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Parametrising 'lexical subject-finite verb' inversion across V2 languages.

On the role of Relativised Minimality at the vP edge.

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Abstract

By discussing novel data from two Dolomitic Ladin languages spoken in Northern Italy, Badiotto and Gardenese, we show that in these Verb-second languages subject-finite verb inversion i) is constrained by the syntactic (adverb or object) and discourse (focus or topic) nature of the sentence-initial constituent, and by the discourse status of the DP subject. We demonstrate that in both varieties subjects in inversion either appear in a FocusP of the vP periphery (Belletti 2004, Poletto 2010) or in an A position in the IP layer, and that the observed distribution of inversion follows from two universal constraints of movement affecting extraction through the vP edge: a) cyclicity (extraction through the edge of the vP phase, Chomsky 2001) and b) locality/RM (Rizzi 1990, 2004). By comparing the distribution of DP subjects in Ladin with that observed in other V2 languages, such as Mòcheno and Mainland Scandinavian, we propose a novel typology of V2 languages and of subject-finite verb inversion to be captured in terms of parametric variation (see Biberauer & Roberts 2012, Biberauer, Holmberg, Roberts & Sheehan 2014 and Biberauer & Roberts 2016, Biberauer *to appear*).

Keywords: Relativised Minimality; successive cyclic movement; phase edge; extraction; subject-object asymmetries; subject shift; double V2.

1. Introduction¹

Most studies on the Verb-second rule ('V2') have dealt with so-called "strict" V2-languages, like German or Dutch. These languages are characterised by obligatory movement of the finite verb to a C head in all main clauses, followed by the obligatory fronting of a single constituent, which gives rise to superficial V2 in terms of linearisation (see den Besten 1983, Haegeman 1997, Roberts 2004, Holmberg 2015). In V2 languages, the subject can stay in two different positions, linearly: either preverbally (S-V-sentences), or after the verb (obligatory in X-V-S sentences which are characterised by "subject - finite verb inversion"):

- (1) a. Martin hat gestern einen Kuchen gegessen (German)
 Martin has yesterday a.ACC cake eaten
- b. Gestern hat Martin einen Kuchen gegessen (German)
 yesterday has Martin a.ACC cake eaten
- c. *Gestern {Martin} hat gegessen einen Kuchen {Martin}
 yesterday Martin has eaten a.ACC cake Martin (German)
- 'Martin ate a cake yesterday.'

In this chapter, we examine data from Ladin, a group of varieties spoken in the Italian Dolomites that is traditionally considered as part of "Rhaeto-Romance". We focus on Badiotto and Gardenese, which both display a "relaxed" V2, i.e. they allow more than one constituent in a preverbal position. Both varieties also show another property that is absent from German: DP subjects can occur

¹ We thank our Badiotto and Gardenese informants, in particular Marika Demetz and Martina Irsara, who took part to our study, the audiences of the workshop *Formal Approaches to Romance Microvariation* at the SLE-conference in Naples (2016), the workshop on Verb Second at the DGFS-conference in Konstanz (2016), the Linguistic Seminars of the Universities of Siena, Ca' Foscari in Venice and Ghent. Moreover, we are very grateful to the four reviewers of the paper for their useful feedback and suggestions and to the editors of the volume for their support in the editorial process. Finally, we thank Rachel Murphy for editing the English of the paper. Our errors are our own. Jan Casalicchio's part of the research leading to these results has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no. 613465 (AThEME) and from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 681959 (MicroContact). The article is a joint work; however, for the concerns of the Italian Academy, Jan Casalicchio takes responsibility for §§ 1, 2 and 3, and Federica Cognola for §§ 4, 5 and 6.

immediately after the finite verb (1b) in some restricted contexts only. In other contexts, the subject occurs in other positions, like on the right of the past participle (1c). Key to our investigation is the fact that the Ladin varieties vary greatly with respect to which contexts allow this German-like inversion (1b; henceforth: G-inversion).

We show that such variation depends on the interplay of two factors: i) the nature of the constituent fronted to the preverbal position, and ii) the pragmatic role of the subject. This observation, coupled with a comparison with other varieties that show some specific similarities with Ladin (Mòcheno, see Cognola 2013; Dinka, see van Urk and Richards 2015, van Urk *this volume*), leads us to propose that in both Gardenese and Badiotto the subject can be moved to two positions: either in a FocusP of the vP periphery (Belletti 2004), or in Spec,TP. We demonstrate that the availability of these subject positions depends on the interplay of two types of restriction: the Phase Impenetrability Condition ('PIC', Chomsky 2001), which restricts the extraction through the vP-phase, and Relativised Minimality (Rizzi 1990, 2004). We suggest that the distribution of Germanic inversion in Ladin results from a V2 rule in both higher and lower phases, which are connected by cyclic movement. Ladin thus differs from German in having two EPP-features, one at the edge of each clausal phase: in the CP and in the vP. Furthermore, we suggest that the internal variation in Ladin can be accounted for if the low Periphery is built differently in the two varieties, and if Scene-setting adverbs are either externally merged in the CP or moved there from a lower position, passing through the low TopicP (thus interfering with the movement of the subject).

The chapter is organised as follows. In section 2 we give an overview of Ladin syntax; in section 3 we discuss the methodology and results of our study. Sections 4 and 5 are devoted to the analysis of the distribution of lexical subjects in Ladin and to the discussion of the relevance of the results for current scholarship. In 6 we give a summary of the goals reached in the paper and an outlook on future research.

2. Subject-finite verb inversion in Ladin

2.1. Dolomitic Ladin: overview

Ladin is traditionally considered to be part of 'Rhaeto-Romance', a cover term that refers to three groups of geographically non-contiguous varieties (Ascoli 1873, Gartner 1883): *Romansh*, spoken in Switzerland (Graubünden canton); *Ladin*, spoken in the Italian Dolomites (provinces of Trento, Bolzano/Bozen and Belluno); and *Friulian*, mainly spoken in the region of Friuli Venezia-Giulia.² The latter two areas are both in North-Eastern Italy. Ladin is divided into four main groups, corresponding to different valleys in the Dolomites: two of them are on the Southern side (Fassano and Fodom), and have been influenced by Italian and other Italo-Romance dialects since their development from Latin, and - to a lesser extent - from German varieties. The remaining two (Gardenese and Badiotto) are on the Northern side and have developed in contact with both German and Italo-Romance dialects; the heaviest influence, which involves the lexicon and only indirectly syntax³ comes from the Tyrolean dialect which has been spoken in the neighbouring area since the Middle Ages (for the division of the Ladin varieties, see Pellegrini 1977, Salvi 2016, Casalicchio *to appear* a.o.).⁴

The Northern varieties, which are particularly conservative, have a different internal division: Gardenese is a homogeneous variety with little internal variation (although there are some signs of inter-generational and diatopic variation, see Casalicchio 2011, Casalicchio & Cognola (2018) for

² On the term "Rhaeto-Romance" and different approaches to its unity, see Pellegrini (1991), Haiman & Benincà (1992), Goebel (2000), Vanelli (2004), Benincà & Vanelli (2005), a.o.

³ This paper does not directly approach the very interesting and intriguing problem of the role of contact in shaping the syntax of the considered languages, but limits itself to providing a theory-informed description of the syntax of lexical subjects in a series of V2 languages and a comprehensive theoretical account of the observed variation. The Ladin varieties considered in the paper and Mòcheno are spoken in contact situations (the former with Tyrolean and Italian, Dell'Aquila & Iannaccaro 2006: 95; the latter with regional Italian and Trentino dialect, Cognola 2011). However, the role of contact in syntax has been shown to be limited to the acceleration or slowing down of internal processes, because syntax, at least in these three varieties, does not seem to be shaped by any syntactic loan external to their system (see Cognola 2011, 2013 a,b, 2014 for Mòcheno adults and children; Benincà 1994, Bidese, Casalicchio & Cordin 2016, and Casalicchio & Cognola *in press* for the same conclusion for Ladin). What has been shown to play a crucial role in the syntax of these varieties are isolation and conservatism – along with the lack of any syntactic standardisation.

⁴ The two varieties are each spoken by around 10,000 people in the homonymous valleys of Gardena and Badia (data from the official 2011 census of the Province of Bolzano/Bozen).

cases of syntactic variation), whereas Badiotto is diatopically divided into at least three groups, mainly on the basis of phonological and morphological properties: High Badiotto, Central Badiotto and Mareo/Marebbano (spoken in the lateral valley of Marebbe), see Salvi (2016). Both Badiotto and Gardenese are particularly conservative, and this explains why they still have a V2 rule, which has been lost by all the other Romance varieties in Italy. According to Benincà (1985/86), this rule is not the result of a "borrowing" from the neighbouring Germanic varieties, as claimed by the *vulgata*; rather, it is a relic of the medieval Romance V2-rule, which has only survived in these peripheral and strongly conservative varieties, possibly due to contact with V2 German varieties (contact as reinforcement).⁵

While Ladin has been the object of a number of traditional dialectological studies since Ascoli (1873) – most of which focused on phonology, morphology and/or the lexicon - syntax, especially from a formal perspective/approach, has been little studied. The syntactic aspects that have been investigated by generative grammar include subject pronouns (Poletto 2000, Rasom 2003, Casalicchio 2016b), interrogation and modal particles (Poletto 2000, Hack 2013), gerunds used in perceptive constructions (Casalicchio 2013, 2016a), restructuring (Casalicchio & Padovan to appear) and agreement within DPs (Rasom 2008). The V2 rule in Gardenese and Badiotto has been analysed by some authors: Benincà (1985/86, 2013) focuses on the general properties of the Ladin V2, contrasting it with the German V2 and underlining its Romance origin; Poletto (2002) analyses the Left Periphery and cases of V3 in a single Badiotto variety (San Leonardo). Finally, Casalicchio & Cognola's article (in press) describes the microvariation in both the subject position and V3/V4 word orders found in Gardenese and Badiotto.⁶ The present article proposes an analysis of the various possible subject positions in 'subject - finite verb' inversion contexts.

⁵ Note however that the Gardenese and Badiotto V2 differs to some degree from that found in Old Italian (see Poletto 2002, Casalicchio & Cognola 2018).

⁶ Moreover, an overview of the phonology, morphology and syntax of the Ladin varieties is proposed in Salvi (2016, to appear), where all varieties are described together, and Casalicchio (to appear), where each variety is discussed separately.

2.2 General characteristics of Gardenese and Badiotto

Like all Romance languages, Gardenese and Badiotto have a basic SVO word order. Moreover, they are characterized by a "relaxed" V2 rule.⁷ This means that these varieties have an EPP-feature in CP, which requires movement of the finite verb and of one constituent to the Left Periphery (Haegeman 1997, Poletto 2002, Roberts 2004, Holmberg 2015 among others). The latter has an articulated structure made up of different functional projections, corresponding to different functions of the syntax-discourse interface (Rizzi 1997, Benincà 2001). For this reason, there may be more than one constituent preceding the finite verb in CP, unlike in strict V2-languages like German. These V3 and V4 word orders obey different restrictions and are subject to diatopic variation between Gardenese and Badiotto, on the one hand, and among the three Badiotto subvarieties (High Badiotto, Central Badiotto and Marebbano,) on the other, see Casalicchio & Cognola (2018)) Thus, although Ladin does not have a consistent **linear** V2-property, it definitely has a **structural** Verb Second, since there is clear evidence for an EPP-feature in CP that forces the finite verb to move to this layer in main clauses, like in German and other strict V2-languages.

In this article we focus on the exact position of the DP-subject when it is postverbal, rather than on V3/V4 word orders. As we show, even in this case, Ladin varieties are characterised by important microvariation, concerning in particular the position immediately behind the verb (G-inversion): while this position is obligatory in all subject-finite verb inversion contexts in a strict V2 language like German, in Ladin it is restricted to some specific pragmatic functions of the subject.

2.3 Previous analyses of Ladin subject-finite verb inversion

⁷ For the V2 constraint in general, see den Besten (1983), Biberauer (2003), Branigan (1996), Holmberg (2015), Holmberg & Platzack (1995), Tomaselli (1990), a.o. For a Split-CP analysis of the Left Periphery see Benincà (2001), Benincà&Poletto (2004), Rizzi (1997), a.o. For relaxed V2 languages (especially Old Romance): Adams (1987), Benincà (1984, 1994, 1995, 2006, 2013), Benincà & Poletto (2004), Casalicchio & Cognola (2018), Cognola (2013, *to appear*), Fontana (1993), Hirschbühler & Junker (1988), Ledgeway (2005, 2007, 2008), Poletto (2002, 2014), Roberts (1996, 2004), Salvesen (2013), Salvi (2000, 2004), Vance (1989), Vanelli (1987), Wolfe (2015a,b).

As already noted, Ladin syntax has usually been ignored in studies on this language. Formal analyses and descriptions of the V2 rule in Gardonese and Badiotto have been proposed by Benincà (1985/6 and 2013), Poletto (2000, 2002) and Salvi (2000, 2016, to appear). Gallmann *et al.*'s (2013) descriptive and normativity-oriented contrastive grammar (Italian-German-Ladin) also examines it. In her papers on Ladin V2, Paola Benincà (1985/6, 2013) notes that the finite verb always moves to the CP in Ladin main sentences. When the subject is represented by a clitic subject pronoun, it always attaches to the verb, either in the proclitic position, if there is no other constituent in the preverbal position 0 (2a); or in the enclitic position (20b):

(2) a. L maia n mëil (Gardonese; Benincà 1994: 94)

he.SUBJ.CL.3.SG.M eats an apple

b. Zën mái-l n mëil (Gardonese; Benincà 1994: 94)

now eats=SUBJ.CL.3.SG.M an apple

‘Now he eats an apple.’

She also gives an example of lexical subject-finite verb inversion, but does not discuss it in detail, because her work is focused on the movement of the finite verb and the general V2 property of Ladin:

(3) L liber a Tone cumpré inžér (Badiotto; Benincà 1994: 94)

the book has Tone bought yesterday

‘Tone bought the book yesterday.’

Poletto (2002) gives a fine-grained description of the mechanism of subject-finite verb inversion in the Badiotto variety of San Leonardo. According to her, three patterns of inversion exist which are exemplified in (4, from Poletto 2002:223): i) the subject follows the verb without any subject clitic (40a); ii) an enclitic subject pronoun is put between the verb and the DP-subject, with which it agrees in number and gender 0(4b); iii) an impersonal expletive clitic is used instead of the subject

pronoun described in ii) 0(4c). According to Poletto, the last pattern is only attested in the older generation of speakers, while the others use i) and ii):⁸

(4) a. Duman mangia \emptyset la muta pom (Badiotto)

tomorrow eats the girl apple

b. Duman mang-**la** la muta pom (Badiotto)

tomorrow eats=SUBJ.CL.3.SG.F the girl apple

c. %Duman mang-**l** la muta pom (Badiotto)

tomorrow eats=it.EXPL the girl apple

‘The girl eats apples.’

Note that in all patterns the DP subject immediately follows the verb. Poletto (2002) does not discuss whether the word orders in (4) are possible in all pragmatic/discourse contexts or not.⁹

To the options illustrated in (4) a fourth option has to be added. Indications for the possibility of putting the subject in a lower position, i.e. after the past participle, come from Salvi (2016, to appear: 165): he notes that, although the most common position of the subject on V2 Ladin varieties is immediately to the right of the finite verb (5a and (4) above), it is also possible for it to take a lower position when the subject is rhematic and the verb is unaccusative (5b). We refer to

⁸ As noted by an anonymous reviewer, the structure in (4c) is still attested in Gardonese, where it is used in presentative constructions (Siller-Runggaldier 2012). She/he also notes that in our data sentences with the structures in (4b-c) never show up. Here we suggest that this may depend on the fact that our Badiotto informant belong to the group of middle-aged speakers (see below) where the construction is not attested, as noted by Poletto (2002). Therefore, none of them produced a construction comparable to (4c) in the elicited data. Since our informants never used these constructions, we cannot check the subject’s position in these cases. In any case, sentences with an expletive clitic (4c) are all new (presentative) in Gardonese, thus they may have a different structure. A preliminary survey shows that in these cases the subject usually follows the past participle, thus it may stay in situ, like in sentences with a fronted object (see below for details). We will address the issue of the difference between (4a) and (4b-c) in future work.

⁹ In Poletto (2000), the same author had observed that there is some degree of diatopic microvariation in the inverted subject position, comparing a High Badiotto with a Mareo variety. She did not come back to this topic in Poletto (2002), focusing on a single variety instead. See Casalicchio & Cognola (*in press*) on diatopic variation within Ladin varieties.

and any patterns of microvariation of the positioning. As we show, pragmatic factors play a crucial role in determining the exact position of the subject when it does not show up in preverbal position.

3. Novel data

3.1 Data collection

In our fieldwork, we interviewed eight informants (aged between 25-40, average age: 30): two speakers of Gardenese and six of a Badiotto variety (four speak High Badiotto and two Marebbano). We chose to gather more data from Badiotto because of that language's well-known diatopic variation, which is much more limited in Gardenese, see Casalicchio (2011) for a case study (section 2.1). After a preliminary phase in which we had a detailed interview with two informants (MD and MI), we distributed a questionnaire to the eight informants. The questionnaire, which the informants completed alone, consisted of 8 production and 38 judgement tasks. In the production tasks, informants had to answer to a wh-question. We asked them to start the sentence with a scene-setter or with the direct object, which were always given in the question (for example: "Who has always bought the flour in the shop? - Answer with: 'the mum'. Please start the sentence with 'the flour'"). The subjects of the sentence were either given or new. In the judgement tasks, we tested different orders, including V3 with two fronted constituents and sentences with G- and R-inversion. The sentences were given in the informant's variety (Badiotto or Gardenese), and they had to be judged on a 1-5 point scale. Finally, there were some questions to establish the informants' sociolinguistic profiles. In the instructions we asked the informants to answer spontaneously, without considering normative grammar rules (Anderlan-Obletter 1991, Gasser 2000, Gallmann *et al.* 2008-2013).¹¹

The outcomes of the enquiry clearly show that informants were not biased by normative pressure, since on several occasions their answers differed from the prescriptions of the standardized grammar. Nevertheless, we decided to exclude two informants from the present analysis: MD,

¹¹ For further details about the methodology of the data collection, see Casalicchio & Cognola (in press).

because of her particular sociolinguistic situation (she only learned Gardenese at kindergarden, after Year 3, not in the family/at home); and MR, because she speaks a variety which completely lacks inversion in main declarative clauses and her answers therefore offer no useful insights into the grammar of subject inversion (Casalicchio & Cognola (2018)), see Table 1.¹²

Informant	Variety	Village	Gender	Age
LH	Mareo	San Vigilio	F	25
JC	Mareo ¹³	Rina	F	23
SI	High Badiotto	San Leonardo (but lives in S. Vigilio)	F	38
DI	High Badiotto	San Leonardo	F	33
MI	High Badiotto	San Leonardo	F	40
IK	Gardenese	Ortisei	M	28

Table 1: Informants' biographic profile.

3.2 Subject positions and information structure

In this section we show that the XP-Vfin-S pattern is not obligatory in inversion contexts when the subject is a DP, but it is fed by the interplay between syntactic and discourse factors.

According to our data, the DP subject can appear in three positions when it is not the first constituent of the sentence:

1. It is not inverted: the subject follows the first constituent and precedes the verb. This triggers V3 or V4 word orders, like in non-V2 languages (e.g. Italian or English). The order is then:

¹² The two excluded informants (MD and MR) are not listed in Table 1.

¹³ In Casalicchio & Cognola (2018), the variety of Rina is indicated as Central Badiotto. Actually, Rina is a transition variety between Mareo and Central Badiotto. As suggested by an anonymous reviewer, here we opt for indicating it as Mareo because the majority of the literature take this position (although others consider it as Central Badiotto), see Casalicchio *to appear* for an overview.

(6) XP - S - V_{fin} - ...

Ieri Maria ha mangiato la torta (Italian, no inversion)

yesterday Maria has eaten the cake

‘Yesterday Maria ate the cake.’

2. The subject follows the finite verb but precedes the past participle and all the other constituents.

This pattern is typical of V2-languages, and is also found in English main interrogative clauses

(Adams 1987, Vance 1989, Salvesen 2013). We refer to this pattern as **G(ermanic)-inversion**:¹⁴

(7) XP - V_{fin} - S - V_{non-fin}

a. Gestern hat Maria den Kuchen gegessen (G-inversion, German)

yesterday has Maria the.ACC cake eaten

‘Yesterday Maria ate the cake.’

b. Denne boka har Peter lest (G-inversion, Norwegian,

this book has Peter read from Westergaard 2013 b:172)

‘Peter has read this book.’

3. Finally, the DP-subject may also follow the non-finite verb and the other arguments. This pattern,

too, is found in Romance languages, and is usually called "free inversion" (see e.g. Belletti 2004,

Sheehan 2010).¹⁵ For the sake of clarity, we will refer to this pattern as **R(omance)-inversion**:¹⁶

(8) XP - V_{fin} - V_{non-fin} - S

14 As pointed out by an anonymous reviewer, the possibility of having G-inversion in a V2 language is independent of its OV nature: the example in (7) shows, in fact, that G-inversion is possible in both a V2 language with OV word order like German, and in Norwegian, a V2 language with VP base word order. The languages investigated in this paper are characterised from basic VO (Ladin) and mixed OV/VO word order (Mòcheno).

15 As is well-known, it has been claimed in favour of a correlation between the possibility of having R-inversion in a language and its pro-drop nature, i.e. the possibility for a silent referential null subject in Spec,TP realising this position in cases in which the NP subject remains in the lower portion of the clause (Rizzi 1986, Sheehan 2010 and Cognola & Casalicchio in press for a recent overview on the topic). Among the Romance languages, in fact, French, whose pro-drop status is still debated, free-inversion is subject to severe restrictions (see Roberts 2010 and Zimmermann to appear for recent discussion). For reasons of space, in this paper we will not investigate the (complex) relationship between pro-drop and R-inversion in the languages discussed in the analysis, which is not fully understood. Here suffices to say that both Ladin varieties and Mòcheno are partial pro-drop languages (see Holmberg 2005, Barbosa 2017, Cognola & Casalicchio in press for a definition of the notion of partial null-subject languages, and Cognola 2013 a, 2014 for the pro-drop analysis for Mòcheno; Casalicchio 2016 b for a pro-drop analysis for Ladin), which implies that, under certain (not fully understood) conditions, Spec,TP can host *pro* in these varieties.

16 Note that R-inversion does not correspond to right dislocation: when the subject is right dislocated, it is divided from the rest of the sentence by an intonative break, which is missing in R-inversion.

- a. Ieri ha mangiato la torta Maria (R-inversion, Italian)
 yesterday has eaten the cake Maria
- b. Ayer comió la tarta María (R-inversion, Spanish)
 yesterday ate the cake María
- ‘Yesterday Maria ate the cake.’

In our study, we have considered five different contexts, which all involve main clauses – four declarative and one interrogative. The main declarative clauses differ for two parameters: the information status of the DP subject (which is either given or new-information focus), and the nature of the sentence-initial constituent (either a scene-setter adverb or a given/new-information object).¹⁷

Table 2 shows the five contexts we tested: in 1 and 2, the fronted element is an adverbial with a scene-setting function (usually a temporal or locative adverbial). These two contexts differ minimally, in the informational status of the DP subject, which is a new information focus in the first case, and a discourse-given element in the second. The same configuration is replicated in Contexts 3 and 4, but in these cases the fronted element is a discourse given argument, the direct object. As we show below, when an argument DP is fronted, the results differ from those cases in which an adverbial is fronted. Finally, in Context 5 we test a wh-sentence: the wh-element is the

¹⁷ According to the generative literature, in this section we use the following terms:

- "Focus": a constituent that is either new in the discourse or contrasted (see Benincà&Poletto 2004, Cruschina 2010, Rizzi 1997, Frascarelli 2000):
 - (i) *GIANNI ha chiamato (non Maria) (Italian)*
 Gianni has called (not Maria)
 'It is Gianni that called (not Maria)'
- "Topic": With this label, we refer to a thematised constituent realizing old/given information; following Lopez (2009) and Cruschina (2010), we assume that the core property of all types of topics is their presuppositional character, that is their being part of the presupposition of the speaker (D-linking in Pesetsky 1987). We further assume that topics are split into two classes according to the property of [givenness]: some topics are compatible with an out-of-the-blue sentence, in which they are simply presupposed, whereas other topics are grammatical only if they have already been introduced into the linguistic context (Frascarelli&Hinterhölzl 2007 and reference therein). Topics precede the finite verb in the sentence-initial position (see Rizzi 1997, Benincà 2001).
 - (ii) *A Maria, le ho dato un libro*
 to Maria, her.CL I.have given a book
 "I gave Maria a book"
- "Hanging Topics" are also thematised constituents which appear in the sentence-initial position and are resumed by a pronoun or a lexical epithet. Hanging Topics can only be DPs (Benincà 2006):
 - (iii) *(*A) Maria, ho dato un libro a lei / a quella bella ragazza*
 (*to) Maria, I.have given a book to her to that nice girl
 "Maria, I gave a book to her / to that nice girl"

fronted constituent (*wh in situ* is not allowed in Gardenese nor Badiotto), and the subject is given in the discourse. We included this last context because it is a special context, since it gives rise to V2 also in languages which are not V2-languages any more, like many Northern Italian dialects and also English (so-called 'residual Verb second', see Rizzi 1996). Thus, we test if the subject position in *wh*-questions corresponds to that found in other types of subject-finite verb inversion contexts.

Context	Fronted constituent	Pragmatic role of the DP subject
1	Scene-setter adverbial	New
2	Scene-setter adverbial	Given
3	Given direct object	New
4	Given direct object	Given
5	Wh-element	Given

Table 2: Contexts tested.

We now discuss each of the five contexts in detail, and in the next section (section 4) propose an analysis for the different patterns found.

3.3 Analysis of the pragmatic contexts

Our data indicate that, unexpectedly, the position of the subject differs according to the nature of the sentence-initial constituent and of the discourse status of the DP subject. Therefore a fronted object and a fronted scene setter may trigger different inversion patterns. Moreover, the same combination of syntactic and pragmatic factors does not trigger the same results in all varieties, because there is notable diatopic variation, which is particularly prominent, as expected, when we compare Gardenese with Badiotto, although we can also find slight variation patterns within the Badiotto group.

Context 1 involves a scene-setting adverbial and a subject which is a new information focus (as shown by the fact that the informants are answering a question on the subject).¹⁸ In this case, the informants are neatly divided by variety: the Gardenese informant chooses R-inversion and judges G-inversion to be ungrammatical (90a). On the other hand, all Badiotto informants use G-inversion only (9b):¹⁹

(9) *Who has always bought the flour in the shop?* [answer: the mum; begin with: in the shop]

- a. Te butëiga, la farina l' à for cumpreda **la l'oma**
in shop the flour SUBJ.CL.3.SG.F=has always bought the mum
(Gardenese, R-inversion)
- b. Te botëga à tres **la mama** cumprè la farina²⁰
in shop has always the mum bought the flour
(Badiotto, G-inversion)
- ‘Mum has always bought the flour in the shop.’

The next context (**Context 2**) also contains a fronted scene-setting adverbial. In this case, however, the subject is given in the discourse context (i.e. it is mentioned in the question the informants have to answer). In this case, the Badiotto informants are split: three of them produced a V3-sentence (no inversion), (10a). Two of them, however, used G-inversion (SI and LH), as did the Gardenese informant (10b). The use of G-inversion is also accepted by the informants who produced V3 sentences, with the exception of one informant (MI), who considers (10b) to be completely ungrammatical.

18 An anonymous reviewer expresses doubts on our choice to test new-information focus with the definite DP like *the mum*, which, as he correctly points out, is highly accessible in terms of Lambrecht (1994) – a fact which might inficiate its correct interpretation as focus. As the discussion in this subsection shows, the definiteness of the subject does not appear to play any role in its distribution in the clause, since definite, accessible subjects (like *the mum* or *Maria*) pattern differently according to their being given or new in the sentence, see examples (8) to (10) vs (11) and (12). Therefore, the point raised by the reviewer is irrelevant here, because “the mum” behaves differently according to its being given/new, with means that its information status determines its syntactic distribution, and not its accessibility in the context.

19 Recall that informants were asked to respond to production and judgements tests. In the latter, we checked the acceptability of G-inversion, which was the focus of our investigation, and not of R-inversion or no inversion. These patterns came out spontaneously in the production tests. An alternative construction in Badiotto is a cleft structure, see Context 3 for and sections 4 and 5 below for details.

20 Note that in cases where more than one informant choses the same type of inversion, we just report one answer, as an illustration, because there are often phonological or even lexical differences between the different Badiotto informants.

(10) *What did Maria buy yesterday?* [answer: potatoes; please begin with: yesterday]

a. Inier **Maria** à cumprè i soni (Badiotto, no inversion)

yesterday Maria has bought the potatoes

b. Inier à **Maria** cumprè i soni (Badiotto, G-inversion)

yesterday has Maria bought the potatoes

‘Maria bought potatoes yesterday.’

The next two contexts involve fronted direct objects, which are topicalised (and thus given) in both cases. In **Context 3** the subject is a new-information focus (targeted by the question the informants had to answer). In this case, none of the informants use G-inversion, although it is accepted by two Badiotto informants. It is worth noting that these are the informants who also produced G-inversion in Context 2 (SI and LH). The other Badiotto informants judge it marginal or completely ungrammatical, as does our Gardenese informant, who rates this sentence 1 (completely out). In the production test, the Gardenese and Badiotto informants are again neatly split: IK (the Gardenese informant) chooses R-inversion (11a), like in Context 1, while all the Badiotto informants resort to a cleft sentence (11b).

(11) *Who wrote the letter to the newspaper?* [answer: the mother; please begin with: the letter]

a. La lëtra tla zaita l'à scrita **la l'oma**

the letter to-the newspaper OBJ.CL.3.SG.F=has written the mum

(R-inversion Gardenese)

b. La lëtra al foliet él sté **la mama** che ti à scrit

the letter to-the newspaper is=EXPL been the mum that to=it.CL has written

(Badiotto, cleft)

‘It was the mother who wrote the letter to the newspaper.’

In the other context involving a given direct object in first sentence-position the subject is discourse given. In this case, G-inversion is only used (and accepted) by a single Badiotto informant (SI),

(12a).²¹ The others either use no inversion (1 Badiotto informant, JC), (12b), or R-inversion (MI, DI).²² This last choice is also made by the Gardenese informant (12c):

(12) *When did mum buy the book?* [answer: yesterday; please begin with *the book*]

a. %Le liber à **la mama** cumprè inier (Badiotto, G-inversion: one informant)

the book has the mum bought yesterday

b. Le liber, **la mama** l à cumprè inier (Badiotto, no inversion)

the book the mum him.CL has bought yesterday

c. L liber l à cumprà **la l'oma** inier R-inversion, Gardenese

the book him.CL has bought the mum yesterday

‘Maria bought potatoes yesterday.’

‘It was yesterday that mum bought the book.’

Finally, in the last context we tested what happens when there is a *wh*-element in first position. In this case, the Gardenese and three out of five Badiotto informants produced sentences with G-inversion (13a), and one informant (JC), although she did not produce it, nevertheless judged it to be grammatical. Thus, there is only one informant (MI) who completely rejects G-inversion in *wh*-questions. She and JC only use sentences with the subject right-dislocated, which is an option that is also used by all the other informants (13b). We tested this type of sentence with three different *wh*-items (*when*, *what*, *why*).

(13) a. Can à pa **Mario** lit le liber? (Badiotto, *G-inversion*)

when has PART Mario read the book

b. Can àl pa lit le liber **Mario?**

when has=SUBJ.CL.3.SG.M PART read the book Mario

(Badiotto, right-dislocation)

‘When did Mario read the book?’

²¹ We indicate with ‘%’ a sentence that is judged as perfectly grammatical (or even produced) by some speakers, while it is rejected by others. In this case, (12a) is only produced for one speaker.

²² The Badiotto informant (LH), which usually patterns with SI, did not answer.

Summing up the results, we observe that the most felicitous context for G-inversion is wh-questions. This finding could be connected to the fact that we find V2 with G-inversion also in residual V2 languages (see above), like most Northern Italian dialects (with clitic subjects only) and even English. In main declarative sentences, G-inversion is more acceptable when the fronted element is a scene-setting adverbial, but the two varieties are split with respect to the pragmatic status of the subject: in order to be compatible with G-inversion, the subject must be focused in Badiotto, and given in Gardenese. Finally, the cases in which the fronted element is a given direct object are the most complex, because G-inversion is never accepted in Gardenese, and only accepted (but hardly ever produced) by some Badiotto informants, with a slight preference for the cases in which the subject is again focused.

4. Analysis

4.1. Data overview and preliminary considerations

The data discussed in section 3 indicate that in no variety is G-inversion considered a phenomenon comparable to that of strict V2 languages. More specifically, in Ladin, unlike in strict V2 languages, G-inversion is not obligatory (or even possible) in any X-V sentences; instead, it is restricted to a subset of contexts, summarised in Table 3.

G-inversion is felicitous in interrogative main clauses (Context 5); in sentences in which the sentence-initial constituent is a scene setter and the DP subject is focussed (Badiotto, Context 1), and in sentences in which the sentence-initial constituent is a scene setter and the DP subject is given (Gardenese, Context 2). When the sentence-initial constituent is the direct object, G-inversion is ruled out in main declarative clauses in both varieties, irrespective of the information status of the DP subject.

Contexts	Context 1	Context 2	Context 3	Context 4	Context 5
Fronted	Scene-setter	Scene-setter	Given direct	Given direct	Interrogative
Constituent	adverbial	adverbial	object	object	wh- element
Pragmatic role of the DP subject	New (focus)	Given	New (focus)	Given	Given
Varieties					
Badiotto	G-inversion	No inversion	Cleft	R-inversion, no inversion	G-inversion
Gardenese	R-inversion	G-inversion	R-inversion	R-inversion	G-inversion

Table 3. Summary of the data.

The data summarised in Table 3 rely on quantitative considerations which do not consider individual variation. Taking this into consideration, however, the picture does not change drastically, since we find that two speakers of Badiotto (SI and LH) consider G-inversion grammatical in all contexts (recall that LH did not give an answer to Context 4, though), i.e. they generalise G-inversion to all contexts, like in German. Their shared behaviour may be due to the fact that they both live in the same village, San Vigilio (although SI speaks a High Badiotto variety). Moreover, one Badiotto speaker (MI) rejects G-inversion in wh-interrogative clauses. Except for these deviations, these speakers pattern with other Badiotto speakers (see Casalicchio&Cognola *in press* for the details on micro-variation within the same variety and across varieties). Crucially, in all varieties G-inversion is extremely marginal in sentences in which the sentence-initial constituent is the direct object.²³

²³ It is accepted by few informants and only produced by a single informant (SI), see Casalicchio&Cognola (*in press*).

4.2. Proposed analysis

The data summarised in Table 3 indicate that the distribution of G-inversion is fed by the same abstract mechanism in Badiotto and Gardenese. More specifically, two interacting factors determine it: the syntactic nature of the sentence-initial constituent (whether it is a *wh*-element, a scene-setter adverbial or an object) and the information status of the DP subject (whether it is given or a new-information focus).

This means that the distribution of G-inversion in Ladin does not only follow from the information status of the DP subject, like in some Germanic languages (where the position before the lexical verb is specialised for contrastive focussed constituents, i.e. see Hinterhölzl 2009, Coniglio et al 2017 on Old High German, Taylor&Pintzuk 2012 on Old English; present-day Yiddish, see Diesing 1997) or in some Romance languages (in which the position before the lexical verb can host both new and given information, see Poletto 2006, 2014 on Old Italian). Such a claim would not, in fact, account for the observed restrictions on the nature of the sentence-initial constituent. We therefore need a more complex and articulated theory, which comprehends the derivation of the whole clause. In the following section, we discuss such a theory put forth for a language with similar phenomena, i.e. Mòcheno (Cognola 2013 a,b).

4.2.1 Role of information structure and successive cyclicity: Mòcheno

Mòcheno is a relaxed V2 language with mixed OV/VO word order (Rowley 2003). Cognola (2013 a,b) shows that the distribution of the two competing OV/VO orders is fed by the interplay between the information status of the fronted constituent and that of the constituents preceding or following the lexical verb, in a very similar (though not identical) fashion to the pattern described for Ladin subjects in this paper. More specifically, OV is only possible in this language if O is focussed, and the sentence-initial constituent is a given element. This is illustrated in the examples in (14). In (14d) we see that OV is ruled out when the fronted XP is an operator, i.e. in *wh*-interrogative

clauses and in sentences with a fronted focus in which the XP appearing lower down in the clause is given (see Benincà 1988 on the information status of interrogative clauses).²⁴

(14) a. Ber hòt kaft s puach?

who has bought the book

b. *Ber hòt a puach kaft?

who has a book bought

‘Who bought the book?’

c. A PUACH hòt-er kaft gester

a book has=SUBJ.CL.3.SG.M bought yesterday

d. #A PUACH hòt-er gester kaft²⁵

a book has=SUBJ.CL.3.SG.M yesterday bought

‘It was a book that he bought yesterday.’

Conversely, OV is obligatory in Mòcheno when the fronted XP is given and the XP appearing lower down in the clause is a focus (15).

(15) *When did he buy the book?*

a. S puach hòt-er gester kaft

the book has=SUBJ.CL.3.SG.M yesterday bought

b. #S puach hòt-er kaft gester

the book has=SUBJ.CL.3.SG.M bought yesterday

‘It was yesterday that he bought the book.’

Who has she bought the book for?

c. S puach hòt-se en de mama kaft

the book has=SUBJ.CL.3.SG.F to the mum bought

²⁴ With O we refer here to any XP constituent (including the DP subject), not just to the object, see Ledgeway (2012: 59, footnote 54).

²⁵ We use the symbol "#" to refer to a sentence that is grammatical, but inappropriate in the given context.

d. #S puach hòt-se kaft en de mama
 the book has=SUBJ.CL.3.SG.F bought to the mum

‘It was for his mother who he bought the book for.’

Crucially, the distribution of G-inversion is also ruled by the mechanism illustrated in (15). As shown in (16), G-inversion is obligatory when the DP subject is focussed and the fronted XP is given, and ruled out when the DP subject is given and the fronted XP is a new-information focus.

(16) *Who bought the book?*

a. S puach hòt de mama kaft G-inversion

the book has the mum bought

b. #De mama hòt kaft s puach no inversion

the mum has bought the book

c. *S puach hòt kaft de mama R-inversion

the book has bought the mum

‘It is the mum who bought the book.’

What did mum buy yesterday?

d. De mama hòt a puach kaft gester no inversion

the mum has a book bought yesterday

e. #A puach hòt de mama kaft gester G-inversion

a book has the mum bought yesterday

f. #Gester hòt de mama kaft a puach G-inversion

yesterday has the mum bought a book

‘It is a book that mum bought yesterday.’

Cognola (2013 a,b) captures the distribution of OV/VO word orders and of G-inversion in Mòcheno through a theory that relies on two core ideas. The first is that the XP preceding the past participle is in an A' (not A) position in the periphery of the vP layer (see Belletti 2004, Poletto 2006) and that the vP periphery is composed of a single lowFocusP.

In (17) we see that a focussed DP subjects or a focussed constituent have to follow sentential adverbs when they appear in G-inversion (17a-b) and OV word order (17c-d) respectively.

(17) *Who has always bought the flour?*

a. S mel hòt òllbe de mama kaft
 the flour has always the mum bought

b. #S mel hòt de mama òllbe kaft
 the flour has the mum always bought

‘It is mum who has always bought the flour in the shop.’

What have you always bought in the shop?

c. En de boteig hòn=e òllbe s mel kaft
 in the shop have=SUBJ.CL.1.SG always the flour bought

d. #En de boteig hòn=e s mel òllbe kaft
 in the shop have=SUBJ.CL.1.SG the flour always bought

‘In the shop I have always bought the flour.’

Cognola&Bidese (2013) on the basis of elicited syntactic data demonstrate that the Mòcheno vP periphery is only formed by a single FocusP and fully lacks TopicPs. Therefore, given constituents can never appear in the OV position (18a-b) or in G-inversion (18c-d) in this language (see the cited literature for more examples).

(18) *Who bought the book?*

a. S puach hòt de mama kaft
 the book has the mum bought

b. #De mama hòt s puach kaft
 the mum has the book bought

‘It is mum who bought the book.’

What has mum bought?

c. #A puach hòt de mama kaft
a book has the mum bought

d. De mama hòt a puach kaft
the mum has a book bought

‘It is a book that mum bought.’

Cognola&Moroni (to appear) on the basis of a prosodic and syntactic analysis of a corpus of spontaneous and semispontaneous speech confirm the claim that constituents appearing in the OV position or in G-inversion are always focussed (all sentences with OV order and G-inversion in the corpus involve a focussed constituent from the syntactic and prosodic point of view).

Here is the structure of the lower portion of the clause assumed for Mòcheno:

(19) [sentential adverbs [FocP [vP [VP]]]]

The second idea in Cognola's analysis is that Focus movement is cyclic and that any fronted focus must saturate the lowFocusP on its way to the FocusP in the high left periphery. This means that an extracted focus does not move directly to the edge of the lower phase (indicated as Functional Phrase, 'FP' in the structure in (20) and in all other structures in the paper) in order to be extracted, but moves first to lowFocusP – thus blocking any further movement to lowFocusP, as shown in (20).

(20) [FocusP subject ... [sentential adverbs [FP ~~subject~~ [FocP ~~subject~~ [vP ~~subject~~ [VP]]]]]]

An extracted topic, in contrast, has to move directly to the edge of the lower phase (here indicated as FP) in Mòcheno – which makes it possible for another XP to be focussed and thus appear before the lexical verb in the OV position, or, in the case of the subject, in G-inversion. As shown in (21), DP subjects always behave as topics when they are extracted from the lower phase, i.e. they move directly to a TopicP in CP and never to the Spec of an A position in the IP layer.

(21)[TopicP subject ... [sentential adverbs [FP ~~subject~~ [FocP object [vP ~~subject~~ [VP ~~object~~]]]]]]

The derivations in (20)⁰ and (21)⁰ allow Cognola to account for the relationship between the sentence-initial constituent and the distribution of G-inversion and OV word order. Cognola (2013 b) assumes cyclic movement to be universal in all the languages in which two foci cannot appear in the same clause, like Italian (see Calabrese 1982). The fact that cyclic focus movement gives rise to the documented distribution of G-inversion and OV/VO only in Mòcheno (and not in Italian, for instance) is accounted for by the idea that the lowest head of the vP periphery is associated with an EPP feature fully comparable to that involved in the high V2 rule. The past participle has to move out of the VP to the lowest head of the vP periphery to satisfy the lowEPP feature thus replicating the same mechanism involving the finite verb in the high periphery (see Poletto 2006, 2014 for a similar, though not identical, mechanism in Old Italian).

4.2.2 Extraction through the vP edge in Ladin

In this subsection we account for the syntax of DP subjects in Contexts 1 (the sentence-initial constituent is a scene-setter and the subject is focussed), 2 (the sentence-initial constituent is a scene setter adverbial and the subject is given) and 5 (the sentence-initial constituent is an interrogative wh-element and the subject is given). In both varieties G-inversion is possible in Context 5, whereas in Context 1 it is only possible in Badiotto, and in Context 2 in Gardenese only.

We propose that the interplay between the nature of the sentence-initial constituent, the discourse status of the DP subject and the distribution of G-inversion in Ladin can be accounted for through Cognola's (2013 a,b) analysis of G-inversion in Mòcheno. As we will see immediately, this analysis cannot be applied as such, but some specific assumptions have to be made for the case of Ladin.

Key to Cognola's (2013) analysis is the idea that DP subjects appearing in G-inversion do not show up in an A-position within IP, but lower down in an A' Focus position in the vP periphery. We propose that the very same claim should also be made for focussed (not given) subjects in both Ladin varieties.

In Context 1 (fronted constituent: scene setter; subject: focussed), the focussed DP subjects appear

below sentential adverbs in G-inversion in Badiotto (22a-b), and below the past participle in Gardenese (in the R-inversion construction, (22c).

(22) *Who has always bought the flour in the shop?*

- a. Te botëga à tres la mama cumprè la farina (Badiotto)
 in shop has always the mum bought the flour
- b. #Te botëga à la mama tres cumprè la farina (Badiotto)
 in shop has the mum always bought the flour

Who has always bought the flour in the shop?

- c. Te butëiga, la farina l' à for cumpreda la l'oma (Gardenese)
 in shop the flour her.CL has always bought the mum

‘It was the mum who has always bought the flour in the shop.’

We suggest that in both sentences in (22) the focussed subject appears in Spec,Low,FocusP (as in Mòcheno) and that the past participle is hosted i) in the head of an FP below FocusP in Badiotto (which leads to G-inversion) and ii) in the edge of the vP phase in Gardenese (which leads to the absence of G-inversion), as illustrated in (23).²⁶

- (23)a. [IP [FP sentential adverbs [FP [FOC-P subject [FOC° past participle [VP subject [VP]]]]]] Bad.
 b. [IP [FP sentient. adv. [FP [FP past participle [FOC-P subject ~~past-part.~~ [VP subject [VP]]]]]] Gard.

G-inversion is possible with given subjects in both Ladin varieties and with new-information foci in Badiotto, unlike in Mòcheno (where G-inversion is restricted to focussed subjects). Given subjects do not show up in a lower FP in either variety, but appear higher up in the clause, i.e. before sentential adverbs and sentential negation, as shown by the examples in (24), where the position of the subject in Context 2 (fronted XP: scene setter; subject: given; G-inversion possible in Gardenese only) and Context 5 (interrogative clause) are considered.

²⁶ According to Belletti (2004), VS word order involving a postverbal focussed subject involves VP movement to LowFocusP in Italian. For Badiotto, we propose that linear VS is derived via head movement of the past participle (not of the whole VP) to the lowest head of the vP periphery (Focus°). For Gardenese, on the contrary, we propose that the past participle *r* moves to the edge of the vP layer (F°).

(24) a. Tla butëiga dl Hofer à mi loma for cumprà la farina (Gardenese)
 in-the shop of-the Hofer has my mum always bought the flour

‘It was at Hofer's where my mum always bought the flour.’

b. Ciuldì n' à pa Mario nia liet l liber? (Gardenese)
 why NEG-has PART Mario NEG read the book

c. Ciodì n'à l Mario nia lit le liber? (Badiotto)
 why NEG-has the Mario NEG read the book

‘Why did not Mario read the book?’

We thus propose that given subjects appear in Spec,TP in both varieties in the G-inversion construction.

(25)a. [TP given subject [FP sentential adverbs [FP [FOC-P past participle [VP [VP]]]]] Badiotto

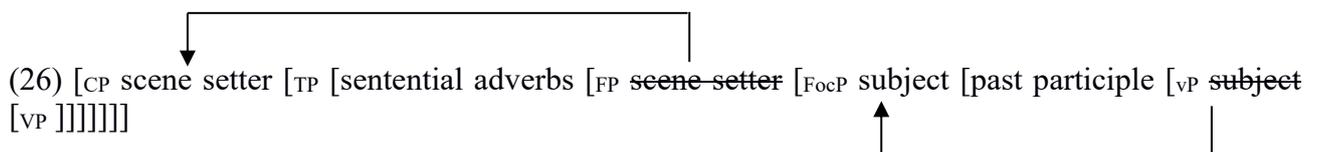
b. [TP given subject [FP sentient. adv. [FP [FP past participle [FOC-P ~~past part.~~ [VP [VP]]]]]] Gard.

Now that we have established the position of DP subjects in Ladin, we have to explain why the distribution of G-inversion is restricted in the way documented in this paper. We propose that the relationship between the sentence-initial constituent and the distribution of G-inversion is fed by recursive movement of fronted constituents, like in Mòcheno. Unlike in this language, however, we suggest that the crucial role is not played by the interplay between the peripheral A'-positions, but by the interplay between the edges of the two phases (which should be considered A-positions, see Chomsky 2001, van Urk & Richards 2015). In Ladin, in fact, G-inversion is possible in sentences with a fronted wh-element, unlike in Mòcheno: this indicates that extraction through the lowFocusP does not preclude inversion, i.e. the possibility of further extract from the vP edge. Moreover, in Ladin G-inversion is excluded in sentences with a fronted object – a fact which cannot be captured through the theory elaborated for Mòcheno.

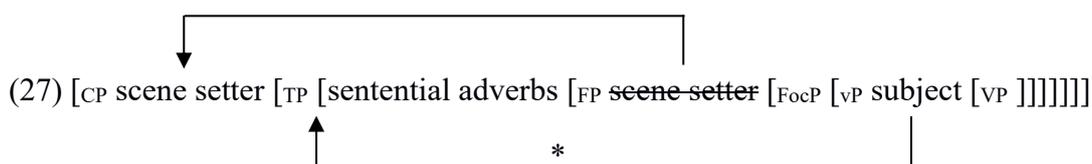
We propose that the specific restrictions found in Ladin follow from specific conditions on extraction through the edge of the vP phase (see Chomsky's phase impenetrability condition) and of

Relativised Minimality. Let us see how the proposed account allows us to make sense of the data starting with Contexts 1 and 2. In these contexts there appear a fronted scene setter and a focussed (Context 1) or given (Context 2) subject. G-inversion is possible in the former context in Badiotto and in the latter in Gardenese. Why is this opposite pattern attested, given that in both varieties DP subjects can appear in both lowFocusP and in Spec,TP (modulo the discourse configuration)?

Starting with Badiotto, G-inversion is possible in this variety if the DP subject is focussed: we propose that in this case, the subject remains in the lower phase and the scene setter is extracted from the lower phase (Context 1, 26).



In sentences with a fronted scene setter and in which the subject is not focussed, but given, G-inversion is blocked (Context 2). In (25) we proposed that given DP subjects appear in Spec,TP in both Ladin varieties: therefore the restriction in Context 2 should be restated as a restriction on subject movement to Spec,TP. We propose that given DP subjects cannot move to Spec,TP if another constituent (the scene setter) has been extracted through the edge of the vP phase. The ungrammaticality of G-inversion in Context 2 thus follows from the fact that the scene-setter is moved first in the derivation, and thus it blocks further movements through the vP edge (Chomsky 2001), as shown in (27).



In Gardenese, unlike in Badiotto, G-inversion is ungrammatical in Context 1, where only R-inversion is possible, and possible in Context 2. Starting with the latter context, we see that the

movement of the given DP subject out of the lower phase to Spec,TP is not blocked in sentences with a fronted scene setter. We propose that this follows from the specific properties of the class of scene-setting adverbials, which, as shown by Benincà (2006), Benincà & Poletto (2004), a.o., can be extracted from the clause or be merged directly in CP. We propose that Gardenese instantiates the latter option: since scene-setters are not extracted from the vP phase, G-inversion (i.e., movement to Spec,TP) is possible with this class of adverbs (28).

(28) [CP scene sett. [TP subject [sentent. adverbs [FP subject past participle [FOCP [VP subject [VP]]]]]]]

As for Context 1, we assume that the subject appears in Spec,lowFocusP as in Badiotto, and that the linear word order follows from the fact that the past participle has moved to the edge of the vP phase (28). The scene-setter is merged directly in CP, as in (29).

(29) [CP scene sett. [TP [sentient. adv. [FP past part. [FOCP subject [~~past participle~~ [VP subject [VP]]]]]]]]]

The structures (28) and (29) indicate that the distribution of G-inversion in Contexts 1 and 2 is fed by the structural duplicity of scene-setter adverbs, which can behave as ordinary adverbs extracted from the vP phase (Cinque 1999) or as CP-elements merged directly in the sentence-initial position (see Benincà 2006, Benincà & Poletto 2004). In the former case, scene-setters interact with further extractions through the vP edge (Chomsky 2001)– thus blocking G-inversion when it involves a given DP subject (Badiotto).

Note that the proposed account also allows us to make sense of the observed micro-variation among the speakers of Badiotto whom we consulted. Informants SI & LH pattern with the other Badiotto informants in the distribution of G-inversion, with the only difference being that they also produce it with a fronted scene setter and a given DP subject (Context 2), like in Gardenese. We suggest that for these informants, scene setters can be merged directly in CP, like for speakers of Gardenese.

Finally, let us consider wh-interrogative clauses. In this sentence type, G-inversion is possible in both varieties, i.e. in both the given subject can move out of the vP phase to Spec,IP, irrespective of

the fact that a wh-element, we assume, has been extracted from the vP phase.

This fact, far from being a counter-example to the proposed theory, indicates that the theoretical account needs to be refined. We suggest that the observed asymmetry between extracted constituents follows from the fact that movement out of the vP phase is subject to the universal locality constraints of Relativised Minimality (henceforth: RM, Rizzi 1990, 2004 and Cognola 2013, *to appear*, Casalicchio&Cognola *in press*, 2016 for RM effects in Mòcheno and Ladin left periphery).²⁷ Following Rizzi (1990, 2004), we assume that RM is a locality principle according to which in a configuration like (30) “a local structural relation cannot hold between X and Y if Z is a potential bearer of the relevant relation and Z intervenes between X and Y” (Rizzi 2004:223).

(30)... X ... Z ... Y ...

According to Rizzi (2004:223), local relations must be satisfied in a minimal configuration, which is defined in (31).

(31) Y is in a Minimal Configuration (MC) with X iff there is no Z such that

(i) Z is of the same structural type as X, and

(ii) Z intervenes between X and Y.

Z intervenes between X and Y iff (2004:223):

(32) it c-commands Y and Z does not c-command X and is of the same structural type as X.

In Rizzi (1990) sameness is defined in the following way:

(33) “same structural type” = (i) head or Spec and, in the latter class, (ii) A or A’.

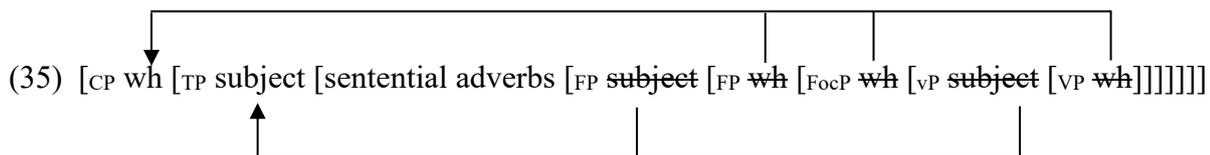
Recent work (Rizzi 2004, Grillo 2009; Garraffa & Grillo 2008, Friedmann & Belletti & Rizzi 2009) has shown that the definition of sameness in (34) fails to account for a number of empirical facts, most remarkably the lack of RM effects between two A' chains in languages like Italian. Rizzi (2004) thus proposes that sameness needs to be defined in a more precise way through the introduction of four classes of features: argumental, quantificational, modificational and topic (34).

²⁷ See Abels (2012) for the application of RM minimality to the structure of Italian left periphery.

RM effects are shown to emerge between constituents belonging to the same featural class but not between constituents belonging to different classes (a quantificational specifier acts as an intervener in a quantificational chain, but a pure modificational specifier does not, etc.).

- (34) a. Argumental: person, number, gender, case
 b. Quantificational: Wh, Neg, measure, focus...
 c. Modifier: evaluative, epistemic, Neg, frequentative, celerative, measure, manner,....
 d. Topic

We suggest that a DP subject can move out of the vP phase in wh-interrogative clauses because the extracted wh-element and the DP subject belong to two different featural classes: quantificational and argumental respectively.²⁸ Therefore, once the wh-element has been extracted through the edge of the vP phase, the DP subject can also be extracted from the edge of the vP phase²⁹ and move to Spec,TP.³⁰



The structure in (35) has important implications for the analysis of Context 2 in Badiotto. The fact that v-to-T movement of the given DP subject is blocked when a scene-setter adverbial is extracted from the lower phase implies that the two moved constituents build an identical chain, which is

28 The theory developed in the paper accounts for both adverbial and argumental wh-interrogative clauses in Ladin, since G-inversion is possible both with argumental and adverbial wh-elements. We account for this through the idea that any wh-element needs to be extracted through the edge of the vP phase in order to be fronted.
 29 We have to assume that more FPs or multiple Specifiers are available for extraction at the vP edge (see van Urk & Richards 2015 among others). We leave the issue of the exact definition of the vP edge open for further research.
 30 An anonymous reviewer wonders how the distribution of subjects in English (a residual V2 language in Rizzi's sense (1996), with G-inversion in main interrogative clauses and - to a lesser extent - in main declarative clauses, see Westergaard 2007) fits into the proposed account. We suggest that our theoretical account cannot be applied to present-day English for two reasons. First, present-day English is not a V2 language in strict sense, i.e. no consistent V2 phenomena are found in main declarative clauses in either phases, unlike in the languages considered in this paper. Second, English is non-null-subject language in which IP is projected and is associated with an EPP feature (see Chomsky 1982): therefore, the distribution of subjects does not appear to be fed by their information status, unlike in the languages considered in this paper.

unexpected under the features in (34), since extracted subjects are assumed to build an A-chain whereas extracted scene-setters build an A'-chain. The Badiotto data become less puzzling in the light of data pointing to the A/A' ambiguous character of lexical subjects, which have been analysed as constituents of A' (Benincà/Cinque (1993), Contreras (1991), Branigan (1996)) or A-nature (Cardinaletti (1997, 2004), Rizzi (2006) a.o.). The Badiotto data appear to provide evidence in favour of the former view, in particular of an analysis of both lexical subjects and scene-setter adverbials as members of the featural class of Topics.³¹

The theoretical account proposed in this subsection slightly differs from the one proposed for Mòcheno, where word order is fed by successive cyclic movement of A' dependencies. For Ladin, both A and A' dependencies appear to play a role in extraction from the lower phase. One Ladin informant, MI, however, instantiates the same system as Mòcheno. MI patterns with other Badiotto informants in the distribution of G-inversion, except for the fact that she rejects G-inversion in sentences with a fronted wh-element (Context 5), like in Mòcheno. This means that, for her, G-inversion is restricted to focussed DP subjects and ruled out with given/topicalised subjects – just like in Mòcheno (see section 4.2.1 above). We can capture this fact by assuming that DP subjects never undergo A-movement in MI grammar, just like in Mòcheno, and have to appear in CP (or remain in vP) when they are given/topicalised.

4.2.3 Extracting out of the vP in Ladin

In the previous subsections, we elaborated a theoretical account which captures the distribution of G-inversion in Ladin and makes sense of the connection between G-inversion and the discourse properties of both the fronted XP and the DP subject. Key to the theory is the idea that G-inversion is fed by two constraints. First, the past participle appears in Foc^o in Badiotto and in the edge of the lower phase (F^o) in Gardenese. Second, there is an interplay between high and low portions of the clause which are connected by the cyclic movement of fronted constituents. In both languages,

31 This hypothesis implies that lexical subjects do not leave the vP to move to Spec,TP (an A-position), but rather to an A'-position. Whether this is actually the case, we leave open for further research.

when a wh-element is extracted from the lower phase (Context 5) G-inversion is derived via movement of the lexical verb to Spec,TP. Wh-extraction and movement of the DP subject to Spec,TP can co-exist because they build an A- and A' chain respectively which are not subject to RM. When the fronted element is a scene-setter, G-inversion is possible i) when the DP subject is a new-information focus in Badiotto, and ii) when the DP subject is given in Gardenese. We proposed that this asymmetry follows from the fact that scene-setters i) are extracted from the lower phase in Badiotto, which blocks further extractions due to the latest version of RM (both scene-setters and given DP subjects belong to the topic featural class), but allows movement to Spec,lowFocusP; and ii) are merged in Spec,CP in Gardenese, which implies that extraction of a given DP subject through the edge of the vP phase is not blocked as in Gardenese. In this variety, focalization never involves G-inversion because, we claim, the past participle moves higher than in Badiotto, i.e. to Spec,lowFocusP, which obscures the movement of the subject to the lowFocusP and gives rise to linear R-inversion. The merge of a scene-setter in CP is also possible for those Badiotto speakers that produced or judged G-inversion with a given subject grammatical.

This theory allows us to account for Contexts 1, 2 and 5; two contexts (3 and 4), however, are not accounted for. Common to both contexts is the presence of a given object in the sentence-initial position, which leads to the ungrammaticality of G-inversion in both varieties irrespective of the information status (given or new-information) of the DP subject, as repeated in the examples below.

(36) *Who wrote the letter to the newspaper?* [answer: the mother; please begin with: the letter]

a.*La lëtra al foliet à **la mama** scrit³²
 the letter to-the newspaper has the mum written

(G-inversion *Badiotto; *Gardenese)

‘Is was mum who wrote the letter to the newspaper.’

When did mum buy the book? [answer: yesterday; please begin with *the book*]

b.*Le liber à **la mama** cumprè inier (G-inversion, *Badiotto; *Gardenese)

³² The examples (36a-b), which were not produced by any informant, are cited in the form that we proposed to the Badiotto informants.

the book has the mum bought yesterday

The pattern above is unexpected within the theoretical account developed in the paper, which predicts that a fronted given object extracted from the lower phase interferes with the given subject, but not with a focussed subject. The fact that G-inversion is blocked in both varieties in sentences with a fronted given object indicates that the movement restrictions affecting extraction of the DP subject out of the vP phase to Spec,TP involve another constraint additional to RM.

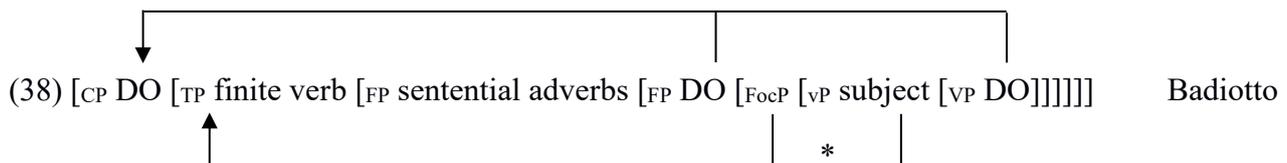
We propose that this constraint is the one given in (37) which, we suggest, affects chains more generally.³³

(37) A subject cannot be moved from its base position if it has been crossed by the moved topicalised object.

When an object is moved to Spec,CP, we assume that it is the first constituent to enter the derivation and that it moves to the edge of the vP phase crossing the subject in Spec,vP. Once the object has been moved to the edge of the lower phase, any further movement of the subject out of the vP are blocked. Let us see how this idea allows us to account for the observed facts.

Starting with Badiotto, when a given object is fronted, G-inversion is ruled out with both focussed and given subjects, which, we suggest, means that the DP subject cannot move to low Spec,FocusP nor to Spec,TP after having being crossed by an extracted subject. As shown in (38) we propose that subjects cannot move out of the vP when an object is moved first in the derivation through the edge of the vP phase.

33 As discussed by Casalicchio & Cognola (2018) for Ladin and Cognola (2013 a) for Mòcheno, a similar constraint also appears to hold for the possibility to move topics to the high left periphery, i.e. a direct object and the subject cannot co-occur as topicalised elements in the left periphery, despite the fact that V3/V4 word orders are allowed in both varieties (e.g. with a fronted indirect object and a fronted subject). The syntactic restrictions on the distribution of subjects and objects in the high left periphery in these languages can be captured in terms of the latest version of RM (35), as shown by Casalicchio & Cognola (2018) and Cognola (2013a). More specifically, given subjects and direct objects cannot be both fronted to CP because they have the same featural make up (+topic; +argumental; - case, where “case” means morphological case). The constraint in (36), on the contrary, does not follow from RM, which predicts extraction to be possible as long as the featural make-up of the argument differs, as in this case. We do not have an explanation of this asymmetry yet; for a preliminary proposal for the analysis of V3/V4 in Ladin, see Casalicchio & Cognola (2016).



In sentences with a fronted object, there are three strategies to escape the restriction on the extraction from the vP edge: the subject either appears within a cleft when it is focussed, it appears in the left periphery (no inversion: option produced by one informant) or follows the past participle (R-inversion) when it is given (see Table 3 in section 3.3 above). We suggest that these three strategies involve the same mechanisms, i.e. direct merge in CP or absence of movement of the lexical subject to avoid its extraction out of the vP phase. In the case of focussed subjects, subjects are generated within a cleft; when subjects are given they are either merged in a TopicP of the high left periphery, or they remain in their base position within the vP layer.

Let us consider now Gardenese. The theoretical account developed in the paper predicts G-inversion i) to be possible in sentences with a fronted given constituent and a given subject (see (24a) above), and ii) to be impossible in sentences with a focussed subject, which involve low focalization, and due to the position of the past participle, give rise to linear R-inversion.

Starting with the former case, i.e. sentences involving an extracted given object and a given subject, we propose that the unexpected fact that a given subject cannot move to Spec,TP in this configuration also follows from the constraint in (38), which blocks the movement of the subject to Spec,TP. Note that in this configuration the given subject follows the past participle (linear R-inversion) and precedes the new-information focus, as repeated below. We propose that this linear word order is derived via the movement of the past participle to the edge of the vP phase (F°) and the absence of movement of the other constituents following the past participle, like in (38).³⁴

For sentences with an extracted given object, like (39) below), we propose the same derivation in

³⁴ An alternative would be to assume the presence of a lowTopicP in the lower phase. The evidence discussed in the paper speaks against the presence of a lowTopicP in the vP periphery in both Ladin and Mòcheno, see for instance the distribution of scene-setters which do not interfere with given/topicalised subjects.

Salvesen & Bech 2014, Old Romance (Wolfe 2016) and present-day German (Hinterhölzl 2006).

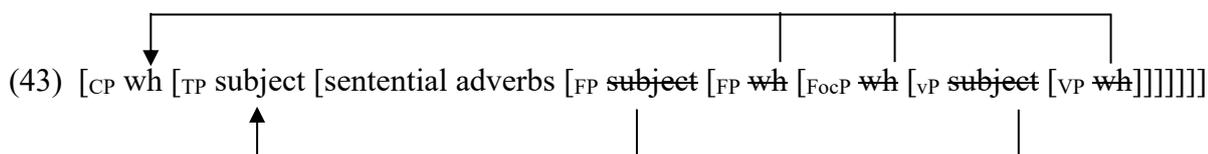
Our theoretical account for Ladin goes in the same direction, since we also demonstrated that subjects can either remain in a vP-internal position or move to Spec,TP according to their information-structural status. What is peculiar to Ladin (and is also cross-linguistically rare since it has been documented in this form only for Mòcheno) is the fact that subject movement is highly constrained – a so far unnoticed fact, according to our knowledge. As discussed in the paper, the constraints affecting the distribution of subject shift in Ladin follow from the interplay of two universal constraints on syntactic movement:

(42) *Constraints ruling G-inversion in Ladin & Mòcheno:*

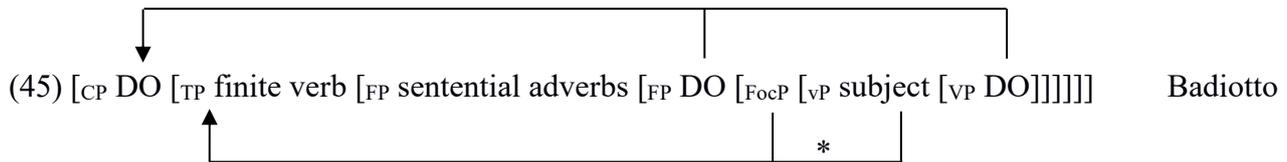
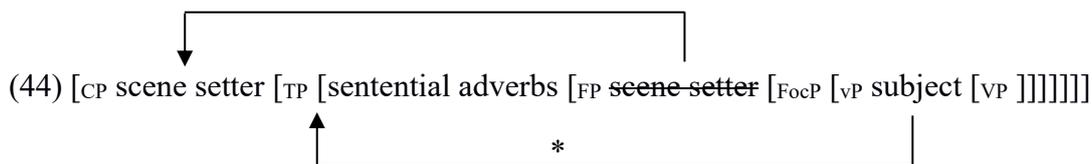
- a. cyclicity (extraction through the edge of the vP phase, Chomsky 2001);
- b. locality/RM(Rizzi 1990, 2004).

To these two constraints operating on extraction through the vP edge a third constraint, which is indirectly connected to locality, has to be added: the timing of movement operations.

We showed that in both Ladin varieties extraction through the vP edge can take place when an interrogative wh-element and a given subject are involved. Within the account developed in this paper, this implies that i) wh-elements are moved first in the derivation to the vP edge; ii) subjects move after wh-elements. The two chains do not block each other because the moved XPs they belong to two different featural classes (Rizzi 2004).



We showed that extraction of a scene-setter through the vP layer in Badiotto (44), and extraction of a direct object in both varieties (45) blocks V-to-T movement of the lexical subject, irrespective of the pragmatic featural make-up of the involved constituents.



The analyses in (44) and (45) imply that i) elements appearing in the left periphery move first in the derivation, since they can block V-to-T movement of the subject; ii) V-to-T movement cannot take place even if the extracted XP and the lexical subject belong to two different featural classes (like a subject and a scene setter (44), or a focussed/given DO and a focussed/given subject (45)) in Rizzi's (2004) system (with the exception of wh-interrogative elements). To account for this we thus propose that extraction of all non-wh-elements involve movement through the same Spec at the edge of the vP phase, which is composed of two FPs – one specialised for wh-elements, and one able to host any other extracted constituent.

(46) *Structure of the vP edge:*

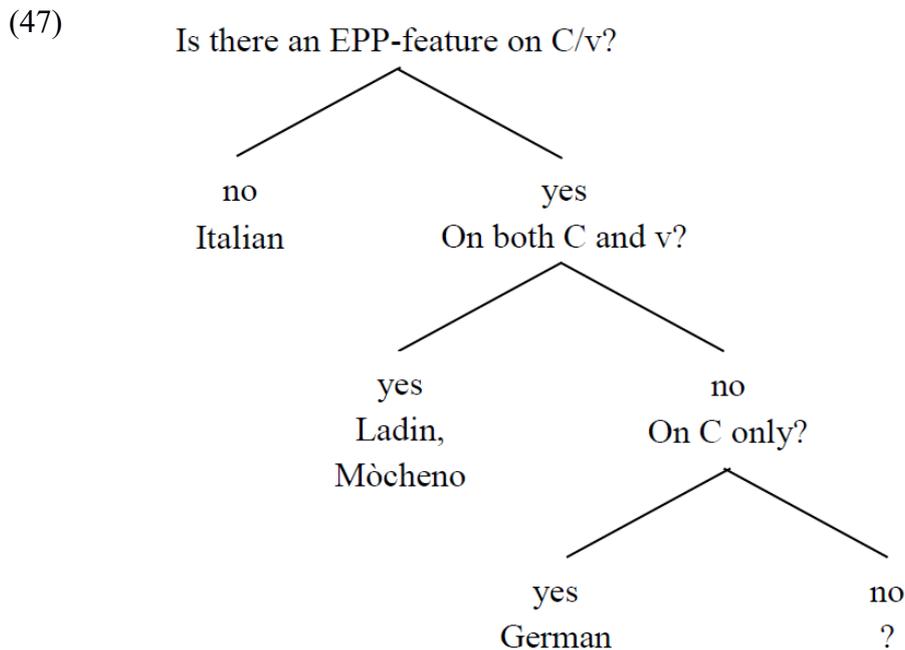
[FP sentential adverbs [FP XP [FP wh- [FOC-P [FOC° [vP [VP]]]]]]]

The analysis in (46) implies that in Ladin any non-wh element extracted through the vP phase blocks further extractions, because all constituents different from wh-elements compete for the same position on the vP edge.

The last theoretical issue that remains to be clarified is whether there is a connection between the G-inversion documented in Ladin and Mòcheno and the V2 nature of these languages. We propose that the answer should be positive.

We propose that Ladin (and Mòcheno) G-inversion is directly fed by the relaxed V2 nature of these languages, i.e. they instantiate a possible subtype of V2. What is special about this subtype of V2 is that the V2 rule affects in a similar way both phases, i.e. both Fin and the edge of the vP phase are

associated with an EPP feature (see Cognola 2013 b for the „double-V2“ hypothesis and Casalicchio & Cognola 2016 on RM effects in CP). We propose that the observed typological variation involving G-inversion in V2 languages can be captured in terms of parametric variation through an emergentist view of parameters (see Biberauer & Roberts 2012, Biberauer, Holmberg, Roberts & Sheehan 2014 and Biberauer & Roberts 2016, Biberauer *to appear*). As shown in the parameter hierarchy in (40), the V2 parameter should be seen as a property potentially able to involve both phases through the presence of an EPP feature on C° and v° . At the top of the hierarchy we find the macro-distinction between V2 and non-V2 languages (macro-parameter). The further layer allows us to distinguish between double-V2 languages and languages where the V2 is a property of CP only, whereas at the bottom of the hierarchy languages with an EPP feature on a single head (C°) are found.³⁵



According to the hierarchy in (47), the fact that in Mòcheno DP subjects can appear in G-inversion only when they are focussed and that G-inversion and OV both involve low focalization of any constituent in the lower portion of the clause indicates that OV is an epiphenomenon, i.e. that OV is

³⁵ A prediction of the hierarchy is that languages should be possible in which the EPP feature is associated with v° only. See Cognola (2015) for the idea that Dinka instantiates this option.

parasitic on V2.³⁶ More specifically, OV and G-inversion are fed by syntax of the past participle in this language, in particular by the fact that when a focus is not extracted from the lower phase, the remnant VP, or the past participle, does not raise (unlike in Italian) to a higher position (as in Belletti's analysis).³⁷ A similar conclusion is also reached for Ladin varieties, in which the past participle is assumed to move higher than VP.

6. Conclusions

Relying on novel data, this paper describes, and provides a theoretical account for, the distribution of G-inversion in two Ladin varieties, Badiotto and Gardenese. Through our study, which examines a series of contexts so far neglected in the literature and focusses on two Ladin varieties spoken in Northern Italy, we have been able to confirm that i) Ladin varieties are V2 languages, and ii) this property also manifests itself empirically in the presence of G-inversion (which is thus a diagnostic for V2). Our data, moreover, refine this claim by showing that in Ladin the interplay of two factors makes G-inversion possible: i) the information-structural status of the DP subject (either given or new/ focussed), and ii) the information-structural status of the fronted constituent. More specifically, G-inversion can occur in main declarative clauses, either when the DP subject is focussed and the fronted XP is a scene setter (Badiotto), or when the DP subject is given and the fronted XP is a scene-setter (Gardenese); it is always possible in wh-interrogative clauses. This means that G-inversion in Ladin is not obligatory in all X-V configurations, as it is in strict V2 languages (such as standard German), but – like in relaxed V2 languages (such as Old Romance varieties) - only in a subset of contexts (Benincà 2006). This result of our study indicates that Ladin patterns with relaxed V2 languages for G-inversion, thus confirming the results of most analyses of Ladin varieties as relaxed V2 languages.

36 We have to assume that focalisation of the subject and of the other constituents are reached in different FocusPs in the lower phase: one above VP able to host any constituent and one above vP specialised for the focalisation of the subject. In Mòcheno all focalisations in the lower phase lead to OV word order, whereas in the Ladin varieties considered here only focalisation of the subject leads to G-inversion. We suggest that this asymmetry is due to different movement of the past participle in the two languages: in Mòcheno the past participle does not move, whereas in both Ladin it obligatorily moves higher than the VP. We thank Jon Giurgea for pointing this out to us.

37 We thank an anonymous reviewer for pointing this solution to us.

Badiotto and Gardenese, however, have been shown in this paper to exhibit some special properties which, as far as we know, are only documented for one of the relaxed V2 languages, Mòcheno (Cognola 2013 a,b). First, in both varieties subjects in G-inversions can either be hosted in a lower A'-position, lowFocusP or in an A-position, i.e. TP. Second, the extraction of some constituents blocks the possibility of having G-inversion, and DP subjects must either appear in CP or in free-inversion.

We have shown that this distribution of G-inversion in Ladin is fed by two universal constraints affecting movement, i.e. cyclicity (extraction through the edge of the vP phase, Chomsky 2001) and locality/RM(Rizzi 1990, 2004). More specifically, we have shown that two positions are available for extraction at the vP edge: one is specialised for wh-elements, whereas the other hosts any other constituent irrespective of its pragmatic/discourse status. Extraction of a wh-element through the vP edge thus does not block V-to-T movement of the subject, whereas extraction of a non-wh-element blocks any other extractions since the two constituents compete for the same position.

According to our analysis, therefore, G-inversion is not only fed by V-to-C movement in Ladin, as is claimed for strict and relaxed V2 languages, but also by extraction through the vP phase. Note, that the proposed mechanism is shared by both Ladin varieties, despite the fact that in some contexts Gardenese exhibits R-inversion whereas Badiotto has G-inversion. We showed that the past participle plays a key role in this type of variation since its movement to the highest head of the vP phase (F°) in Gardenese obscures the position of the subject in the lower phase.

We have suggested that this result, far from being a counter-argument to the V2 analysis for Ladin varieties, should be considered to follow directly from the V2 nature of Badiotto and Gardenese. Furthermore, we proposed that the cyclic movement of extracted XPs through the vP periphery is, in fact, a consequence of the V2 nature of these languages, which are characterised by a sort of double-V2 rule. Our analysis thus implies that V2 can involve both higher and lower phases, and that both finite verb forms and participles move to a head of CP or to the vP periphery (leading to G-inversion), respectively, in all main clauses (see also Poletto 2014, 2016). We have proposed that

this type of V2 rule, which involves both phases, represents a subtype of the V2 system, and suggested that this typology of V2 languages is to be captured through a hierarchical taxonomy of parameter-types (as proposed by Biberauer, Holmberg, Roberts & Sheehan 2014, Biberauer & Roberts 2015, 2016 among others).

Our approach to the subject positions in Ladin opens several questions about the interactions between the higher and the lower portion of the clause in V2 languages, which have obviously non-trivial implications for our understanding of the nature of V2. Future work will have to investigate to what extent V2 languages are characterised by the presence of a system comparable to that identified for Mòcheno and Ladin, more specifically by these interaction between the two portions of the clause. Dinka appears to be a language in which a mechanism similar (though not identical, see Cognola 2015) to that identified for Ladin and Mòcheno is at work.

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