions such as (46) and (47).

(45) *La* cocinan ENTERA *la* cocinan it.ACC.F cook.PRS.3PL entire it.ACC.F cook.PRS.3PL

'They cook it whole!'

(46) a. \* *¿La cocinan* ENTERA *la cocinan*? it.ACC.F cook.PRS.3PL entire it.ACC.F cook.PRS.3PL

Int. 'Do they cook it whole!?'

b. \* *Me pregunto si la cocinan* ENTERA *la* to.me ask1.SG whether it.ACC.F cook.PRS.3PL entire it.ACC.F *cocinan* cook.PRS.3PL

Int. 'I wonder whether they cook it whole!'

(47) \* *Ojalá que la cocinen* ENTERA *la cocinen* hopefully that it.ACC.F cook.PRS.3PL entire it.ACC.F cook.PRS.3PL

Int. 'I hope that they cook it whole!'

### 3.3. Semantic Import

The semantic characteristics related to non-local doublings in PatSp are somehow paradoxical. On the one hand, there seem to be no differences between the propositional meaning of a sequence without doubling and the one with duplicated elements (48). On the other hand, sequences with verbal doublings and sequences without them cannot occur in the same contexts. For instance, while constructions without duplicates can be the answer to a wh- question, non-local verbal doublings in PatSp are anomalous in the same context.

- (48) a. Los chicos se fueron por Bariloche the guys REFL.3 went.3PL by Bariloche
   'The guys went by Bariloche'
  - b. Los chicos se fueron por BARILOCHE se fueron the guys REFL.3 went.3PL by Bariloche REFL.3 went.3PL

'The guys went by Bariloche!'

- c.  $\exists x, \exists y, x = los chicos, y = Bariloche, such that x went by y$
- (49) A: ¿Por dónde se fueron los chicos?

'Which way did the guys take?'

- B1: *Se fueron por Bariloche* REFL.3 went.3PL by Bariloche
- B2: # Se fueron por BARILOCHE se fueron REFL.3 went.3PL by Bariloche REFL.3 went.3PL

In general terms, we could claim that verbal duplicates express the non-expectation and surprise that the proposition could cause on the listener, depending on the knowledge that the speaker assumes to share with his/her interlocutor. In this respect, (50a) can be paraphrased as in (50b).

- (50) a. *Había* GUANACOS *sabía haber* there.were guanacos know.IMFV.PST.3SG there.be.INF
  - b. 'Había guanacos y entiendo que eso probablemente te resulte sorpresivo'

'There were guanacos and I understand that this could be unexpected for you'

In this work, we claim that in the duplicated verbal constructions, there are two layers of meaning: one that is at-issue and another one that is not-at-issue (see Potts 2007). An at-issue meaning corresponds to the informative content of the sentence, that is to say, to the main information that the speaker wants to convey. At-issue content (henceforth, p) is equivalent to the proposition coded in the sequence, and it is not presupposed. In contrast, non-at-issue meaning (henceforth, m) conveys content that is secondary or irrelevant to the truth conditions of p. Accordingly, m indicates that p may be unexpected for the listener and, as a consequence, it can cause surprise.<sup>8</sup>

That p and m constitute two independent layers of meaning can be evidenced by certain behaviours. Firstly, the listener can react distinctively either in relation to p or m. The different answers in B can be compared in the following example.

(51) A: Más allá hay otro pueblito, Treneta se llama, está CERQUITA está

'There is another little village, its name is Treneta, it's really near!'

B1: Eso no es verdad, Treneta está muy lejos de acá  $\rightarrow \neg p$ 

'That is not true, Treneta is really far away'

B2: Está bien, pero eso no tiene nada de sorpresivo  $\rightarrow \neg m$ 

'Ok, but that is not unexpected at all'

Secondly, m cannot be refuted by the same speaker who produces the verbal doubling without resulting in a semantic contradiction. In (51), then, A cannot deny the surprise that the sequence could cause on the listener.

(52) Más allá hay otro pueblito, Treneta se llama, está CERQUITA está, #y no creo que te resulte sorpresivo

'There is another little village, its name is Treneta, it's really near! #And this is not unexpected for you'

Thirdly, unlike *p*, the meaning of *m* cannot be retrieved in an ellipsis process, as is shown in the following contrast.

(53) a. *Mi hermano tiene un campo* LINDO *tiene* my brother has a field beautiful has

'My brother has a beautiful field!'

 $p \rightarrow \exists x, \exists y, x=mi \text{ hermano}, y=un \text{ campo}, \text{ such that } x \text{ has } y \& y \text{ is lindo}$  $m \rightarrow 'p \text{ could be unexpected for you'}$ 

b. *Mi viejo también* [*fidhk thi thith kithti ]* my dad too has a field beautiful

'My dad too'

 $p \rightarrow \exists x, \exists y, x=mi \text{ viejo}, y=un \text{ campo}, \text{ such that } x \text{ has } y \& y \text{ is beautiful } m \rightarrow 'p \text{ could be unexpected for you'}$ 

The above-mentioned semantic traits indicate that m—i.e., non-expectation and surprise—is not part of the coded proposition in verbal duplicates. In this sense, it could be argued that m does not have an assertive semantic content but one that is suggested by the speaker. In other words, in verbal non-local doublings, it is implied that p is surprising, but it is not explicitly stated.

In order to conclude this section, it is worth mentioning that the surprise element is not attributed to the speaker, but to the listener. Particularly, the layer of meaning m is systematically built up thanks to the expectations that the speaker has in relation to his/her interlocutor. This can be demostrated by means of two other characteristics: verbal doublings in PatSp are not compatible with 2nd person singular or plural (54), or with imperative constructions (55).

(54)	a.	# Sabías amansar TROPILLAS amansabas know.PST.IPFV.2SG tame.INF herd.PL tame.PST.IPFV.2SG				
	b.	# (Ustedes) sabían amansar TROPILLAS amansaban you.PL know.PST.IPFV.2PL tame.INF herd.PL tame.PST.IPFV.2PL				
(55)	a.	# <i>¡Amansá</i> TROPILLAS <i>amansá!</i> tame.IMP herd.PL tame.IMP				
		Int. 'Tame herds!'				
	b.	# <i>¡(Ustedes) vayan por</i> BARILOCHE <i>vayan!</i> you.2PL goIMP by Bariloche go.IMP				
		Int. 'Go by Bariloche!'				
The incompatibility between verbal doublings and the 2nd person can be accounted						

for in a direct way if the source of the surprise and the non-expectation is assumed to belong to the shared knowledge that the speaker assigns to the listener.

## 3.4. Summary

We now sum up the descriptions developed so far in terms of the prosodic, syntactic, and semantic aspects of verbal non-local doubling in PatSp. Table 1 offers a summary of the behaviours and characteristics found in our data.

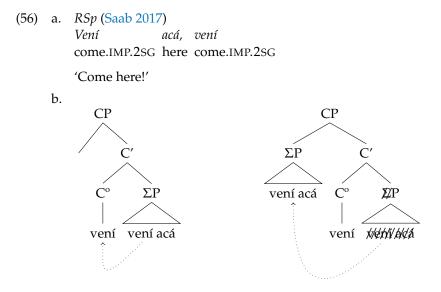
**Table 1.** Synthesis of the prosodic, syntactic, and semantic behaviours of verbal non-local doubling in PatSp.

Prosody	Syntax	Semantics
<ul> <li>Rising pitch accent L+H*</li> <li>One IP with two ip</li> <li>The first ip has the contour L+H*L-, while the second ip is completely deaccented (L%)</li> <li>There is a closer relation between the NA and V2 than between the NA and V1</li> </ul>	<ul> <li>V1 and V2 cannot be adjacent</li> <li>XP(s) can occur on the right of V2</li> <li>V1 and V2 can have morphological and lexical differences</li> <li>V1 and V2 establish subject-verb agreement relations in independent domains</li> <li>Adjacency between the NA and V1 cannot be interrupted</li> <li>Incompatibility with subordination</li> <li>Incompatibility with questions and wish clauses</li> </ul>	<ul> <li>Two layers of meaning: <i>p</i> as an <i>at</i>-<i>issue</i> or propositional content and <i>m</i> with a <i>non-at-issue</i> value</li> <li>The <i>m</i> layer         <ul> <li>✓ encodes mirativity, i.e., surprise and non-expectation</li> <li>✓ is based on the expectations that the speaker creates in relation to what is expected for the interlocutor</li> <li>✓ is implied content, not asserted</li> </ul> </li> </ul>

The evidence provided in the sections above constitutes the basics for the analysis that follows.

# 4. Analysis

In the generative literature, the phenomena related to non-local doubling have been explained mainly in terms of the copy theory (Chomsky 2000; Nunes 2004; Corver and Nunes 2007). The analyses conducted in this framework reveal that doubling is the materialisation of the same syntactic object that is placed, at the same time, in two different positions in the hierarchy. The reason for this double manifestation is structural: one syntactic object X escapes from TP/ $\Sigma$ P and moves up to the C domain; then, the remnant of TP/ $\Sigma$ P moves to a higher structural position. In this configuration, none of the copies of X are deleted (Nunes 2004; Muñoz Pérez 2017). The escape movement of one of the duplicates and the movement of S $\Sigma$ /ST are illustrated in what follows with an example taken from RSp.



As is shown in the diagrams in (56b), initially, V moves to C (by means of v, T, and  $\Sigma$ ). Then,  $\Sigma P$  moves to the highest position in the hierarchy (Spec,CP). From this position, the copy of the verb in Spec,CP does not c-command the copy of the verb in C; this is why they cannot be deleted. This strategy (with minor changes) has been applied in the study of non-local doubling in different languages (see, for example, Jokilehto 2016 for Italian and Cvejanov and Druetta 2020 for Argentinian Sign Language).

Despite the explanatory potential of the copy theory, it cannot account for the data in PatSp. There are at least two empirical reasons. Firstly, proposals within the copy theory predict that the duplicated elements have to be identical, as exemplified in (56a). However, as we develop in Section 3.2.3, duplicates in PatSp can have different morphological features and roots. Secondly, from the analysis in (56b), it follows that no element can appear on the right margin of the second duplicate because the lowest  $\Sigma P$  in the hierarchy is deleted. In accordance with Muñoz Pérez (2018), this is the reason why instances such as (57) are ungrammatical in RSp.

 (57) RSp (Muñoz Pérez 2018, his example (81c))
 \* Compré el AUTO compré ayer bought.3SG the car bought.3SG yesterday

Int. 'I bought the car yesterday!'

Unlike RSp, in PatSp, some elements can occur on the right of V2, as we show in Section 3.2.2 (in fact, a case such as (57) is perfectly grammatical in PatSp).

These two empirical reasons and others that are of a conceptual nature <sup>9</sup> lead us to rule out the copy theory of movement as a possible explanation of non-local doubling in PatSp. The proposal that we put forward here adopts a radically different point of view. Precisely, we argue that duplicated sequences are not monoclausal but biclausal. In what follows, we present the key hypotheses of our analysis.

(58) *First hypothesis* 

Verbal non-local doublings in PatSp are built with two different clauses, CP1 and CP2, and V1 and V2 belong to independent syntactic domains.

(59) Second hypothesis

In CP2, XP<sup>NA</sup> moves to the left periphery of the clause, i.e., it is focalised.

In Section 4.1, we provide findings from research studies that support our proposal. In Section 4.2, we explain how our two hypotheses can account for the behaviours in doublings in PatSp.

# 4.1. Background for the Hypotheses

The hypotheses underlying our analysis of doublings in PatSp are based on recent research on right dislocation (henceforth, RD) and focalisation. This subsection is aimed at showing previous studies in this respect.

As for the first hypothesis, it predicts that non-local doublings are biclausal constructions. Biclausality has been the focus of attention in order to explain recent findings on RD in Mandarin (Cheung 2015), Germanic languages (Truckenbrodt 2015; Ott and de Vries 2016), and Romance languages (Estigarribia 2020; Fernández-Sánchez 2020). One example of RD is shown in (60).

(60) *German* (Ott and de Vries 2016, p. 646, their example (12)) *Tasman heeft ze<sub>i</sub> gezien, die Maori's<sub>i</sub>* Tasman has them seen those Maoris

'Tasman saw them, those Maoris'

In an RD, a constituent XP*d* that carries given information (Schwarzschild 1999) is placed on the right margin of a clause (CL) that is prosodically, semantically, and syntactically complete. In general terms, XP*d* has a correlate in CL, and RD has the following structure.

(61) [ $_{CL}$  ... correlate<sub>i</sub>... ] XPd<sub>i</sub>

The consulted literature highlights the fact that XP*d* is structurally independent from CL. In relation to prosody, XP*d* is a deaccented constituent that separates from CL by means of a special prosodic change. In (60), this change is indicated with a comma (hence the term *comma intonation*; see Potts 2007). From a semantic point of view, the presence of XP*d* is irrelevant to the truth conditions of CL. This means that CL (62a) and CL + XP*d* (62b) are semantically equivalent, as (62c) indicates.

- (62) a. Tasman heeft ze gezien
  - b. Tasman heeft ze gezien, die Maori's
  - c.  $\exists x, \exists y, x=Tasman, y=ze, x heeft gezien y (ze=die Maori's)$

Lastly, in syntactic terms, XP*d* does not play a role in the syntactic relations of CL. In order to illustrate this point, the example in (63a) can be considered, in which the coreference between *ella* and the XP*d* Ana does not violate Principle C, a behaviour that directly contrasts with the version in (63b), in which XP*d* is part of CL (as can be observed in its prosodic aspect).

a.	Ella <sub>i</sub> lavó su suéter, Ana <sub>i</sub>
	she washed her sweater Ana
b.	* Ella <sub>i</sub> lavó su suéter Ana <sub>i</sub> she washed her sweater Ana

However, right dislocations surprisingly behave as if XP*d* was part of CL. This has been referred to as *connectivity effects* (Merchant 2004). One of these effects has to do with case features in those languages in which this information is morphologically realised. The following example illustrates this.

(64) German (Ott and de Vries 2016, p. 658, their example (44a))
Ich habe ihm geholfen, {\*der, \*den, dem} Peter
I have him.DAT help {the.NOM, the.ACC, the.DAT} Peter
'I helped him, Peter'

As shown in (64), dative case in XP*d dem Peter* (explicit in the article *dem*) has to match with dative case in the correlate *ihm*. This behaviour seems to suggest that case assignment for XP<sup>NA</sup> takes place in CL.

Another similar behaviour is related to reconstruction effects. This is shown in the following example.

(65) *General Spanish* (Fernández-Sánchez 2020, p. 29, his example (25a))  $pro_{*i/j} \ lo_k \ metió \ en \ la \ secadora, \qquad [el \ suéter \ de \ Ana_i]_k$  pro it put in the dryer-machine, the Ana's sweater

'She<sub>\*i/i</sub> put it in the dryer, Ana<sub>i</sub>'s sweater'

In (65), subscripts indicate that coreference between *pro* and *Ana* is ungrammatical. This behaviour seems to show that in the LF *el suéter de Ana*, CL is reconstructed in the position of its correlate, which would violate Principle C.

This Janus-faced trait of RD can be explained if we assume that these constructions are formed with two semantically parallel clauses, CP1 and CP2, and that XP*d* is a fragment, i.e., the remnant of a clausal ellipsis process in CP2.<sup>10</sup> From this perspective, in (60), the underlying structure is the following.

(66) [CP1 Tasman heeft ze gezien ] [CP2 die Maori'si [heeft/Tasmah/t/[gehieft/]]

We have argued so far that, in accordance with the biclausal analysis of RD, non-local verbal doublings in PatSp are constituted by two clauses, CP1 and CP2, in which V1 and V2 correspond to different clauses. Additionally, we claim that CP1 and CP2 are semantically parallel.

Now, there are at least two differences between RD and verbal doublings in PatSp. The first one is semantic. While in an RD, XP*d* constitutes a paraphrase, an explanation, or a richer description of the correlate, in verbal doublings in PatSp, the duplicated sequence is associated with mirativity, as developed in Section 3.3. The second difference is syntactic. Unlike what happens with RD, in verbal doublings in PatSp, a process of clausal ellipsis does not take place in CP2. In particular, we argue that V2 is not a fragment, as is the case for XP*d*. This is precisely our second hypothesis: in CP2, focus fronting occurs, i.e., movement of XP<sup>NA</sup> to the left periphery of the clause, which results in the mirative value that has been identified.

Similar findings can be observed in studies by Frey (2010), Bianchi et al. (2016), and Cruschina (2019). These works attest that, in different languages, focus fronting results in an *emphatic* or *mirative* interpretation. The following examples can be considered.

- (67) German (Frey 2010, p. 1424, his example (27))
  A: Wat has Otto dieses Mal Besonderes auf dem Markt gekauft?
  'What extraordinary thing did Otto buy on the market this time?'
  B: PaPAyas<sub>i</sub> hat er dieses Mal t<sub>i</sub> gekauft
  papayas has he this time bought
- (68) Italian (Bianchi et al. 2016, p. 15, their example (19)) Gianni è innamorato pazzo di Maria. Pensa un po'... Un anello di diamanti Gianni is in-love mad with Maria. think a little a ring of diamonds le ha regalato! to-her.CL has given

'John is madly in love with Maria. Guess what! He's given her a diamond ring!'

- (69) *European Spanish* (Cruschina 2019, p. 136, his example (19))
  - ¡Y yo que pensaba que no tenían ni un euro!
     and I that think.IMPF.3SG that not haveIMPF.3PL not-even a euro
     ¿Sabes qué? ¡A las Maldivas se fueron de luna de miel!
     know.PRS.2SG what to the Maldives REFL.3 go.3PL of moon of honey

'I thought they were penniless! Guess what?! To the Maldives they went on honeymoon!'

In the data of (67)–(69), the fronting of the XP<sup>NA</sup> (*papayas*, *un anello di diamanti* and *a las Maldivas*) brings about some alternatives to XP that are relevant to the interpretation of the whole sequence. This idea can be retrieved in (70).

(70) Let S be a declarative sentence involving A' movement of a constituent  $\alpha$  containing a stressed subconstituent  $\beta$ . A set M denoting salient referents becomes part of the interpretation process,  $|M| \ge 2$ . M contains  $\alpha$  and expressions denoting alternatives to the referent of  $\alpha$ , varying in the denotation of  $\beta$  [...] (Frey 2010, p. 1423)

Considering (70), then, the fronting of XP<sup>NA</sup> allows to identify a set of alternatives (M) that are salient in a given discursive context. In M, the denotatum of XP is one the options available. The reviewed literature affirms that the A' movement of XP triggers a conventional implicature, according to which the proposition contained in the duplication is not the most expected one according to a stereotypical ordering of the alternatives in M, defined in line with the normal course of events (Kratzer 2012). Bianchi et al. (2016, p. 14) characterise the mirative implicature as follows.

(71) The proposition expressed by the clause is less likely than at least one distinct alternative proposition w.r.t. a contextually relevant modal base and stereotypical ordering source.

Taking into account (69), in what follows, we illustrate these proposals. When *A las Maldivas fueron de luna de miel* is uttered, the movement of *a las Maldivas* to the left periphery of the clause brings about some alternatives at a propositional level. These options share the same background, and they differ in the focalised element.

(72)  $_{i}$ A las Maldivas fueron de luna de miel! |---focus---| |---background---|

M={ $p_1$	fueron	a Madrid	de luna de miel
$p_2$	fueron	a Roma	de luna de miel
$p_3$	fueron	a París	de luna de miel
$p_4$	fueron	a las Maldivas	de luna de miel
$p_n$	fueron	al Polo Norte	de luna de miel }
		focus	

As shown in (73), the set of alternatives due to the fronting of *a las Maldivas* is  $p_1$ ,  $p_2$ ,  $p_3$ ,  $p_4$ ,  $p_n$ , and the underlying proposition of the sequence of (69) is one of the options. Following Cruschina (2019, p. 140), the number of relevant alternatives depends on the context and the shared knowledge of the participants in a particular communicative situation. The key point in the proposal is that the mirative import projects a hierarchy of alternatives according to the expectations of the speakers and the normal course of events (Kratzer 2012). In this ranking, the underlying proposition is less probable than one of the options in the set. The contrast between the expectations of the interlocutors and the statement in (72) results in a mirative meaning.

In short, our analysis of verbal doublings in PatSp is based on two claims: they are biclausal sequences (such as RD) and, in the second clause, fronting of the constituent that bears the NA takes place (similarly to German, Italian, and Spanish, as studied by Frey 2010; Bianchi et al. 2016; and Cruschina 2019, respectively). We can assert, then, that verbal non-local doubling in PatSp presents the structure in (11), repeated below in (74).

(74) [<sub>CP1</sub> ... V1...] [<sub>CP2</sub>  $XP^{NA}_i V2 t_i$ ]

We suggest that the (most of the) behaviours and traits described in Section 3 can be accounted for by the structure in (74).

## 4.2. Deriving the Properties of Verbal Doubling in PatSp

# 4.2.1. Biclausality

Let us first consider the hypothesis related to the biclausal nature of the analysed doublings. Claiming that the underlying structure of non-local doubling is (74) implies that between V1 and V2 there are no derivational relations. In fact, we suggest that the duplicated verbs belong to different clausal domains and, as a consequence, V1 and V2 are not related in the syntactic derivation.

The derivational independency between V1 and V2 allows us to explain three of the morphosyntactic properties described in Section 3.2. V1 and V2:

- can have different morphological information and roots,
- can establish subject-verb agreement relations independently,
- establish argumental relations in different domains.

Concerning the first point above, the data in (22a) and (23a), repeated in (75) below, present the structures in (76).

(75)	a.	Tenían	ARROYO	tiene	n	ahí	
		have.IMFV.PST.3PL	brook	have	e.prs.3pl	there	
	b.	Entraban get inside.IPFV.PST.				S <i>llegaban</i> arrive.IPFV.PST.3PL	<i>ahí</i> there

(76) a.  $[_{CP1} \dots tenian \dots ] [_{CP2} XP^{NA}_i tienen t_i ]$ b.  $[_{CP1} \dots entraban \dots ] [_{CP2} XP^{NA}_i llegaban t_i ]$  The possibility that V2 carries morphological and lexical information that is different from that of V1 is directly related to the *non-at-issue* semantic aspect associated with non-local doubling. In accordance with the proposals about RD developed above, CP2 encodes a secondary meaning that corresponds to the semantic background and that, as a consequence, is irrelevant to the truth conditions of CP1.<sup>11</sup> In this respect, CP2 presents metacommunicative information directed to the participants in a particular situation (Schneider 2015, p. 288). In the case of verbal non-local doubling in PatSp, we argue that the morphological and lexical differences can be explained by means of the semantic nature of CP2 and its possibility of encoding secondary information (in this case, declarations and corrections).

In relation to the second point, a datum such as (26), repeated in (77a), would have the structure in (77b) according to our proposal.

- (77) a. *Traje* tres PERCAS trajimos esa vuelta brought.1SG three perches brought.1PL that time
  - b. [CP1 ...traje...] [CP2 XP<sup>NA</sup><sub>i</sub> trajimos  $t_i$ ]

If (77a) actually has the structure in (77b), it is expected that V1 and V2 can establish subject–verb agreement relations in an independent way. The reason for this is that, in our view, CP1 and CP2 present different subjects and, even though features of person and number in both subjects are typically the same (see below), identical manifestation is not obligatory. Along these lines, the structure of (78) could be specified as follows.

(78) [CP1 1SG traje ... ] [CP2  $XP^{NA}_i$  trajimos 1PL  $t_i$ ]

Finally, the third point indicates another relevant behaviour in verbal doublings in PatSp. Since V1 and V2 are part of different clauses, it is expected that both predicates select their arguments independently. In (78), for example, we observe that while the external argument of V1 is 1SG, the external argument of V2 is 1PL.

As we saw in Section 3.2.3, duplicate verbs are equivalent in argument terms, that is, they select the same number of arguments and assign the same thematic roles. Now, if this is so, it is necessary to explain what happens in CP1. Consider again the structure of (78). Both V1 and V2 are dyadic predicates, so each of them selects two arguments in their clause domains. As shown (79), the argument structure of V1 is incomplete because one of its arguments does not materialise (a situation that we represent by '…' in the data).

(79) a.  $V1_{traje} \rightarrow \langle agent = 1SG, ... \rangle$ b.  $V2_{traiimos} \rightarrow \langle agent = 1PL, theme = tres percas \rangle$ 

In this paper, we argue that CP1 is an incomplete clause only in appearance. In (79), V1 selects a theme (in addition to an agent), which is semantically and syntactically equivalent to XP<sup>NA</sup> in CP2, as shown in (80).

(80)  $V1_{traje} \rightarrow \langle agent = 1SG, theme = tres percas \rangle$ 

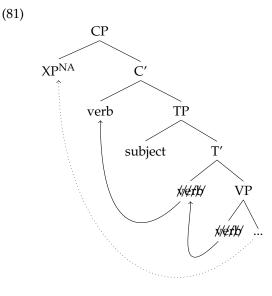
One of the reasons for arguing that CP1 is an incomplete clause is the Projection Principle (Chomsky 1981, 1986), according to which syntactic structure is a projection of lexical requirements, while the subcategorisation properties of lexical pieces must be satisfied. In this sense, if the argument requirements of V1 *traje* were not satisfied, (77a) would be an ungrammatical sequence, contrary to the facts. In Section 4.2.3, empirical evidence is offered for this statement.

### 4.2.2. A' Movement in CP2

Our second hypothesis is that XP<sup>NA</sup> moves A' on the left periphery of CP2. In other words, we assert that in CP2, a process of focalisation takes place. Most of the behaviours described in Section 3 can be directly accounted for with this claim.

In relation to prosody, one of the characteristics of focalisation is prominence or emphatic stress (Leonetti and Escandell Vidal 2021, p. 100). In verbal doubling in PatSp, this prosodic trait is manifested with the tonal configuration L+H\* L-, in which there is a rising movement followed by an abrupt fall.

Focalisation of XP<sup>NA</sup>, moreover, implies the obligatory adjacency between the NA and V2. This characteristic is directly explained if we assume, together with Torrego (1984), Rizzi (1996), and related literature, that in the process of focalisation, V rises up to C, similarly to what happens in a *wh*- movement. The tree diagram in (81), adapted from Kotzoglou (2006, p. 97), illustrates this movement.



The result of this configuration presents the following order: XP<sup>NA</sup>-V-subject. The structure in (81) allows us to explain not only the adjacency between the NA and V2, but also the obligatory subject inversion and the impossibility of introducing linguistic material between the NA and V2.

In addition, with respect to the prosodic configuration of (81),  $XP^{NA}$  and V2 cannot be separated by an interruption in phonation. This behaviour has been pointed out by Fábregas (2016) for cases of focalisation in general Spanish. As the minimal pair in (82) indicates, there cannot exist a prosodic break (as represented by comma in (82b)) between the focalised constituent and the verb.

(82) General Spanish (Fábregas 2016, p. 33, adapted from his example (109))

a.	A JUAN he	e visto	
	to Juan ha	ave.1SG seen	
	'I have seen	JUAN'	
b.	* A JUAN,	he vist	ţ

0 to Juan have.1SG seen

As we can observe in Section 3.1, verbal doubling in PatSp exhibits the same behaviour.

(83) a. / se fueron por BARILOCHE (\*/) se fueron / REFL.3 went.3PL by Bariloche REFL.3 went.3PL
b. / está CERQUITA (\*/) está / is really near is

Leonetti and Escandell Vidal (2021) suggest that the acceptability of focalisation is questionable in subordinated clauses, as shown in (84).

- (84) General Spanish (Leonetti and Escandell Vidal 2021, pp. 60–61, their examples (39)).
  - a. ?? Ella quería que {[el POStre] lleváramos nosotros} she wanted.3SG that the dessert bring.SBJV.1PL us
  - b. ?? {*Cuando* [manteQUIIla] le añades}, sabe mejor when butter to.it add.2SG taste.3SG better
  - c. \* *Pretendía* {[con el presiDENte] tener una entrevista} intended.3SG to with the president have.INF an interview

As described in Section 3.2, the same behaviour can be identified in non-adjacent doubling in PatSp. However, the data presented in (44a) and (44b), repeated below, indicate that V2 *can* appear in cases of subordination.

(85)	a.	Tenía	un c	атро	LINDO <sub>i</sub>	creo	que	{tenía	$t_i$
		have.IMFV.PST.3SG	a la	and	beautiful	believe.1	SG that	have.IMFV.PST.35	G
	b.	Venían	de	Ro	CA <sub>i</sub> parece	e que	{venían	$t_i$	
		come.IMFV.PST.3PL	fron	n Roo	ca seem	.3SG that	come.IN	MFV.PST.3PL	

The possibility of V2 subordination, nonetheless, seems to be semantically and syntactically conditioned by the properties of the subordinating verbs. In semantic terms, with verbs such as *creo* and *parece* in (85), the speaker mitigates his/her commitment on the propositional value of the sequence (expected values due to the *not-at-issue* nature of CP2; see Schneider 2015, p. 287 et seq.). Syntactically, subordinated sentences with verbs such as *creer* and *parecer* present main clause properties (Fábregas 2016, Section 6). For example, they allow for the use of speaker-oriented adverbs (86a) and the topicalisation of the verbal phrase (86b).

(86) a. *Parece que,* {*lamentablemente, no van a llegar hasta el sauce*} Seems that unfortunately not go.3PL to get.INF to the willow

'It seems that, unfortunately, they won't get to the willow'

b. *Creo* que, {llegar hasta el sauce, no lo lograremos} think.1SG that get.INF to the willow not it.ACC.M manage.FUT.1PL

'I think that, getting to the willow, we won't manage'

The fact that the verbal duplications of PatSp cannot occur in subordination contexts is evidence in favour of the claim that these sequences involve a focalisation process.

It has also been pointed out that focalisation is not compatible with any sentence modality (Leonetti and Escandell Vidal 2021, pp. 60–61). Sentences that have a focalised constituent cannot occur in interrogative or desiderative sentences, as the examples in (87) show.

(87) General Spanish

a. \* *¿Cuándo hasta el SAUCE vamos?* when until the willow go1PL

Int. 'When does until the WILLOW we go?'

- b. \* *Ojalá que hasta el SAUCE vayamos* hopefully that until the willow go.SUBJ.1PL
  - Int. 'I hope that we go until the WILLOW'

As we have seen in Section 3.2, the same behaviours are observed in non-local doubling in PatSp.

In short, there is sufficient empirical evidence to support that in verbal doubling of the studied variety, the XP<sup>NA</sup> moves to the left periphery of CP2. Now, it is worth analysing how this movement triggers the mirative import associated with sequences that include a duplication.

As we discuss in Section 3.3, non-local doubling presents two layers of meaning: a propositional meaning, p, and a secondary meaning, m. Unlike p, the semantic value m is not an asserted content, but an implied one. This means that m is not obtained compositionally, i.e., it does not arise from the sum of the meanings of the elements that make up the sequence, rather, it is an implicit content systematically encoded in a specific syntactic structure (for an in-depth discussion on the characteristics of conventional implicatures, see Fernández Ruiz 2015, 2018). In verbal doubling of PatSp, the implicit meaning encoded in the duplication is that p could be unexpected for the listener.

In Section 4.1, we discuss the way in which focalisation encodes a mirative semantic value in Italian (Bianchi et al. 2016), German (Frey 2010), and Peninsular Spanish (Cruschina 2019). In this paper, we argue that this reasoning can be applied to the verbal doubling in PatSp.

Let us see an example. In (88), the values *p* and *m* can be differentiated, as (89) shows.

(88) *La Corona sabe de ir mucha* GENTE *sabe de ir* the Corona know.PRS.3SG of go.INF many people know.PRS.3SG of go.INF

(89) a. p = many people use to go to the Corona

b. m = p (i.e., the fact that many people use to go to the Corona), could be unexpected for you

We argue that the meanings p and m are constructed in different clauses. Specifically, CP1 is responsible for the coding of p and, in CP2, the focalisation that triggers m takes place. In (90), this claim is illustrated.

(90) [CP1 la Corona saben de ir ...] [CP2 mucha GENTE<sub>i</sub> saben de ir  $t_i$ ] p m

Let us first consider what happens in CP2. In line with the works by Krifka (2007) and Krifka and Musan (2012), we understand that focus signals a set of relevant alternatives for the interpretation of the entire sequence. Indeed, in CP2, the focalisation of *many people* triggers the set of alternatives M described below.

(91)	$M = \{ p_1 \}$	few people	use to go (to the Corona)
	$p_2$	a lot of scientists	use to go (to the Corona)
	$p_3$	a lot of animals	use to go (to the Corona)
	$p_4$	many people	use to go (to the Corona)
	$p_n$	the governor	use to go (to the Corona) }
		<i>focus</i>	background

The members of the set M, that is, the alternative propositions of p, are ordered in line with a probability scale that operates in the listener's interpretation process, according to the state of knowledge that the speaker attributes to him/her. Thus, for the speaker, the state of knowledge of his/her interlocutor at the moment prior to enunciating the sequence containing the duplication is such that p1 is more likely than p2, p2 is more likely than p3, etc. The value m emerges precisely from the contrast between the order of the alternatives in M and the fact that the alternative that is finally stated is not the most probable option.

The hypothesis of focalisation in CP2, as we have seen, may account for the way in which the additional layer of meaning present in verbal non-local doubling in PatSp arises. This is certainly an advantage of our proposal compared to other analyses that exist in the literature on non-local doubling.

In addition, the hypothesis of focalisation in CP2 allows us to explain one of the fundamental properties of the analysed data: the condition of non-adjacency between the duplicates. In our analysis, the non-adjacency between V1 and V2 is a direct consequence of the movement of XP<sup>NA</sup> to the left periphery of CP2, which is required to trigger the characteristic mirative value of duplications. In other words, V1 and V2 are not contiguous because the XP<sup>NA</sup> systematically stands between them. Thus, the order V1-XP<sup>NA</sup>-V2 described in Section 3.2 and repeated here in (92a) can be reinterpreted as in (92b) in the light of our proposal.

(92) a. V1 - XP<sup>NA</sup> - V2

b.  $[_{CP1} V1 ] [_{CP2} XP^{NA}{}_i V2 t_i ]$ 

If this analysis is correct, the non-adjacency between the duplicated verbs is not in itself a formal (morphosyntactic or prosodic) requirement for the good formation of verbal doubling in PatSp. Instead, it is a corollary of the way mirativity is encoded in this type of sequence.

#### 4.2.3. On the Prosodic Materialisation of Doublings

To conclude this section, we briefly comment on some aspects related to the materialisation of doubling in PatSp. According to Match Theory, the syntactic structure determines the phonological representation in such a way that the units in Syntax have a direct prosodic correlate. Thus, while constituents are projected into phonological phrases ( $\varphi$ ), (non-subordinate) clauses are projected into intonation phrases ( $\iota$ ).

- (93) Match Theory (Selkirk 2011, p. 439)
  - a. Match clause

A clause in syntactic constituent structure must be matched by a corresponding prosodic constituent, call it  $\iota$ , in phonological representation.

b. *Match phrase* 

A phrase in syntactic constituent structure must be matched by a corresponding prosodic constituent, call it  $\varphi$ , in phonological representation.

Therefore, Match Theory argues in favour of the following correlation:

(94) One  $CP \iff$  one IP

If the correlation in (94) is correct, then our data exhibit a paradoxical behaviour. On the one hand, as observed in Section 3.1, verbal non-local doubling in PatSp is generally expressed in a single IP. On the other, these sequences are made up of two independent CPs, given the ample empirical evidence presented in previous sections. Then, our data seem to go against Match Theory and the one-to-one relation between CP and IP by establishing a reformulation of (94) in the following terms.

One way to resolve this (apparent) paradox is to propose that CP1 is an incomplete clause, because the element that receives the NA is not pronounced (something we express by means of '...' in (90)).

There is empirical evidence to support the claim that in CP1 there is silent material. The following example can be examined, in which the quantifiers  $\forall$  and *three* interact.

(96) [<sub>CP1</sub> todos los albañiles construyeron ...] [<sub>CP2</sub> tres CASAS construyeron] all the constructors built.3PL ... three houses built.3PL

The sequence in (96) receives an ambiguous interpretation, as shown in (97).

(97) a. Interpretation 1:  $\forall > three$ 

'For all *x*, *x* = constructor, it is true that *x* built three houses'

b. Interpretation 2:

*three*  $> \forall$ 

'There is *three houses*, such that for all x, x = constructor, *three houses* were built by x'

Where does this ambiguity come from? To answer this question, it is necessary to consider the two clauses that, in our analysis, form the doubling sequences. As can be seen in (98), CP2 only allows the second reading, according to which there are three houses that were built by all the constructors. The first interpretation, however, is not available in CP2.

 (98) a. Tres CASAS construyeron (todos los albañiles) three houses built all the constructors
 b. \*∀ > tres

 $tres > \forall$ 

If interpretation  $\forall > tres$  is not available in CP2, it follows that it must be available in CP1. This implies that CP1 contains quantifier *tres* in the domain of quantifier  $\forall$ . A plausible option is that this quantifier is part of the silent material in CP1, as shown in (99).

(99) a. Todos los albañiles construyeron ...[tres] all the constructors built ...[three] b.  $\forall > tres$  $tres > \forall$ 

In other words, it is possible to affirm that CP1 contains the quantifier *tres* that makes interpretation 1 possible.

The identity between the silent element in CP1 and XP<sup>NA</sup> in CP2 must also be syntactic. It can be demonstrated thanks to the categorical selection requirements of the predicates. To illustrate this observation, let us focus on the uses of the verb *ganar(se)* 'to place oneself', a typical verb in PatSp.

In a recent work, Garrido Sepúlveda et al. (n.d.) provide a detailed description of the grammaticalisation process of the verb *ganar(se)* in the Spanish spoken in Chilean and Argentine territory.

According to these authors, the verb *ganar* exhibits three well-defined grammaticalisation stages in Chilean Spanish. In the first one, *ganar* is used as a transitive verb with the meanings (perhaps the most widespread in the Spanish-speaking world) of 'to acquire some wealth or increase it', 'to earn a wage or a salary', or 'to obtain what is disputed in a match, game, contest, election, etc.'. In a second stage, *ganar* acquires a pronominal form, *ganarse*, and a locative meaning close to 'stay' or 'take place'. Finally, the most advanced stage of this process is the one in which *ganarse* loses (part of) its lexical content and it starts to denote an inchoative value as an auxiliary in an aspectual periphrasis. These values are systematised in Table 2.

	Value	Example		
	'acquire', 'obtain', 'win'	La selección argentina ganó el torneo		
	_	'The Argentine national team won the tournament'		
ganar(se)	locative	Nos ganamos en la fila del cajero		
		'We stood in the line of the ATM'		
	inchoative	Se ganó a tocar la guitarra		
		'(S)he began to play the guitar'		

Table 2. Meaning of ganar(se) in Chilean Spanish.

Pronominal uses of *ganarse* with a locative value have been registered in PatSp. Garrido Sepúlveda et al. (n.d.) point out that *ganarse* in this sense can only be combined with adverbial or prepositional phrases. The data in (102) are anomalous because, despite denoting location, the complement of *ganarse* is an AP, NP, or DP.

(100)	Ganate	más	cerca/debajo	de	la	parra
	take your place	near/under	the	vine		
	'Get closer/und	er the vine'				

- (101) a. Mi gata se ganó en el sillón y se quedó ahí toda la tarde my cat REFL sit in the couch and REFL stay there all the afternoon 'My cat sat down in the couch and she stayed there during the evening'
  - b. ¡Gánense en/a la sombrita! stay.REFL in/to the little.shadow
     Stay away from the sun!
- (102) a. \* Ganate [Adj cercano] get close
  b. \* Ganate [N biblioteca] get library
  c. \* Nos ganamos [DP un costado] We got a side

With this in mind, let us resume our discussion on verbal doubling in PatSp. In the case of (103), in which the verb *ganarse* is duplicated, there is only one interpretation available: that of *ganarse* as a locative verb. This means that both V1 and V2 must be assembled with a PP/AdvP. The conclusion then is that, in CP1, '…' is a PP/AdvP.

(103) *Nos ganamos en esta* ORILLA *nos ganamos* take our place in this side take our place

Int. OK: We placed ourselves on this side and I understand that it sounds surprising to you.

Int. \*: We won X and we placed ourselves on this side; I understand that it sounds surprising to you.

(104) [<sub>CP1</sub> nos ganamos [<sub>PP</sub> ...]] [<sub>CP2</sub> [<sub>PP</sub> en esta ORILLA] nos ganamos] take our place in this side take our place

In short, there seem to be reasons that justify the assertion that a silent XP occurs on the right margin of CP1 with the same semantic values and the same syntactic nature as the XP<sup>NA</sup> of CP2. This is shown in (105).

(105)  $[_{CP1} V1 [_{XP} ... ]] [_{CP2} XP^{NA}{}_{i} V2 [_{TP} t_{i} ]]$ 

The fact that a silent element occurs in CP1 is the reason why verbal non-local doubling in PatSp materialises as a single IP. The reasoning is the following. According to Zubizarreta (1998), the NA is assigned by default through c-command relationships. Specifically, the NA is received by the constituent that is most embedded in the syntactic structure and, given Kayne's (1994) *Axiom of Linear Correspondence*, it is also the constituent that occurs in the right edge of the clause. This rule is known as the *Nuclear Stress Rule*.

## (106) Nuclear Stress Rule (Zubizarreta 1998, p. 38)

The lowest constituent in the asymmetric c-command ordering in the phrase is the most prominent in that phrase.

In this sense, the two CPs  $\iff$  one IP correlation exhibiting non-local doubling in PatSp could be explained from the incompleteness of CP1. In other words, CP1 cannot be materialised as an independent IP because the most embedded constituent in CP1, i.e., the one that should receive the NA, is not phonetically realised.<sup>12</sup>

#### 5. Conclusions

In this work, we have put forward an analysis of verbal doubling in PatSp, a vernacular variety of Spanish spoken in Patagonia, Argentina. Our first objective has been to provide a prosodic, syntactic, and semantic description of the behaviours of this phenomenon. The accounts of the data have led us to identify a set of relevant features. In prosodic terms, a typical tonal configuration has been established:  $L+H^*L-$ . This contour has not been registered in the inventory of prosodic patterns in RSp (Gabriel et al. 2010; Labastía 2018). From a semantic point of view, doublings in PatSp have a mirative interpretation. For the speaker, the underlying proposition of the sequence that contains the duplicated verbs could turn out to be surprising or non-expected for the listener. Lastly, in syntactic terms, we have discussed the interesting behaviours of V2 with respect to its structural relation with the previous sequence. V2 can present different morphological features or even different roots in comparison with V1 (which allows us to claim that duplicates belong to syntactically independent domains); simultaneously, the second duplicate seems to interact with the previous constituents in terms of argumental relations. In our view, most of the behaviours described in Section 3 had not been addressed in the literature regarding (non-local) doubling.

Our second objective has been to offer an analysis of the data and the particular behaviours observed. Our proposal consists of two central claims. In accordance with recent analyses of RD (Ott and de Vries 2016; Fernández-Sánchez 2020; inter alia), we argue that verbal non-local doubling in PatSp is not formed by one clause but by two clauses, CP1 and CP2. The second claim is that CP2 is the *locus* of the mirative value of duplications, which is syntactically encoded by the fronting of XP<sup>NA</sup> (an idea developed in Frey 2010, Bianchi et al. 2016, and Cruschina 2019).

Following these claims, we affirm that (105), repeated below, is the underlying structure in verbal non-local doubling in PatSp.

(107)  $[_{CP1} V1 [_{XP} ... ] [_{CP2} XP^{NA}{}_{i} V2 [_{TP} t_{i} ]]$ 

We argue that the particular behaviours of this phenomenon in PatSp (or at least most of them) receive a comprehensive and more simple explanation from (107).

Finally, it is possible to formulate some lines of work for further research derived from the discussions in this article. One of them is related to the incompleteness of CP1. In Section 4.2.3, we argue that in CP1 there is a silent element that is semantically and syntactically identical to XP<sup>NA</sup>. Furthermore, we demonstrate that this property of CP1 is what guarantees that verbal doubling materialises in one single IP. However, the question remains open in relation to the nature of this silent material and the formalisation of the mechanisms that generate the incompleteness of CP1.

Along this article, for the sake of clarity, we have offered examples of verbal nonlocal doubling in the RSp, a Spanish variety that is very close to PatSp in geographic and historical terms (see Vidal de Battini 1964; Virkel 2004). Verbal non-local doubling in both varieties, as we have seen, share a number of properties (non-adjacency requirement, V1-XP<sup>NA</sup>-V2 order, emphatic/mirative value; see Muñoz Pérez 2017, 2018), but they differ in some other relevant behaviours (in PatSp, V1 and V2 may present morphological and lexical differences and different elements may occur on the right of V2, characteristics that are not present in RSp). Then, another line of research for a further study is to elaborate on a detailed comparison of the non-local doubling in both varieties of Spanish in order to determine whether (i) it is indeed the same phenomenon, (ii) the differences between both varieties can be explained in terms of microparametric variation (Kayne 2000), and (iii) the biclausal analysis developed here for PatSp can be applied to RSp data.

Dialectological research on PatSp has explained many of the morphosyntactic and phonological peculiarities of this variety in terms of *language contact*. Along this line, for example, Acuña and Menegotto (1993, 1995) explain the restructuring of number marking and pronominal systems of PatSp on the basis of the influence of the Mapuzungun on the Spanish varieties of the region. In the phonological domain, Virkel (2004, p. 203) understands that the assibilation of /r/ in PatSp is mainly observed in Spanish-speaking Mapuche people. Such considerations raise the question of the possible influence of Mapuzungun on the formation of the duplications studied in the previous pages. This enquiry will be addressed in the next stages of this research.

**Author Contributions:** Conceptualisation, J.S.G. and G.E.; methodology, J.S.G. and G.E.; formal analysis, J.S.G. and G.E.; investigation, J.S.G. and G.E.; data curation, J.S.G. and G.E.; writing—original draft preparation, J.S.G. and G.E.; writing—review and editing, J.S.G. and G.E. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data will be available upon request.

Acknowledgments: We thank the inhabitants from Southern Region in Río Negro, Patagonia, for their willingness to participate in the interviews, which were essential for our corpus collection.

Conflicts of Interest: The authors declare no conflicts of interest.

#### Abbreviations

The following abbreviations are used in this manuscript:

- AM Autosegmental-metrical (theory)
- CP1 Clause which contains V1
- CP2 Clause which contains V2
- IP Intonational phrase
- ip intermediate phrase
- *m* Secondary meaning which expresses that *p* may be unexpected for the listener
- M Set of alternatives that are salient referents in a given context
- NA Nuclear accent
- *p* Proposition coded in the sequence

PatSp	Patagonian Spanish
RD	Right dislocation
RSp	Rioplatense Spanish
V1	Verbal duplicate to the left of NA
V2	Verbal duplicate to the right of NA
XPd	Right dislocated constituent
XPNA	Constituent which bears NA

## Notes

- <sup>1</sup> In this sense, this paper does not discuss the linguistic iteration generally known as *reduplication*, in which a lexical item is repeated contiguously (e.g., English: *I had a JOB-job once*, see Gomeshi et al. 2004; Spanish: *Me dieron café-café* 'They offered me a cup of real coffee'; see Escandell Vidal 1991).
- <sup>2</sup> Silva Garcés (2019) explores an analysis of verbal non-local doubling in PatSp in terms of base generation of the second duplicate in the left periphery plus remnant movement of the TP, as is shown in (i).
  - (i) a. <u>Se fueron</u> por BARILOCHE <u>se fueron</u> REFL.3 go.PST.3PL by Bariloche REFL.3 go.PST.3PL

'They went by Bariloche!'

- b. Generation *in situ* of the second duplicate:
   [] [<sub>TOPP</sub> [<sub>TP</sub> se fueron] Top<sup>o</sup> [<sub>TP</sub> se fueron por Bariloche]]
- c. Remnant movement of TP above the second duplicate:
   [] [XP [TP se fueron por Bariloche]<sub>j</sub> X° [TOPP [TP se fueron] Top° [////se/t/uer/ch//pk/t/Baril/och/e//]
   (adapted from Silva Garcés 2019, Chapter V)

In the present work, Silva Garcés's (2019) analysis will not be considered given that both the generation in situ of the second duplicate and the remnant movement of the TP lack empirical motivation. See note 9.

- <sup>3</sup> The book *Mujeres del viento*. *Historias de vida de mujeres de la Línea Sur de Río Negro* can be found here (https://drive.google.com/ drive/folders/1mAsZRccKZ9olo5cvq906QkCGlgmCm0On?usp=drive\_link accessed on 16 August 2023).
- <sup>4</sup> We use L- proposed in Hualde (2002, p. 107; 2014, p. 271) and Hualde and Prieto (2015, pp. 368–69) to indicate that the preceding pitch accent L+H\* cannot continue its contour in the post-tonic syllable.
- <sup>5</sup> In relation to the prosodic analysis of the second duplicated element, our data indicate that there are no prominent syllables after NA in 94% of the analysed constructions. We have found only three instances of post-NA accents in the second ip, which could be related to two possible reasons not developed here. Post-NA accents could be due to (i) large phonological material between the accented post-NA word and its reference, or (ii) the lack of parallelism in the duplicated elements, as in *habíamos mandado* '(1PL) had sent' and *mandamos* '(1PL) sent', in which the speaker might feel the need to indicate that the two apparent different elements refer to the same event.
- <sup>6</sup> The term *capicúa* refers to a palindromic construction at the phrase level.
- <sup>7</sup> See the Diccionario de partículas discursivas del español (http://www.dpde.es/#/entry/mejordicho accessed on 16 August 2023), of Briz et al. (2008), online version.
- <sup>8</sup> Bianchi et al. (2016, note 8) observe that non-expectation is also one of the values that is usually associated with exclamative sentences (see also Zanuttini and Portner 2003; Rett 2011; Torres Bustamante 2013). Thus, one might wonder if the PatSp doublings are not, in fact, exclamative sentences. The answer, however, is negative: the duplications studied in this work cannot be considered exclamations for two reasons. The first is that, unlike exclamations, in sequences that include a verbal doubling in PatSp, the propositional content is presupposed, not asserted. Hence, it can be denied independently.
  - (i) Verbal duplication in PatSp
    - A: Se fueron por BARILOCHE se fueron los chicos]

'The guys went by Bariloche!'

B: Eso no es verdad, se fueron por Villa la Angostura

'That is not true, they went by Villa la Angostura'

- (ii) Exclamatives
  - A: (¡No te lo puedo creer!) ¡Se fueron por Bariloche!
    - '(I can't believe it!) They went by Bariloche!
  - B: #Eso no es verdad, se fueron por Villa la Angostura

Int. 'That is not true, they went by Villa la Angostura

The second reason is that exclamations always have an interpretation of degree according to a scale, a value that is not part of our data.

- <sup>9</sup> There are conceptual reasons so as to discard an analysis in terms of an escape and remnant movement. One of them has to do with motivation: what triggers the movement of the remnant phrase (ΣP en (56a))? Which features are checked by means of the movement of the remnant phrase to the left periphery? Another reason is that the remnant movement (ΣP to Spec,CP) is not falsifiable. In Fernández-Sánchez's (2020, p. 72) words: "[T]he most serious problem with postulating remnant movement is that its effects are undetectable, *modulo* the rightward movement effect it creates, and therefore stands as an unfalsifiable proposal".
- <sup>10</sup> There is consensus in the literature that ellipsis has to be recoverable and that it should have an identical or parallel antecedent in the previous discourse. In this sense, Fernández-Sánchez (2020, p. 19) observes that "[t]he key issue is how we define identity". The parallelism between the elliptical gap and its antecedent could be semantic, syntactic, or a combination of both (see Van Craenenbroeck and Merchant 2013, for a detailed discussion). However, the explanatory potential of the biclausal analysis presented in this section does not depend on the theory of identity assumed.
- <sup>11</sup> In this sense, CP2 behaves as a *parenthetical clause* (see Burton-Roberts 2006; de Vries 2008; Kluck 2011; inter alia).
- <sup>12</sup> In principle, there are two alternatives to explain why the most embedded constituent in CP1 is not pronounced. The first is that XP without prosodic realisation is elided. In this case, the question that arises is under what structural conditions is the elision of XP possible.
  - (i) Se fueron pht/Bhhhhbhle [<sub>CP2</sub> por BARILOCHE se fueron los chicos] REFL3 go.PST.3PL by Bariloche by Bariloche REFL3 go.PST.3PL the guys

The second alternative is that that constituent is a null element (a variable, for example) that acts as the correlate of CP2 in CP1.

(ii)Se fuerone[CP2porBARILOCHEse fueronloschicos]REFL.3 go.PST.3PLbyBarilocheREFL.3 go.PST.3PLthe guys

This second alternative was defended by Kluck (2011) for sentence amalgamation, as shown below.

(iii) Kluck (2011, p. 156, her example (167))Bea date *e<sup>x</sup>* [you'll never guess who]

The intuition behind both options is that CP2 should be adjacent to the unspoken XP in CP1.

# References

- Acuña, Leonor, and Andrea Menegotto. 1993. Plural nominal en la zona de influencia mapuche de las provincias del Neuquén y de Río Negro. In Actas Primeras Jornadas de Etnolingüística. Santa Fe: Universidad Nacional de Rosario, vol. I, pp. 7–14.
- Acuña, Leonor, and Andrea Menegotto. 1996. El contacto lingüístico español-mapuche en la Argentina. Signo y Seña. Revista del Instituto de Lingüística 6: 235–74.
- Acuña, María Leonor, and Andrea Menegotto. 1995. Dialecto y sistema pronominal del área mapuche. In Lingüística y Literatura Mapuche. Aproximaciones Desde Ambos Lados de los Andes. Araucania: Universidad Católica de Temuco. Buenos Aires: Universidad de Buenos Aires.
- Beckman, Mary E., Manuel Díaz-Campos, Julia Tevis McGory, and Terrell A. Morgan. 2002. Intonation across Spanish, in the Tones and Break Indices framework. *Probus* 14: 9–36. [CrossRef]
- Bianchi, Valentina, Giuliano Bocci, and Silvio Cruschina. 2016. Focus fronting, unexpectedness, and evaluative implicatures. *Semantics and Pragmatics* 9: 3. [CrossRef]
- Boersma, Paul, and David Weenink. 2023. *Praat: Doing Phonetics by Computer (Version 6.3.10)*. Windows. Amsterdam: University of Amsterdam.
- Briz, Antonio, Salvador Pons, and José Portolés. 2008. Diccionario de Partículas Discursivas del Español. Available online: http://www.dpde.es (accessed on 15 August 2023).

- Burton-Roberts, Noel. 2006. Parentheticals. In *Encyclopedia of Language and Linguistics*, 2nd ed. Edited by K. Brown. Amsterdam: Elsevier, pp. 179–82.
- Cheung, Lawrence Yam-Leung. 2015. Bi-clausal sluicing approach to dislocation copying in Cantonese. *International Journal of Chinese Linguistics* 2: 227–72. [CrossRef]
- Chomsky, Noam. 1981. Lectures on Government and Binding. Dordrecht: Foris.
- Chomsky, Noam. 1986. Knowledge of Language: Its Nature, Origins, and Use. Westport: Praeger.
- Chomsky, Noam. 2000. Minimalist Inquiries: The Framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Edited by Roger Martin, David Michaels and Juan Uriagereka. Cambridge: MIT Press, pp. 89–156.
- Corver, Norbert, and Jairo Nunes, eds. 2007. *The Copy Theory of Movement*. Amsterdam and Philadelphia: John Benjamins Publishing. Cruschina, Silvio. 2019. Focus Fronting in Spanish: Mirative implicature and information structure. *Probus* 31: 119–46. [CrossRef]
- Cvejanov, Sandra, and Juan Druetta. 2020. Notas sobre repetición verbal y énfasis en Lengua de Señas Argentina. *Revista De Lengua Y Literatura* 38: 113–31.
- de Vries, Mark. 2008. Asymmetric merge and parataxis. Canadian Journal of Linguistics 53: 355–85. [CrossRef]
- Escandell, Vidal, and María Victoria. 1991. Sobre las reduplicaciones léxicas. Lingüística Española Actual 13: 71–84.
- Estebas Vilaplana, Eva, and Pilar Prieto. 2008. La notación prosódica del español: Una revisión del Sp-ToBI. *Estudios de Fonética Experimental* 17: 263–83.
- Estigarribia, Bruno. 2020. A biclausal account of Clitic Left-Dislocations with epithets in Rioplatense Spanish. *Glossa: A Journal of General Linguistics* 5: 33. [CrossRef]
- Fábregas, Antonio. 2016. Information structures and its syntactic manifestations in Spanish: Facts and proposals. *Borealis: An International Journal of Hispanic Linguistics* 5: 1–109. [CrossRef]
- Fernández Ruiz, Graciela. 2015. ¿Las implicaturas convencionales son implicaturas? *Estudios de Lingüística Aplicada* 62: 153–73. [CrossRef]
- Fernández Ruíz, Graciela. 2018. Decir sin Decir: Implicatura Convencional y Expresiones que la Generan en Español. Mexico: Colegio de Mexico.
- Fernández-Sánchez, Javier. 2020. *Right Peripheral Fragments. Right Dislocation and Related Phenomena in Romance.* Amsterdam and Philadelphia: John Benjamins B. V.
- Frey, Werner. 2010. Ā-movement and conventional implicatures: About the grammatical encoding of emphasis in German. *Lingua* 120: 1416–35. [CrossRef]
- Gabriel, Christoph, Andrea Pešková, Leopoldo Labastía, and Bettiana Andrea Blázquez. 2013. La entonación en el español de Buenos Aires. In *Perspectivas Teóricas y Experimentales Sobre el Español de la Argentina*. Edited by Laura Colantoni and Celeste Rodríguez Louro. Madrid and Frankfurt: Iberoamerican, Vervuert, pp. 99–115.
- Gabriel, Christoph, Ingo Feldhausen, Andrea Pešková, Laura Colantoni, Su-Ar Lee, Valeria Arana, and Leopoldo Labastía. 2010. Argentinian Spanish Intonation. In *Transcription of Intonation of the Spanish Language*. Edited by Pilar Prieto and Paolo Roseano. Munich: Lincom Europa, pp. 285–317.
- Garrido Sepúlveda, Claudio, Carlos González Vergara, and Silvina Gerrero González. n.d. La auxiliarización de ganarse: Transformaciones históricas, percepciones sociolingüísticas y alcances dialectales.
- Göksel, Asli, Kabak Baris, and Anthi Revithiadou. 2013. Prosodically constrained non-local doubling. *The Linguistic Review* 30: 185–214. [CrossRef]
- Gomeshi, Jila, Ray Jackendoff, Nicole Rosen, and Kevin Russell. 2004. Contrastive focus reduplication in English (the salad-salad paper). *Natural Language & Linguistic Theory* 22: 307–53.
- Hualde, José Ignacio. 2002. Intonation in Spanish and the other Ibero-Romance Language. In *Romance Phonology and Variation. Selected Papers from the 30th Linguistic Symposium on Romance Language (Gainesville, Florida, February 2000)*. Edited by Caroline Wiltshire and Joaquim Camps. Amsterdam and Philadelphia: John Benjamins Publishing Company, pp. 101–55.
- Hualde, José Ignacio. 2014. Los Sonidos del Español. Cambridge: Cambridge University Press.
- Hualde, José Ignacio, and Pilar Prieto. 2015. Intonational Variation in Spanish. In *Intonation in Romance*. Edited by Sonia Frota and Pilar Prieto. Oxford: Oxford University Press, pp. 350–91.
- Jokilehto, Dara. 2016. Reduplication in Roman: A case of microvariation. Rivista di Grammatica Generativa 38: 149-60.
- Kandybowicz, Jason. 2008. The Grammar of Repetition: Nupe Grammar at the Syntax-Phonology Interface. Amsterdam: John Benjamins.
- Kayne, Richard. 1994. The Antisymetry of Syntax. Cambridge: MIT Press.
- Kayne, Richard. 2000. Parameters and Universals. Oxford: Oxford University Press.
- Kluck, Marlies. 2011. Sentence Amalgamation. Ph.D. thesis, University of Groningen, Groningen, The Netherlands.
- Kotzoglou, George. 2006. Subject-verb Inversion in Greek: Implications for Head Movement and Typology. *Journal of Universal Language* 7: 91–137. [CrossRef]
- Kratzer, Angelika. 2012. The notional category of modality. In *Modals and Conditionals. New and Revised Perspectives*. Edited by Angelika Kratzer. New York and Oxford: Oxford University Press.
- Krifka, Manfred. 2007. Basic Notions of Information Structure. In *Interdisciplinary Studies on Information Structure 06*. Edited by Cariline Féry, Gisbert Fanselow and Manfred Krifka. Potsdam: Schriftenreihen Universität Potsdam.
- Krifka, Manfred, and Renate Musan. 2012. Information structure: Overview and linguistic issues. In *The Expression of Information Structure*. Berlin: De Gruyter Mouton, pp. 1–44.

- Labastía, Leopoldo. 2018. Entonación y Estructura Informativa en el Español Rioplatense. Ph.D. thesis, Universidad Nacional de Educación a Distancia, Madrid, Spain.
- Ladd, D. Robert. 2008. Intonational Phonology. Cambridge: Cambridge University Press.
- Leonetti, Manuel, and María Victoria Escandell Vidal. 2021. La estructura informativa. Preguntas frecuentes. In *La Estructura Informativa*. Edited by Manuel Leonetti, María Victoria and Escandell Vidal. Madrid: Visor, pp. 15–181.
- Malvestitti, Marisa. 1993. Castellano mapuchizado en la Línea Sur. Aproximaciones. In *Actas de las Primeras Jornadas de Etnolingüística*. Rosario: Universidad Nacional de Rosario, pp. 137–44.
- Malvestitti, Marisa. 2009. Argentina patagónica. In *Atlas Sociolingüístico de Pueblos Indígenas en América Latina*. Edited by Inge Sichra. Cochabamba: FUNPROEIB Andes, vol. 1, pp. 109–25.
- Martins, Ana María. 2007. Double realization of verbal copies in European Portuguese. In *The Copy Theory of Movement*. Edited by Norbert Corver and Jairo Nunes. Amsterdam/Philadelphia: John Benjamins, pp. 77–118.
- Masera, Ricardo Freddy, ed. 1998. La Meseta Patagónica del Somuncurá. Un Horizonte en Movimiento. Viedma: Minigraf.
- Menegotto, Andrea. 2006. Mapuche, español y castilla en la patagonia argentina: De la lengua-i a la lengua-s. *Revista de Lenguas Indígenas y Universos Culturales* 3: 161–80.
- Merchant, Jason. 2004. Fragment and ellipsis. Linguistics and Philosophy 27: 661–738. [CrossRef]
- Muñoz, Nora Isabel, and Mónica Isabel Musci. 2007. *Estudios lingüísticos en la Patagonia Sur. El habla en Río Gallegos*. Río Gallegos: Universidad Nacional de la Patagonia Austral.
- Muñoz Pérez, Carlos. 2017. Cadenas e Interfaces. Ph.D. thesis, Universidad de Buenos Aires, Buenos Aires, Argentina.
- Muñoz Pérez, Carlos. 2018. Copies and impostors: On the properties of verbal doubling in Spanish. In *Presentado en Percy Series of Linguistics Seminars*. Newcastle upon Tyne: Newcastle University.
- Nunes, Jairo. 2004. Linearization of Chains and Sideward Movement. Cambridge and London: The MIT Press.
- Ott, Dennis, and Mark de Vries. 2016. Right dislocation as deletion. Natural Language and Linguistic Theory 34: 641–90. [CrossRef]
- Pellejero, Pablo, and José Silva Garcés. 2015. 'Si' como marcador contraargumentativo. In *Actas del VII Coloquio Argentino de la Asociación Latinoamericana de Estudios del Discurso*. Buenos Aires: Editorial de la Facultad de Filosofía y Letras, UBA, pp. 116–23.
   Pierrehumbert, Janet. 1980. The Phonology and Phonetics of English Intonation. Ph.D. thesis, MIT, Cambridge, MA, USA.
- Potts, Christopher. 2007. Conventional implicatures, a distinguished class of meanings. In *The Oxford Handbook of Linguistic Interfaces*. Edited by Gillian Ramchand and Charles Reiss. Oxford and New York: Oxford University Press, pp. 475–501.
- Rett, Jessica. 2011. Exclamatives, degrees and speech acts. *Linguistics and Philosophy* 34: 411–42. [CrossRef]
- Rizzi, Luigi. 1996. Residual Verb Second and the Wh-criterion. In *Parameters and Functional Heads: Essays in Comparative Syntax*. Edited by Adriana Belleti and Luigi Rizzi. Oxford: Oxford University Press, pp. 63–90.
- Saab, Andrés. 2013. Copiá α, copiá. Condiciones sobre la duplicación verbal en el español del Río de la Plata. In *Perspectivas Teóricas y Experimentales Sobre el Español de la Argentina*. Edited by Laura Colantoni and Rodríguez Louro. Madrid and Berlín: Iberoamerican Vervuert.
- Saab, Andrés. 2017. Varieties of verbal doubling in Romance. Isogloss. Open Journal of Romance Linguistics 3: 1–42. [CrossRef]
- Schneider, Stefan. 2015. Parenthesis: Fundamental features, meanings, discourse functions and ellipsis. In Parenthesis and Ellipsis. Cross-Linguistic and Theoretical Perspectives. Edited by Marlies Kluck, Dennis Ott and Mark de Vries. Berlín: Mouton de Gruyter, pp. 277–300.
- Schwarzschild, Roger. 1999. Givenness, avoid-f and other constraints on the placement of accent. *Natural Language Semantics* 7: 141–77. [CrossRef]
- Selkirk, Elisabeth. 2011. The syntax-phonology interface. In *The Handbook of Phonological Theory*, 2nd ed. Edited by John A. Goldsmith, Jason Riggle and C. L. Alan. Oxford: Blackwell, pp. 331–46.
- Silva Garcés, José. 2019. El canto de la meseta. prosodia, sintaxis y estructura de la información en el español del sur de Río Negro. Master's degree thesis, Universidad Nacional del Comahue, Faculty of Languages, Neuquén, Argentina, December 13.
- Stell, Nélida N. 1987. Algunas particularidades de la lengua oral y del entorno sociocultural de los hablantes de San Carlos de Bariloche. In Documentos del PREDAL. Atlas lingüístico antropológico de la República Argentina. Buenos Aires: Ministerio de Educación y Justicia-Organización de los Estados Americanos, vol. 2, pp. 80–89.
- Torres Bustamante, Teresa. 2013. On the Syntax and Semantics of Mirativity. Ph.D. thesis, Rutgers University, New Brunswick, NJ, USA.
- Torrego, Esther. 1984. On Inversion in Spanish and Some of Its Effects. Linguistic Inquiry 15: 103–29.
- Truckenbrodt, Hubert. 2015. Intonation phrases and speech acts. In *Parenthesis and Ellipsis. Cross-Linguistic and Theoretical Perspectives*. Edited by Marlies Kluck, Dennis Ott and Mark de Vries. Berlín: Mouton de Gruyter, pp. 301–49.
- Van Craenenbroeck, Jeroen, and Jason Merchant. 2013. Ellipsis Phenomena. In Cambridge Handbook of Generative Syntax. Edited by M. den Dikken. Cambridge: Cambridge University Press, pp. 701–45.
- Vidal de Battini, Berta Elena. 1964. El Español de la Argentina. Buenos Aires: Consejo Nacional de Educación.
- Virkel, Ana. 2004. Español de la Patagonia. Aportes para la Definición de un perfil Sociolingüístico. Volume IV of Estudios Lingüísticos y Filológicos. Buenos Aires: Academia Argentina de Letras.

Zanuttini, Raffaella, and Paul Portner. 2003. Exclamative clauses: At the syntax-semantics interface. *Language* 79: 39–81. [CrossRef] Zubizarreta, María Luisa. 1998. *Prosody, Focus and Word Order*. Cambridge: The MIT Press.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.